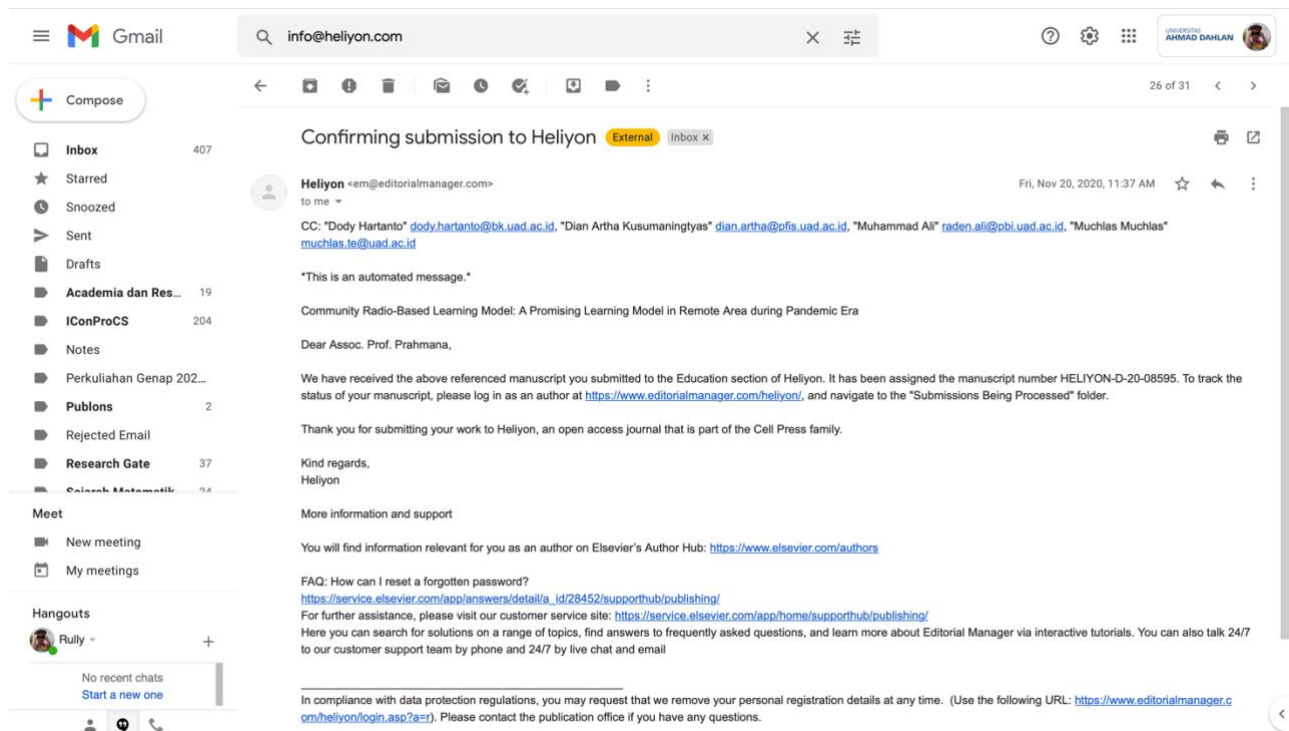
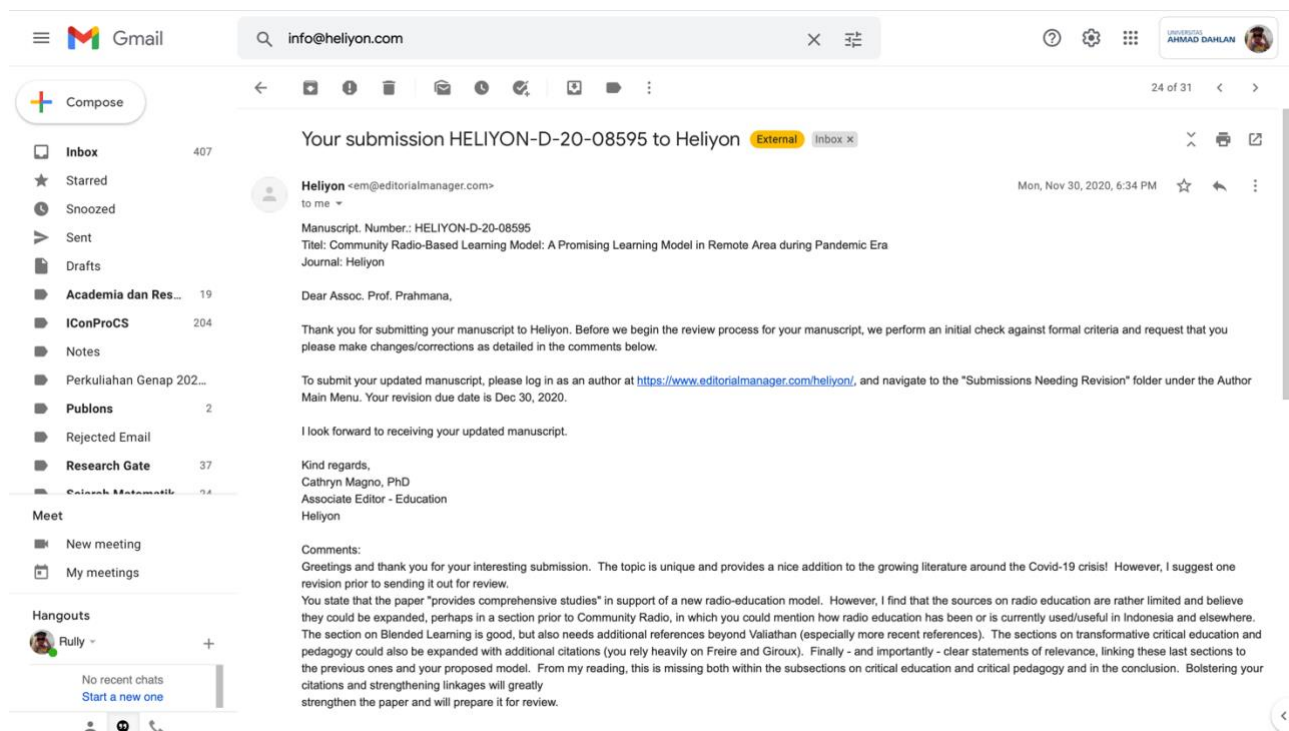


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Community Radio-Based Learning Model: A Promising Learning Model in Remote Area during Pandemic Era --Manuscript Draft--

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Abstract:	The issue of student learning difficulties during the Covid-19 pandemic in Indonesia's remote areas with complex internet networks remains unresolved. Several students, teachers, and parents are overwhelmed by the circumstances that make it difficult to continue learning online. This project aims to build solutions for learning models using radio networks that are affordable and open to students in remote areas. This learning model's design was carried out by reviewing some of the literature utilized to prepare learning designs using a blended learning model that combined ordinary learning with the use of radio technology. This design will be piloted in the remote area of Indonesia, namely Bawean, East Java. We believe that this learning model would be one of promising learning model in remote area during unpredictable situation like Pandemic era.
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Dear Prof. Christian Schulz
Lead Editor of Heliyon

Greetings from Indonesia and wishing you a great day with happiness and healthy condition in this era COVID-19.

As the research collaboration team, we are writing the manuscript entitled "Community Radio-Based Learning Model: A Promising Learning Model in Remote Area during Pandemic Era" for consideration for publication in The Heliyon. This manuscript was written using the author guidelines of The Heliyon mentioned on the website.

This paper provides comprehensive studies about a promising learning model in remote areas during the pandemic era, namely the Community Radio-Based Learning Model. We know that student learning difficulties during the Covid-19 pandemic in Indonesia's remote areas with complex internet networks remain unresolved. Several students, teachers, and parents are overwhelmed by the circumstances that make it difficult to continue learning online. This project aims to build solutions for learning models using radio networks that are affordable and open to students in remote areas. This learning model's design was carried out by reviewing some of the literature utilized to prepare learning designs using a blended learning model that combined ordinary learning with radio technology. This design will be piloted in the remote area of Indonesia, namely Bawean, East Java. This learning model would be a promising learning model in remote regions during unpredictable situations like the Pandemic era.

This paper also describes our original work and is not under consideration by any other journal. All authors approved the manuscript and this submission. The five co-authors do not have any conflict of interest regarding this manuscript. This document was reported as the result of the research we conducted as one of our responsibility requirements as a researcher in our university. This year, we didn't fund our research publication because of the COVID-19 Pandemic disease case in our country, so I would like to request a discount for the article publication charge when a manuscript is accepted for publication. As you know, I am also a reviewer in Heliyon journal and now the corresponding author in this paper. Lastly, we hope this article can be published in this journal to contribute to our research results in this journal.

Thank you for receiving our manuscript and considering it for review. We do really appreciate your time and look forward to seeing your response.

Best Wishes,

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Community Radio-Based Learning Model: A Promising Learning Model in Remote Area during Pandemic Era

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Abstract

The issue of student learning difficulties during the Covid-19 pandemic in Indonesia's remote areas with complex internet networks remains unresolved. Several students, teachers, and parents are overwhelmed by the circumstances that make it difficult to continue learning online. This project aims to build solutions for learning models using radio networks that are affordable and open to students in remote areas. This learning model's design was carried out by reviewing some of the literature utilized to prepare learning designs using a blended learning model that combined ordinary learning using radio technology. This design will be piloted in the remote area of Indonesia, namely Bawean, East Java. We believe that this learning model would be a promising learning model in remote areas during unpredictable situations like the Pandemic era.

Keywords: Community Radio-based Learning Model, Pandemic Era, Remote Area, Promising Learning Model

Introduction

The planet is currently suffering from the Covid-19 pandemic, which poses a fatal health and death risk. To monitor the rapid spread of the virus between individuals, the World Health Organization (WHO) has provided a protocol for individuals to exercise physical distance (World Health Organization, 2020). All operations involving a large number of people should be carried out remotely or from home. As a result, learning practices in schools, which are meeting places between many individual students and teachers, have also been moved from offline learning to online learning. This is done in almost all countries, including Indonesia, through the Ministry of Education and Culture Circular Letter No. 3 of 2020 on the Prevention of COVID-19 in the Education Unit and No. 36962/MPK.A/HK/2020 on Online Learning and Home Work in the Preventive Sense The spread of Corona Virus Disease (COVID-19) by the Indonesian Government. Based on this proposal, some 646.2 thousand schools in Indonesia must be closed down, and 68.8 million students must study at home.

Indonesia's geographical and topographical conditions, which consist of islands with plains and mountains, make it difficult for all Indonesia regions to have access to the Internet that can be used for online learning (Afrianti & Aditia, 2020). Many students have to walk far up the mountains, climb trees, or reach the woods to get internet signals. In certain places,

1 teachers must visit students' homes one by one to continue to study during the pandemic. This,
2 of course, makes learning inefficient and negatively impacts student learning progress (Tamah,
3 Triwidayati & Utami, 2020; Supena, Umboh, Tarusu & Kalengkongan, 2020). Indeed the
4 Indonesian Government has released a decree, through the Ministry of Education and Culture
5 Circular No. 4 of 2020, on the implementation of education policies in the emergency time for
6 the spread of Covid-19 and the Circular of the Secretary-General of the Ministry of Education
7 and Culture No. 15 of 2020 on the guidelines for learning from home in the emergency of the
8 spread of Covid Learning guides are available throughout the pandemic, both for access to the
9 Internet and for areas without internet access. This guide writes that measurements of difficulty
10 accessing internet learning can be made using media such as television, radio, self-study
11 modules, worksheets, printed teaching materials, props, and media from objects in the local
12 environment. However, the truth is that the findings are null and void in technical practice in
13 the field. The Government has never been a concrete solution for providing learning facilities
14 in places that do not have access to the Internet for learning.
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16 The Covid-19 pandemic does not know when it will stop, and the Indonesian
17 Government, which has not yet given exact solutions to learning problems in areas with Internet
18 connectivity or remote regions, eventually depressed students, student families, and teachers
19 (Hidayatullah & Saud, 2020; Irawan, Dwisona & Lestari, 2020). Students must continue to
20 learn and continue to improve, but the environments are not encouraging and adequate. It
21 leaves teachers and parents confused about fixing it since it cannot be translated separately.
22 Significant concrete initiatives or acts by the Government or other organizations are required
23 to resolve the sector's issue in practical terms. One of the attempts that can be made in places
24 that do not have access to the Internet is to create a learning model that uses other networks in
25 the region (Friedman, 2020). Radio networks in Indonesia are more straightforward and more
26 accessible in some areas (Jurriens, 2009). This network can provide content knowledge or
27 direct teaching activities from teachers to students (Nwaerendu & Thompson, 1987). Since, in
28 essence, the learning process is an instructor who encourages the transmission of information
29 that can direct students to explore the knowledge they want to know and learn on their own, so
30 that students obtain learning experiences that are useful for their growth (Kelly, 2016; Freire,
31 1985). However, this cannot be achieved individually. There must be a commitment and
32 collaboration on the part of the different parties. There must be a commitment between the
33 educational community, the school, and the Government to use the network and establish
34 suitable learning methods so that learning can be carried out effectively.
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1 A radio group can be set up in this field, consisting of organizers, colleges, teachers,
2 students, and parents of students, for the technical use of radio networks for learning in remote
3 areas. Develop a community radio station to be used as a tool to provide teachers with
4 information and feedback on learning activities. This study aims to establish an alternative
5 learning culture radio based on a blended learning model that blends ordinary learning with
6 technology in radio networks. The hope is that an alternative concrete approach will overcome
7 the challenging learning process in remote areas with complex internet networks. This learning
8 model will be conducted as an experimental pilot in remote regions of Bawean, East Java. The
9 hope is that it can be developed as a solution in remote areas in many Indonesia regions so that
10 all students in Indonesia can continue to learn, process, and design.
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21 **A Framework of Community Radio-based Blended Learning Model**

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23 The concept of developing a Community Radio-based Blended Learning Model derives
24 from anxieties about educational problems faced in Indonesia by students in remote areas
25 where it is difficult for the Internet to network online learning. Due to geographical and
26 topological conditions that do not help, the problematic state of residents' information is due to
27 unsupported network access in almost every province, and network access is not uniformly
28 distributed. The period of the Government's response to these problems would further delay
29 the growth of students. It would have fatal consequences for their potential survival, leaving
30 pupils, parents, and teachers even more depressed. Of course, we cannot remain silent, finally
31 trying to see the technology that can be accessed under Indonesia's geographical and
32 topological conditions. The result is that radio networks can be accessed and accessed in almost
33 some places in Indonesia in valleys and mountainous areas. Then the concept of studying in a
34 remote community using a hybrid learning model combined with radio technology. This
35 learning is based on many basic ideas about community radio, mixed learning models,
36 transformative critical education, and transformative critical pedagogy.
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51 *Community Radio*

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53 Mtimde (2000) describes Community Radio as stations owned and operated by public or
54 group members for their communities. The World Association of Community Radio
55 Broadcasters (AMARC) represents a non-profit broadcasting station providing services to the
56 community where they are based (Diasio, 2010). Philosophically, the advent of community
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radio is based on the public's need to communicate knowledge and reality and facts on the ground without being manipulated by any group with interest beyond the public interest (Barker, 1998). The emergence of community radio originated from the poverty problem experienced by mining workers in Bolivia, the United States, in 1949, because the radio there was controlled by several interested people and had never broadcast the truth and condition of these workers, the workers then produced community radio (Jurriens, 2014). They will regulate themselves and be used to spread the truth and their desires. Catavi Radio is a collective radio station for creating the labor union that was broadcast in Bolivia at the time. They spread the truth about their plight and used the radio as a propaganda weapon to attract support for solidarity to achieve justice. Community radio has since started to appear in many other countries. Community radio contact called the Community Audio Tower System (CATS) was developed in Asia in 1970. Radio was initially dominated and used to support development initiatives (Semmuju, 2020). Not long after that, community radio among the people started to emerge and, under their influence, broadcast democracy issues for the people's good.

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Community radio is different from public radio and private radio that's is first, community participation starts from establishment, evaluation and monitoring; second, it has a transparent community, community radio has an exact audience, namely members of the community itself and the people around the community; third, limited coverage area, community radio only serves communities that are within its coverage area; fourth, closeness to the local situation, because of the close relationship with the community and the environmental area around the community, it will have a wealth of information about the local social and cultural sites of the community coverage; fifth, technology is affordable, the technology used is invincible with the ability of the community; sixth, having the jargon "from, by, for and about the community", from this jargon it can be interpreted that community radios are really from their own circle for their own interests and broadcast about the community and the needs of the community itself (Lewis, 1989). Also, in establishing community radio, some conditions must be fulfilled. Firstly, participation is a fundamental principle. Community members are the main actors of community radio's existence and sustainability, and all members are open to managing this radio. Secondly, locality, the radio community exists to serve the community's interests so that the radio community must always be locality-oriented. Thirdly, non-profit, community radio is not used to search for the material. Lastly, control from the community, to ensure that broadcast content meets the community's needs, community involvement is significant to control broadcast content and its management (Lewis, 1989).

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Radio contact had originated in Indonesia during the Dutch colonial period. It targeted unique ethnic groups, such as EMRO radio in Madiun, Radio Mavro in Yogyakarta, and Cirvo Radio for Chinese ethnicity in Surabaya. The term community radio has not yet been used (Jurriens, 2009). Group radio freedom fighters started to appear before independence, such as Radio Indonesia Raya, Radio Rebellion in Solo, Radio Rebellion in Surabaya, and Radio Gelora Pemuda in Madiun. Like community radio in other countries, the advent of community radio in Indonesia is also inspired by humanitarian issues and social inequality resulting from colonialism. People used community radio to monitor themselves to talk about the conditions and injustices they faced and use them as a propaganda tool to combat colonial oppression. In Indonesia, the term community radio has only been commonly used in the 2000s since the formation of the Draft Broadcasting Act (Jurriens, 2009). At the time, community radio was battling for the public to be included in the Broadcasting Bill due to the disparity in the broadcasting distribution in the regions. Public radio could become a media choice free from the desires of the government and investors.

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Community radio is, in reality, being used for the social benefit of the community at this time and has not yet reached the level of education. Community radio, however, can be used as an educational option in rural areas with difficulties receiving internet signals during this pandemic. The essence and general concepts of community radio that are used for the good of the community, not-for-profit, owned and controlled by the community, programming adapted to the needs of the community and locality prioritization can be used as the essence and concept of community radio for education, so there is no conflict or educational interest. Community radio for education can be built with participation from schools, teachers, students, and student guardians as community members, content tailored to educational needs, namely to transfer material and guide students in carrying out learning activities, management and control are carried out by community members, namely schools, teachers and student guardians, prioritizing locality or delivery of content can be local using local languages or local contexts that exist around students and not purely for non-profit learning.

52 53 *Blended Learning Model*

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Singh and Reed (2001) define blended learning as a learning program that contains more than one model used to optimize learning. Graham (2006) also defines blended learning as an effective combination of several learning techniques, technology, and ways of delivering material to meet student needs. Blended learning can also be interpreted as an educational

1 approach that combines various face-to-face models with distance education and utilizes
2 different educational technology types. In principle, blended learning combines face-to-face
3 learning with Information, Communication, and Technology (ICT), which ultimately makes
4 blended learning has several advantages. Firstly, using a combination of different educational
5 techniques and technologies can improve academic abilities. Next, it can be applied to students
6 with diverse and independent learning styles. Enabling cost savings and lowering education
7 costs. Fourthly, using various learning techniques that attract more student attention. Lastly, by
8 using a combination of face-to-face education and other processes, students can access
9 knowledge anytime and anywhere (Hoic-Bozic, Mornar, & Boticki, 2008). Blended learning
10 can facilitate optimal learning by providing various learning media that can attract students'
11 attention to education and developing their knowledge. In blended learning, the teacher acts as
12 a facilitator and media in the learning process. The teacher provides instruction or learning and
13 offers directions to students on how to carry out learning activities and take advantage of the
14 technology used in learning.
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16 Blended learning has several roles, including the learning process that combines learning
17 models, learning styles, and various technology and communication-based learning media.
18 Next, guidance between distance independent learning and face-to-face learning between
19 teachers and students. Knowing that is supported by effective learning from delivery,
20 education, and learning styles. Lastly, parents and teachers have an essential role in students'
21 learning in which the teacher acts as a facilitator and parents as a motivator (Valiathan, 2002).
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23 There are six blended learning elements: face-to-face in class, self-study, technology and
24 information, tutorial, cooperation, and evaluation (Valiathan, 2002). In limited education, there
25 are also four learning concepts. Firstly, combining or mixing web-based technology modes
26 such as virtual classes, collaborative learning, streaming video, audio, and text. Secondly,
27 combining pedagogical approaches would be produced optimal learning with or without
28 technology, such as cognitivism, constructivism, and behaviorism. Thirdly, connecting all
29 forms of learning technology such as videotapes, audiotapes while being guided by the teacher
30 face-to-face. Lastly, combining learning technologies to create cooperative learning and work
31 effectively (Valiathan, 2002).
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33 Blended learning, which in principle combines various learning models with technology
34 and has the characteristics of independent learning, can be used as the basis for alternative
35 learning solutions in remote areas with difficulty accessing the internet during a pandemic.
36 Before carrying out mixed learning, an analysis of several things is needed, including the
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1 competencies that can be achieved, learning objectives, students, and available resources. This
2 is the basis for determining how the learning design will be made and what media can support
3 learning. After carrying out the analysis, the teacher can see what technologies can be
4 combined in learning and compose learning steps. For example, in a remote area of technology
5 that students can use and reach by students is the radio, the teacher can enter the radio to be
6 combined in learning. Furthermore, the teacher makes learning steps and guides student
7 learning using technology in the form of the radio to study independently at home with
8 guidance from the teacher.
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17 *Transformative Critical Education (The Philosophical and Pedagogical Concepts)*

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19 Transformative critical education does not look at it from a philosophical viewpoint about
20 nature and its world. Paulo Freire, an educator, philosopher, and theologian, views humans as
21 creatures that relate to nature and their world (Freire, 1972). This awareness of the relationship
22 between personality and the world causes humans to have a critical relationship with the world.
23 Humans are given a gift by God the ability to choose, test, study, and test something again
24 before acting. However, the education system that was developing was even still felt and felt
25 at this time (Freire, 1972). It is a bank-style education system that views humans as having no
26 critical awareness. It is just like a container filled with material that students will then memorize
27 and memorize. Used when needed, it saves money in the bank. According to the free education
28 system, students as human beings have awareness and reflective and critical abilities (Morrow
29 & Torres, 2002).
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40 Freire rejected an educational system that saw humans as passive creatures and did not
41 need to make choices about themselves and their education (Roberts, 2000). Students should
42 become complete humans who were free and autonomous towards themselves, their reality,
43 and their world. His view was then transformed into the world of education. Freedom is to
44 initiate a model of education that frees critical knowledge that can help humans improve the
45 world's essential attitude. Thus, education must empower human freedom in being aware of
46 themselves and the outside world because education is a beneficial process on the environment,
47 society, and culture (Giroux, 2010). Critical knowledge is expected to encourage humans to
48 develop optimally and place students at the center of pedagogical activities (Freire, 1985). It
49 must create an environment that is conducive to the development of these learners. Educators
50 must also raise awareness of students to be critical and creative in facing the problems they
51 face (Torres, 2007).
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1 Learning must create intellectual freedom to achieve transformative critical education
2 between educators and students in the teaching and learning process (Giroux, 2010). The
3 learning process must be open and full of dialogue, full of responsibility between educators
4 and students, entire interaction between educators and students in an egalitarian and equitable
5 form. Students must have initiative freedom, freedom to have different opinions, and freedom
6 to have other inspirations and perspectives on justice and equality. In this case, education must
7 be appropriately accommodated as an essential means of achieving independence (Beckett,
8 2013). Communication in transformative critical education must go in all directions, namely
9 educators to students (top-down), students to educators (bottom-up), and students to other
10 students (networks) to create a dialogical and non-shackling education. Transformative critical
11 education is expected to produce changes in students both in quality changes, independent and
12 creative attitudes, personal differences, social quality changes with friends around them, and
13 the community environment. These students' changes can emerge new ideas that can bring
14 changes to students' lives, their environment, and their world (Roberts, 2015).
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28 *Transformative Critical Pedagogy (Containing Values of Philosophy, Existentialism,*
29 *Humanism and Constructivism)*
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32 Critical Pedagogy is a praxis in which praxis is an action and reflection (Freire, 1985).
33 Praxis involves practicing theorizing and putting theory into practice. Praxis thinks of the
34 philosophical and essentialist thing about what and why we will do before we do it and then
35 contemplates what we did, how to do it, and how it turned out. Critical pedagogy involves an
36 evolving working relationship between practice and theory. As a praxis, critical pedagogy
37 cannot stop, critical pedagogy demands reflection and reconceptualization between what
38 happens inside our classrooms, why it happens, and what and whose purpose it serves. Critical
39 pedagogy recognizes the importance of the individual and his interests, acknowledging that the
40 individual and its fulfillment are dependent on social relations with others inside and outside
41 the class. Critical education requires collective thought and action, reflection, and action. It
42 cannot be separated from one another because when theory is cut off from practice, it is only
43 simple verbalism and vice versa when the way is cut off from the idea, exercise is just blind
44 activism (Freire, 1985).
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57 Critical pedagogy is a descriptive perspective because it critically analyzes the world we
58 live in. Critical pedagogy looks at how the pedagogical, political, social, and economic aspects
59 of life inform one another. Critical pedagogy asks why these things exist, in what way, who is
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1 harmed, and how, then, teachers and students develop answers together (Morrow & Torres,
2 2002). This is when teachers and students are on the path to critical awareness. Critical
3 pedagogy enables teachers and students to gather reason and emotions to serve understanding,
4 transcendence, and transformation. Critical pedagogy helps us see ourselves and see humans,
5 what humans do to other humans and the world and its surroundings, never mind what is done
6 and what happens is human, then helps to construct an idea of what to do, what changes must
7 be done (Shor, 1993; Giroux, 2020).
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13 Critical pedagogy helps humans to develop critical awareness, which enables them to
14 participate in transformational actions critically. This acute awareness refers to the process by
15 which humans no longer accept but as subjects who know and achieve a deep understanding
16 of both the socio-cultural realities that shape their lives and their capacity to change that reality
17 (Brass & Macedo, 1985; Freire, 1985). Critical awareness obtained from critical pedagogy
18 encourages humans to become whole humans or humanists, namely those who are autonomous
19 towards themselves, reality, and their world. It does not stop at awareness, but the result of
20 critical pedagogy is the emergence of the construction of new ideas that will produce
21 transformative action.
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32 **Community Radio-based Blended Learning Model**

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34 Community Radio-based Blended Learning is learning carried out by a radio community
35 whose members consist of schools, teachers, students, and student guardians using the blended
36 learning method or combining learning usually with technology in the form of radio. This study
37 aims to create effective learning for students in remote areas with difficulty with the internet
38 during the pandemic. This learning begins with the fulfillment of prerequisites, including
39 ordering a community radio consisting of schools, teachers, students, and student guardians
40 and preparing the necessary equipment. This tool's preparation is carried out by community
41 members and is managed and monitored by community members. Members of the radio
42 community must consider several principles. First, community radio is made based on
43 community members' needs, namely teachers, students, and student guardians, to create
44 effective learning during a pandemic. Next, it is non-profit or not for profit; third, there is active
45 and open participation from community members, namely teachers, students, and student
46 guardians, in conducting evaluation and monitoring.
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Community Radio-based Blended Learning Model is carried out with a blended learning model that combines ordinary learning with technology on the radio. The teacher acts as a facilitator and parent as a motivator and companion for students while studying at home. Radio in this lesson is used as a medium to convey information and guide student learning activities. In this case, learning activities can vary depending on the needs of the subjects delivered and the learning activities' requirements to understand students and achieve the targeted competencies. After carrying out learning activities, the teacher conducts class discussions and reflections or evaluations to see learning.

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In Community Radio-based Blended Learning Model, things that must be used are using radio and done remotely or not face to face. Still, the learning process must remain open and dialogical and not in one direction only from teacher to student. Communication in learning must occur in all orders, both teacher to student, student to teacher, and student to other students. It is essential to pay attention to so that the learning process does not develop into a critical awareness of students, which have fatal implications for life and their ability to deal with the environment and their world. This pandemic's distance learning tends to be instructive. The teacher gives orders, and students do what the teacher or teacher instructs, provide material, and students passively accept it.

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As stated by Freire (1985), students are not like banks, which only need to be filled with material and then passively accept and memorizes them according to what the teacher instructs. However, students are humans who are given the ability by God to think, reason, reflect, and re-examine what will come. Therefore, the teacher must encourage the capabilities that have been bestowed on this God so that students have more critical awareness that they can use to see deeper and face themselves, reality, and their world. Teachers must be able to understand that the essence of education is to deliver students to become complete human beings, namely humans who have freedom and autonomy towards themselves, reality, and their world so that they can creatively and critically face the problems around them. It can only be obtained through awareness. One way of growing and encouraging critical awareness is by placing students at the center of pedagogical activities and creating an environment conducive to necessary awareness development. This conducive environment is an open learning environment, full dialogue, full interaction. It provides opportunities for students to have freedom of opinion, freedom of belief, freedom of inspiration, freedom to have a perspective of justice and equality.

1 The community radio-based blended learning model must also prepare students to face
2 the challenges of the 21st century, where life changes are so fast, dynamic, and challenging to
3 predict. Students must quickly and critically see the reality and the changes that occur and deal
4 with it. Therefore, education cannot end up being carried out only by transferring knowledge
5 and students only receiving and understanding that knowledge. Students must understand what
6 can be done with the knowledge they have to act then. So, through critical pedagogy and a
7 dialogical learning process, the teacher must encourage students to think philosophically and
8 practically about what is learned and why to study it. Furthermore, they must see what happens
9 to the reality around himself and his world and reflect on what to do with what has been learned
10 and seen on the truth and the world and predict the results. Thus, the construction of
11 transformative ideas or ideas will appear students will carry that out in facing their world's
12 problems and realities.
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24 **Conclusion**

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27 There is an alternative learning solution for remote areas with difficult internet access,
28 namely by utilizing a radio network for learning, packaged in the Community Radio-Based
29 Blended Learning Model. This learning can be carried out by forming a community radio
30 consisting of teachers, students, and student guardians. Then the teacher and students carry out
31 blended learning that combines ordinary learning with learning using technology. In this case,
32 the technology used is the radio. The teacher acts as a facilitator who will guide student learning
33 activities, and the parents act as a motivator who helps students' study at home. Learning
34 Community Radio-Based Blended Learning Model is implemented openly and dialogically to
35 foster students' critical awareness and encourage the creation of students' transformative ideas
36 in dealing with problems in the reality of the environment and the world around them.
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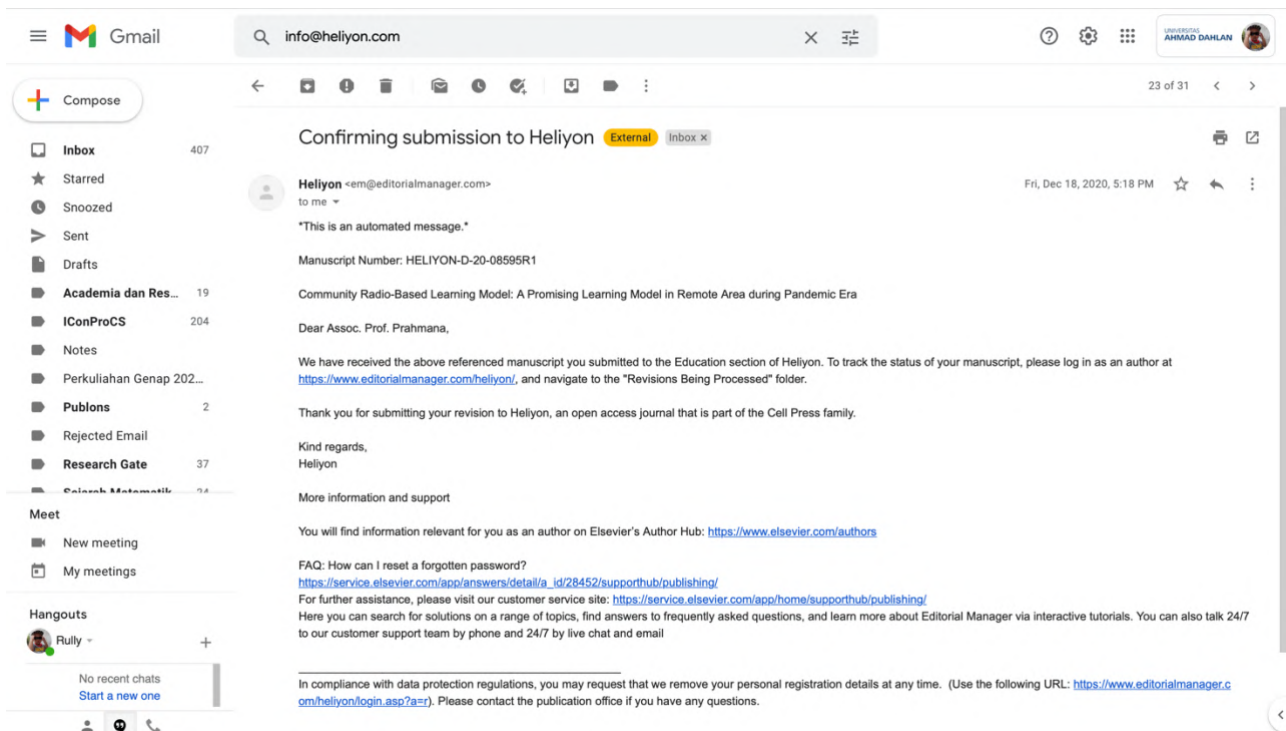
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Abstract:	The issue of student learning difficulties during the Covid-19 pandemic in Indonesia's remote areas with complex internet networks remains unresolved. Several students, teachers, and parents are overwhelmed by the circumstances that make it difficult to continue learning online. This project aims to build solutions for learning models using radio networks that are affordable and open to students in remote areas. This learning model's design was carried out by reviewing some of the literature utilized to prepare learning designs using a blended learning model that combined ordinary learning using radio technology. We believe that this learning model would be a promising learning model in remote areas during unpredictable situations like the Pandemic era.
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Dear Prof. Cathryn Magno, PhD,
Associate Editor – Education, Heliyon

Greetings from Indonesia and wishing you a great day with happiness and healthy condition in this era COVID-19.

Thank you for giving me the opportunity to submit a revised draft of my manuscript titled Community Radio-Based Learning Model: A Promising Learning Model in Remote Area during Pandemic Era to Heliyon. We really appreciate the time and effort that you and the reviewers have dedicated to providing your valuable feedback on my manuscript. We are grateful to the reviewers for their insightful comments on my paper. We have been able to incorporate changes to reflect most of the suggestions provided by the reviewers. We have been revised the manuscript based on your comments. In addition, all spelling and grammatical errors pointed out by the reviewers have been corrected.

We look forward to hearing from you in due time regarding our submission and to respond to any further questions and comments you may have.

Best wishes,

Rully Charitas Indra Prahmana

Community Radio-Based Learning Model: A Promising Learning Model in Remote Area during Pandemic Era

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Abstract

The issue of student learning difficulties during the Covid-19 pandemic in Indonesia's remote areas with complex internet networks remains unresolved. Several students, teachers, and parents are overwhelmed by the circumstances that make it difficult to continue learning online. This project aims to build solutions for learning models using radio networks that are affordable and open to students in remote areas. This learning model's design was carried out by reviewing some of the literature utilized to prepare learning designs using a blended learning model that combined ordinary learning using radio technology. We believe that this learning model would be a promising learning model in remote areas during unpredictable situations like the Pandemic era.

Keywords: Community Radio-based Learning Model, Pandemic Era, Remote Area, Promising Learning Model

Introduction

The planet is currently suffering from the Covid-19 pandemic, which poses a fatal health and death risk. To monitor the rapid spread of the virus between individuals, the World Health Organization (WHO) has provided a protocol for individuals to exercise physical distance (World Health Organization, 2020). All operations involving a large number of people should be carried out remotely or from home. As a result, learning practices in schools, which are meeting places between many individual students and teachers, have also been moved from offline learning to online learning. This is done in almost all countries, including Indonesia, through the Ministry of Education and Culture Circular Letter No. 3 of 2020 on the Prevention of COVID-19 in the Education Unit and No. 36962/MPK.A/HK/2020 on Online Learning and Home Work in the Preventive Sense The spread of Corona Virus Disease (COVID-19) by the Indonesian Government. Based on this proposal, some 646.2 thousand schools in Indonesia must be closed down, and 68.8 million students must study at home.

Indonesia's geographical and topographical conditions, which consist of islands with plains and mountains, make it difficult for all Indonesia regions to have access to the Internet that can be used for online learning (Afrianti & Aditia, 2020). Many students have to walk far up the mountains, climb trees, or reach the woods to get internet signals. In certain places, teachers must visit students' homes one by one to continue to study during the pandemic. This,

1 of course, makes learning inefficient and negatively impacts student learning progress (Tamah
2 et al., 2020; Supena et al., 2020). Indeed the Indonesian Government has released a decree,
3 through the Ministry of Education and Culture Circular No. 4 of 2020, on the implementation
4 of education policies in the emergency time for the spread of Covid-19 and the Circular of the
5 Secretary-General of the Ministry of Education and Culture No. 15 of 2020 on the guidelines
6 for learning from home in the emergency of the spread of Covid Learning guides are available
7 throughout the pandemic, both for access to the Internet and for areas without internet access.
8 This guide writes that measurements of difficulty accessing internet learning can be made using
9 media such as television, radio, self-study modules, worksheets, printed teaching materials,
10 props, and media from objects in the local environment. However, the truth is that the findings
11 are null and void in technical practice in the field. The Government has never been a concrete
12 solution for providing learning facilities in places that do not have access to the Internet for
13 learning.
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24 The Covid-19 pandemic does not know when it will stop, and the Indonesian
25 Government, which has not yet given exact solutions to learning problems in areas with Internet
26 connectivity or remote regions, eventually depressed students, student families, and teachers
27 (Irawan et al., 2020). Students must continue to learn and continue to improve, but the
28 environments are not encouraging and adequate. It leaves teachers and parents confused about
29 fixing it since it cannot be translated separately. Significant concrete initiatives or acts by the
30 Government or other organizations are required to resolve the sector's issue in practical terms.
31 One of the attempts that can be made in places that do not have access to the Internet is to
32 create a learning model that uses other networks in the region (Friedman, 2020). Radio
33 networks in Indonesia are more straightforward and more accessible in some areas (Jurriens,
34 2009). This network can provide content knowledge or direct teaching activities from teachers
35 to students (Nwaerendu & Thompson, 1987). Since, in essence, the learning process is an
36 instructor who encourages the transmission of information that can direct students to explore
37 the knowledge they want to know and learn on their own, so that students obtain learning
38 experiences that are useful for their growth (Kelly, 2016; Freire, 1985). However, this cannot
39 be achieved individually. There must be a commitment and collaboration on the part of the
40 different parties. There must be a commitment between the educational community, the school,
41 and the Government to use the network and establish suitable learning methods so that learning
42 can be carried out effectively.
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1 A radio group can be set up in this field, consisting of organizers, colleges, teachers,
2 students, and parents of students, for the technical use of radio networks for learning in remote
3 areas. Develop a community radio station to be used as a tool to provide teachers with
4 information and feedback on learning activities. This study aims to establish an alternative
5 learning culture radio based on a blended learning model that blends ordinary learning with
6 technology in radio networks. The hope is that an alternative concrete approach will overcome
7 the challenging learning process in remote areas with complex internet networks. The hope is
8 that it can be developed as a solution in remote areas in many Indonesia regions so that all
9 students in Indonesia can continue to learn, process, and design.
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19 **A Framework of Community Radio-based Blended Learning Model**

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21 The concept of developing a Community Radio-based Blended Learning Model derives
22 from anxieties about educational problems faced in Indonesia by students in remote areas
23 where it is difficult for the Internet to network online learning. Due to geographical and
24 topological conditions that do not help, the problematic state of residents' information is due to
25 unsupported network access in almost every province, and network access is not uniformly
26 distributed. The period of the Government's response to these problems would further delay
27 the growth of students. It would have fatal consequences for their potential survival, leaving
28 pupils, parents, and teachers even more depressed. Of course, we cannot remain silent, finally
29 trying to see the technology that can be accessed under Indonesia's geographical and
30 topological conditions. The result is that radio networks can be accessed and accessed in almost
31 some places in Indonesia in valleys and mountainous areas. Then the concept of studying in a
32 remote community using a hybrid learning model combined with radio technology. This
33 learning is based on many basic ideas about community radio, mixed learning models,
34 transformative critical education, and transformative critical pedagogy.
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49 *Community Radio*

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51 Mtimde (2000) describes Community Radio as stations owned and operated by public or
52 group members for their communities. The World Association of Community Radio
53 Broadcasters (AMARC) represents a non-profit broadcasting station providing services to the
54 community where they are based (Diasio, 2010). Philosophically, the advent of community
55 radio is based on the public's need to communicate knowledge and reality and facts on the
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1 ground without being manipulated by any group with interest beyond the public interest
2 (Barker, 1998). The emergence of community radio originated from the poverty problem
3 experienced by mining workers in Bolivia, the United States, in 1949, because the radio there
4 was controlled by several interested people and had never broadcast the truth and condition of
5 these workers, the workers then produced community radio (Jurriens, 2014). They will regulate
6 themselves and be used to spread the truth and their desires. Catavi Radio is a collective radio
7 station for creating the labor union that was broadcast in Bolivia at the time. They spread the
8 truth about their plight and used the radio as a propaganda weapon to attract support for
9 solidarity to achieve justice. Community radio has since started to appear in many other
10 countries. Community radio contact called the Community Audio Tower System (CATS) was
11 developed in Asia in 1970. Radio was initially dominated and used to support development
12 initiatives (Semujju, 2020). Not long after that, community radio among the people started to
13 emerge and, under their influence, broadcast democracy issues for the people's good.
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24 Community radio is different from public radio and private radio that's is first,
25 community participation starts from establishment, evaluation and monitoring; second, it has a
26 transparent community, community radio has an exact audience, namely members of the
27 community itself and the people around the community; third, limited coverage area,
28 community radio only serves communities that are within its coverage area; fourth, closeness
29 to the local situation, because of the close relationship with the community and the
30 environmental area around the community, it will have a wealth of information about the local
31 social and cultural sites of the community coverage; fifth, technology is affordable, the
32 technology used is invincible with the ability of the community; sixth, having the jargon "from,
33 by, for and about the community", from this jargon it can be interpreted that community radios
34 are really from their own circle for their own interests and broadcast about the community and
35 the needs of the community itself (Lewis, 1989). Also, in establishing community radio, some
36 conditions must be fulfilled. Firstly, participation is a fundamental principle. Community
37 members are the main actors of community radio's existence and sustainability, and all
38 members are open to managing this radio. Secondly, locality, the radio community exists to
39 serve the community's interests so that the radio community must always be locality-oriented.
40 Thirdly, non-profit, community radio is not used to search for the material. Lastly, control from
41 the community, to ensure that broadcast content meets the community's needs, community
42 involvement is significant to control broadcast content and its management (Lewis, 1989).
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Radio contact had originated in Indonesia during the Dutch colonial period. It targeted unique ethnic groups, such as EMRO radio in Madiun, Radio Mavro in Yogyakarta, and Cirvo Radio for Chinese ethnicity in Surabaya. The term community radio has not yet been used (Jurriens, 2009). Group radio freedom fighters started to appear before independence, such as Radio Indonesia Raya, Radio Rebellion in Solo, Radio Rebellion in Surabaya, and Radio Gelora Pemuda in Madiun. Like community radio in other countries, the advent of community radio in Indonesia is also inspired by humanitarian issues and social inequality resulting from colonialism. People used community radio to monitor themselves to talk about the conditions and injustices they faced and use them as a propaganda tool to combat colonial oppression. In Indonesia, the term community radio has only been commonly used in the 2000s since the formation of the Draft Broadcasting Act (Jurriens, 2009). At the time, community radio was battling for the public to be included in the Broadcasting Bill due to the disparity in the broadcasting distribution in the regions. Public radio could become a media choice free from the desires of the government and investors. The history of community radio starts in Canada in the 1920s until Indonesia in 1980.

The use of radio as a medium for education has been used since the 1920s in rural Canada. It is motivated by Canada's extensive geographic conditions, the scattered population, difficulty accessing remote areas, the disparity of education in rural areas with urban areas, and the minimum technology and infrastructure to reach rural areas (Lambert & Arthur, 1961). Furthermore, the Canadian National Railway (CNR) program emerged with the target, namely the Point Greg School for students with disabilities and blind students in the Cancover area (Buck, 2006). As a result, the radio can encourage and stimulate blind and deaf students. In 1926, ordinary schools in Canada finally used radio for distance education with broadcast content such as lectures, music, and teachers' lessons to be followed by students.

In India, the form of Farm Radio Forum is community radio for rural communities with agricultural backgrounds in the 1950s (Neurath, 1962; Nwaerondy & Thompson, 1987). Community radio is used in primary, secondary, higher education, and informal education on agriculture, health, and literacy (Neurath, 1962; Nwaerondy & Thompson, 1987). At that time in India, radio was an effective medium for obtaining factual information. Secondary schools in India have also developed Hybrid Vision Radio, which combines broadcast and text, useful for learning geography and graphic illustration (Berman, 2008). At the higher education level, the Indira Gandhi National Open University also started developing educational radio in 1985.

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Then, in 2001 the Indian education radio network, Gyan Vani, was used widely in universities and study programs in various higher education in India (Berman, 2008).

In the 1960s, community radio broadcasting was formed to educate rural communities in Nigeria (Asemah et al., 2013; Akande, 2007; Moemeka, 2009). This was motivated by Nigeria's provincial stations' dismissal by the post-independence Nigerian government to be replaced by more substantial and better regional stations. However, this ultimately made it difficult for rural communities to influence broadcasting. Then Western Nigerian Broadcasting Corporation (WNBC) boldly established Radio Mobile Rmal to bridge rapport broadcasts with rural broadcasts (Moemeka, 2009). The government also disbanded the radio on the pretext that it did not have sufficient funds to finance it, even though the government actually made television stations at relatively high prices and could only be used by the rich and the elite. Because of this situation, McAnany (1979) formed a rural radio community with more complex content and functions. One of which was a radio school, namely educational radio for rural communities in Nigeria that offers an education that is more than just reading, writing, and cognitive skills but also changed passive attitudes and dependence (Moemeka, 2009).

In Kenya, Instruction Radio Interactive (IRI) developed Radio Language Arts (RLA) for education from first-grade to third-grade students in 1980. Learning using radio media is carried out systematically and structurally. There is a break for students and educators to ask each other and provide opinions. The content provided is in the form of stories, games, songs, and others that can stimulate students' imaginative thoughts. The use of radio for education is a solution to the problem of low teacher quality and lack of teacher resources. As a result, it can improve the quality of learning, increase student test scores, and lead rural students to monitor higher education in urban areas eventually.

In 1980, radio was used to support learning in Indonesia. The Educational Media Development Center of the Ministry of Education and Culture in Yogyakarta developed a *Radio Edukasi* (RE) to support formal and informal learning (Irawan, 2018). This radio broadcasts a wide variety of broadcasts between Learning Support Audio Media, Creative Education Audio Media, Audio Media for Early Childhood Education, Media Audio Ahead of the National Exam for the Blind, English Audio Dictionary, Story of a Character, Fairy Tales of Indonesian Children, RE Musicians, Treatise of Prophets and Friends, Popular Encyclopedia, Pearls of Words, Search for Jogja and RE for Afternoon Trips (Purnama, 2011). RE has formed partnerships with several radio stations in the regions, but the frequency often

1 experiences clarity disturbances (Innayah, 2015). RE can support education in Indonesia, but
2 its nature is still general and one-way.
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4 Meanwhile, education in remote areas during this pandemic requires learning media with
5 special and two-way coverage. Its function is to convey learning material and instructions from
6 the teacher to students to get a learning experience finally. Even though it has not been able to
7 meet the educational needs in remote areas, RE can prove that radio can support learning in
8 Indonesia.
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10 Nowadays, community radio is, in reality, being used for the social benefit of the
11 community at this time and has not yet reached the level of education. Community radio,
12 however, can be used as an educational option in rural areas with difficulties receiving internet
13 signals during this pandemic. The essence and general concepts of community radio that are
14 used for the good of the community, not-for-profit, owned and controlled by the community,
15 programming adapted to the needs of the community and locality prioritization can be used as
16 the essence and concept of community radio for education, so there is no conflict or educational
17 interest. Community radio for education can be built with participation from schools, teachers,
18 students, and student guardians as community members, content tailored to educational needs,
19 namely to transfer material and guide students in carrying out learning activities, management
20 and control are carried out by community members, namely schools, teachers and student
21 guardians, prioritizing locality or delivery of content can be local using local languages or local
22 contexts that exist around students and not purely for non-profit learning.
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40 *Blended Learning Model*

41 The discourse on blended learning has appeared since the 1960s, but it only started to
42 have many supporters in the 1990s since technology began to develop. The first-time blended
43 learning uses when the Center for Interactive Learning, an educational business institution in
44 Atlanta, made a press release in 1999 about an online course program using the Blended
45 Learning methodology. There was no clear definition of blended learning until then Graham
46 published a book entitled *The First Handbook of Blended Learning*, which answered the
47 ambiguity of the purpose of blended learning. Graham (2006) defines Blended Learning as a
48 combination of instructions from two historically separate teaching and learning models: the
49 face-to-face learning system and the distributed learning system. In addition to understanding,
50 some educational developers provide various definitions of blended learning, but the point is
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to combine two learning models to achieve the desired learning objectives. Therefore, blended learning as factors that are used together to obtain harmonious results, which can be seen from the student learning process.

Singh and Reed (2001) define blended learning as a learning program containing more than one model used to optimize learning. Graham (2006) also defines mixed learning as an effective combination of several learning techniques, technologies, and ways of delivering materials to meet student needs. Blended learning can also be interpreted as an educational approach that combines various face-to-face models with distance education and uses different types of educational technology.

In principle, blended learning combines face-to-face learning with Information, Communication, and Technology (ICT), which makes blended learning has several advantages (Hoic-Bozic et al., 2008; Graham 2006). First, using a combination of different educational techniques and technologies can improve academic abilities. Furthermore, it can be applied to students with diverse and independent learning styles. Allows cost savings and lowers education costs. Fourth, using various learning techniques that attract students' attention. Finally, by using a combination of face-to-face education and other processes, students can access knowledge anytime and anywhere (Hoic-Bozic et al., 2008; Graham, 2006). Blended learning can facilitate optimal learning by providing various learning media that can attract students' attention to education and develop their knowledge. In blended learning, the teacher acts as a facilitator and media in the learning process. The teacher provides instruction or learning and offers direction to students on carrying out learning activities and taking advantage of the technology used in learning.

Syntax in blended learning can refer to ICT-based learning because, in principle, Blended Learning combines face to face learning with ICT-based learning (Wahyuni et al., 2019). Ramsay (2011) stated that there are 3 syntax in blended learning, such as:

1. Seeking information, namely seeking information and critically have sources of information based on the relevance, validity and reliability and academic clarity of content;
2. The acquisition of data, namely students' individually or groups cooperatively and collaboratively trying to find, understand and confront information obtained from information providers with ideas or ideas that already exist in the minds of students;

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3. Synthesizing of knowledge, namely constructing knowledge through the process of assimilation and accommodation from the results of the analysis, discussion and formulation of conclusions on the information obtained.

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Blended learning has several roles, including a learning process that combines learning models, learning styles, and various technology and communication-based learning media. Furthermore, coaching between distance independent learning and face-to-face learning between teachers and students. Knowing that is supported by effective learning from delivery, education, and learning styles. Finally, parents and teachers have an important role in student learning, where the teacher acts as a facilitator and parents as a motivator (Borup et al., 2019). There are six mixed learning elements: face-to-face in class, self-study, technology and information, tutorials, collaboration, and evaluation (Valiathan, 2002). In limited education, there are also four learning concepts. First, combining or blending web-based technology modes such as virtual classes, collaborative learning, streaming video, audio, and text. Second, combining a pedagogical approach will result in optimal learning with or without technology, such as cognitivism, constructivism, and behaviorism. Third, connecting all forms of learning techniques such as videotapes, audio cassettes while being guided by the teacher face to face. Finally, combining learning technology to create cooperative learning and working effectively (Valiathan, 2002).

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Blended learning, which in principle combines various learning models with technology and is characterized by independent learning, can be used as the basis for alternative learning solutions in remote areas with difficulty accessing the internet during a pandemic. Before implementing mixed learning, an analysis of several things is needed, including attainable competencies, learning objectives, students, and available resources. This is the basis for determining how the learning design will be made and what media can support learning. After conducting the analysis, the teacher can see what technologies can be combined in learning and arrange learning steps. For example, in remote areas, the technology that students can use and reach is radio. The teacher can include radio to be incorporated into learning. Furthermore, the teacher makes learning steps and guides student learning by using technology in the form of radio to study independently at home with guidance from the teacher.

Transformative Critical Education (The Philosophical and Pedagogical Concepts)

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Transformative critical education is based on the essential theory of three schools of thought, namely the Frankfurt, Gramsci, and Freire schools. The Frankfurt School believes that critical theory must significantly change the world and improve the human condition (Geuss, 1981). The thinkers in this school try to provide awareness to free humans from irrationalism by having a critical understanding of reality. This school has seen that the instrumental ratio produces an industrial culture that has hindered the individual's autonomous development. The oppression carried out by industrial civilization is more dominant than just economic domination. According to Adorno and Horkheimer's thinking, industrial culture has made human beings and become like robots determined by advertising changed by the mass media (Landmann, 2011). Humans no longer have the freedom to choose because everything has been selected and standardized by industrial culture (Kellner, 2002). Therefore, the solution to get out of industrial culture's hegemony is to build a rational theory and produce human emancipation in industrial society (Geuss, 1981). Such ideas must play a significant role in changing the world and improving the human condition. This theory is a critical theory applied to humans. In principle, the critical theory does not care about wise human beings' efforts, which must be carried out by building acute and essential awareness to see and criticize reality and against the oppressive industrial culture's hegemony.

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The Gramsci School believes that social conditions in which all aspects of social reality are constructed and dominated by a dominant (superior) group (Gramsci & Hoare, 1971). Sovereignty continues to be supported by civil society institutions, including education itself. Thus, education is not neutral, but there are political content and interests at play. Therefore, to stem the hegemony process, a counter-hegemony action is needed by forming the education and culture of mass. This is necessary to achieve the supremacy of the civilian groups that are compared to society. According to Gramsci and Hoare (1971), the civilian masses consist of social organizations and movements that must have an intellectual function, namely to carry out social change and transformation. In reality, not everyone has an academic role in society. Thus, Gramsci and Hoare (1971) divide intellectuals into traditional and organic intellectuals. Traditional intellectual becomes the dominant group and carries out a unique social domination function and political governance (Kurtz, 1996).

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On the other hand, organic intellectuals organically create one or more intellectual strata that give them homogeneity and awareness of their tasks in the economic, social, political, and cultural fields (Green, 2013). Organic intellectuals have a role in the social formation, namely

1 providing homogeneity and awareness of the masses' functions. Organic intellectuals raise
2 awareness to make counter-hegemony efforts against the ruling class. Efforts to raise awareness
3 in the people's groups are carried out through critical education in formal and informal schools
4 to achieve the goal of education to humanize human beings (Kurtz, 1996; Green, 2013).
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7 Then the Freire School, which views that education's axis is siding with the oppressed or
8 the oppressed, those who experience alienation and self-depreciation. These people must be
9 emancipated with critical awareness so that they can be liberated. Paulo Freire, an educator,
10 philosopher, and theologian, views humans as creatures related to nature and their world
11 (Freire, 1972). This awareness of the relationship between personality and the world causes
12 humans to have a critical relationship with the world. Humans are gifted by God the ability to
13 choose, test, study, and test something again before acting. However, the developing education
14 system is still felt and felt today (Freire, 1972). This is a bank-style education system that
15 considers humans to be uncritical. This is like a container that contains material that students
16 will memorize and memorize. Used when needed, it saves money in the bank. According to
17 the free education system, students as humans have awareness and reflective and critical
18 abilities (Morrow & Torres, 2002).
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30 Freire rejects an education system that views humans as passive creatures and does not
31 need to make choices about themselves and their education (Roberts, 2000). Students must
32 become fully human beings who are free and independent of themselves, their reality, and their
33 world. His views then transformed into the world of education. Freedom is to initiate an
34 educational model that frees critical knowledge that can help humans improve the world's
35 essential attitudes. Thus, education must empower human freedom in being aware of
36 themselves and the outside world because education is a process that is beneficial to the
37 environment, society, and culture (Giroux, 2010). Critical knowledge is expected to encourage
38 humans to develop optimally and place students at the center of pedagogical activities (Freire,
39 1985). It must create an environment that is conducive to the development of learners.
40 Educators must also increase students' awareness to be critical and creative in dealing with their
41 problems (Torres, 2007).
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52 Learning must create intellectual freedom to achieve transformative critical education
53 between educators and students in the teaching and learning process (Giroux, 2010). The
54 learning process must be open and full of dialogue, full of responsibility between educators
55 and students; all interactions between educators and students are egalitarian and fair. Students
56 must have freedom of initiative, freedom of opinion, and freedom to have inspiration and other
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1 perspectives on justice and equality. In this case, education must be accommodated
2 appropriately as an important means of achieving independence (Beckett, 2013).
3 Communication in transformative critical education must go in all directions, namely educators
4 to students (top-down), students to educators (bottom-up), and students to other students
5 (networks) to create dialogical and non-educational education. Transformative critical
6 education is expected to produce changes in students both in quality changes, independent and
7 creative attitudes, personal differences, social quality changes with friends around them, and
8 the community environment. Changes in these students can bring up new ideas that can change
9 students' lives, the environment, and the world (Roberts, 2015).
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19 *Transformative Critical Pedagogy (Containing Values of Philosophy, Existentialism,*
20 *Humanism and Constructivism)*
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23 Critical Pedagogy is a praxis in which praxis is an action and reflection (Freire, 1985).
24 Praxis involves practicing theorizing and putting theory into practice. Praxis thinks of the
25 philosophical and essentialist thing about what and why we will do before we do it and then
26 contemplates what we did, how to do it, and how it turned out. Critical pedagogy involves an
27 evolving working relationship between practice and theory. As a praxis, critical pedagogy
28 cannot stop, critical pedagogy demands reflection and reconceptualization between what
29 happens inside our classrooms, why it happens, and what and whose purpose it serves. Critical
30 pedagogy recognizes the importance of the individual and his interests, acknowledging that the
31 individual and its fulfillment are dependent on social relations with others inside and outside
32 the class. Critical education requires collective thought and action, reflection, and action. It
33 cannot be separated from one another because when theory is cut off from practice, it is only
34 simple verbalism and vice versa when the way is cut off from the idea, exercise is just blind
35 activism (Freire, 1985).
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47 Critical pedagogy is a descriptive perspective because it critically analyzes the world we
48 live in. Critical pedagogy looks at how the pedagogical, political, social, and economic aspects
49 of life inform one another. Critical pedagogy asks why these things exist, in what way, who is
50 harmed, and how, then, teachers and students develop answers together (Morrow & Torres,
51 2002). This is when teachers and students are on the path to critical awareness. Critical
52 pedagogy enables teachers and students to gather reason and emotions to serve understanding,
53 transcendence, and transformation. Critical pedagogy helps us see ourselves and see humans,
54 what humans do to other humans and the world and its surroundings, never mind what is done
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1 and what happens is human, then helps to construct an idea of what to do, what changes must
2 be done (Shor, 1993; Giroux, 2020).
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4 Critical pedagogy helps humans to develop critical awareness, which enables them to
5 participate in transformational actions critically. This acute awareness refers to the process by
6 which humans no longer accept but as subjects who know and achieve a deep understanding
7 of both the socio-cultural realities that shape their lives and their capacity to change that reality
8 (Brass & Macedo, 1985; Freire, 1985). Critical awareness obtained from critical pedagogy
9 encourages humans to become whole humans or humanists, namely those who are autonomous
10 towards themselves, reality, and their world. It does not stop at awareness, but the result of
11 critical pedagogy is the emergence of the construction of new ideas that will produce
12 transformative action.
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23 **Community Radio-based Blended Learning Model**

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25 Community Radio-based Blended Learning is learning carried out by a radio community
26 whose members consist of schools, teachers, students, and student guardians using the blended
27 learning method or combining learning usually with technology in the form of radio. This study
28 aims to create effective learning for students in remote areas with difficulty with the internet
29 during the pandemic. This learning begins with the fulfillment of prerequisites, including
30 ordering a community radio consisting of schools, teachers, students, and student guardians
31 and preparing the necessary equipment. This tool's preparation is carried out by community
32 members and is managed and monitored by community members. Members of the radio
33 community must consider several principles. First, community radio is made based on
34 community members' needs, namely teachers, students, and student guardians, to create
35 effective learning during a pandemic. Next, it is non-profit or not for profit; third, there is active
36 and open participation from community members, namely teachers, students, and student
37 guardians, in conducting evaluation and monitoring.
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49 Implementing the Community Radio-based Blended Learning Model as a learning model
50 is not built on a particular learning theory, but rather a synthesis of several previously
51 developed learning theories, namely the learning theory of behaviorism, cognitivism, and
52 constructivism. These learning theories do not stand alone but complement each other to
53 produce a model following the characteristics of students as learners in school, presented in
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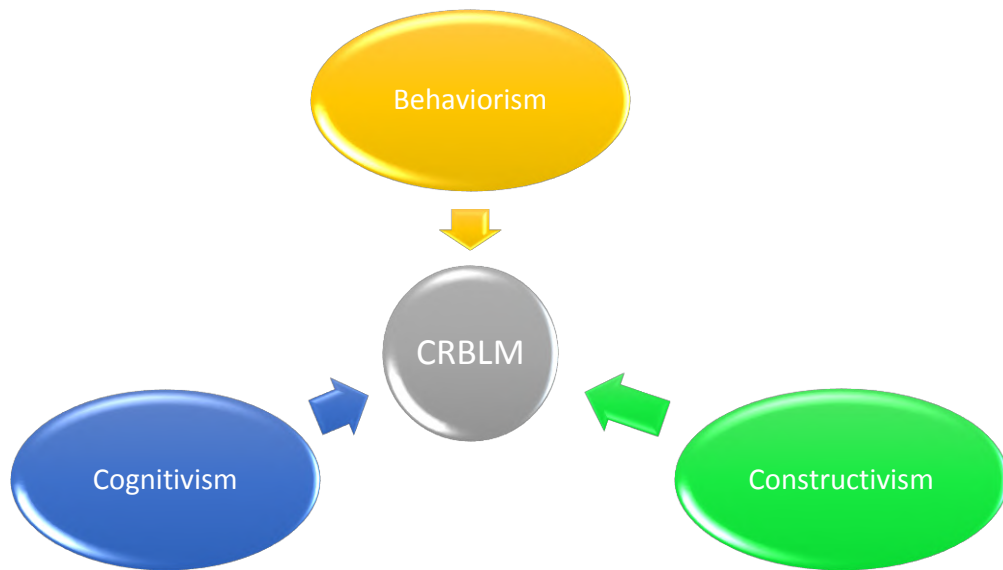


Figure 1. Relationship Learning Theories Supporting the Community Radio-based Blended Learning Model (CRBLM)

Behavioral learning theory views learning as a change in a person's behavior that appears due to his experience interacting with the environment. Learning here depends more on outsiders, namely the surrounding environment, not on one's self. In general, learning like this is manifested in the form of a relationship between stimulus and response. One of the figures of this learning theory is Skinner with the S-R (Stimulus-Response) learning theory, whose main element is reinforcement.

According to this theory, a response that manifests a change in a person's behavior will become permanent behavior if given reinforcement and vice versa if given punishment. The response will not be permanent behavior. The behaviorist learning theory that emphasizes the role of environmental aspects outside the individual in the acquisition of competence inspires CRBLM in collaboration between students and the object of study, students and colleagues, students and lecturers, and students and their environment in constructing knowledge.

Students interact with the study object to see natural phenomena that occur to obtain a conclusion and hypothesis according to the problem being discussed. Meanwhile, with colleagues and lecturers, students exchange ideas and share their thoughts and views regarding these natural phenomena. The pattern of relationships between students and outsiders shows how significant environmental aspects influence individuals when constructing knowledge. So, the strength of behaviorism theory lies in situations where a person has been faced with clear goals and can respond to things that are near related to these goals.

1 Unlike behaviorism theory, the theory of learning cognitivism also has a significant role
2 in building the CRBLM. Cognitivism learning theory emphasizes the active involvement of
3 the mind in learning activities. Learning here does not depend much on external stimuli but
4 involves more of one's own mind and initiative. Intellect, in this case, cognitive development,
5 is the main foothold in implementing learning activities. Usually, learning is distinguished by
6 cognitive development level: from the lowest level to the highest cognitive level.
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10 One of these learning theories is R. Gagne, who differentiates learning into five
11 categories: verbal information, intellectual skills, cognitive strategies, motor skills, and
12 attitudes. Each type requires a form, namely independent learning. According to this theory, to
13 master knowledge and skills, a person must actively try to give meaning to the various
14 information and data they obtain.
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20 Knowledge and other information are not acquired by individuals passively waiting and
21 receiving, but actively seeking to involve cognitive abilities to provide meaning through
22 various cognitive skills, such as analysis, synthesis, or evaluation. Of course, this is strong
23 evidence of how a person's cognitive abilities play a role in constructing knowledge. There are
24 several essential concepts commonly used in cognitive learning theory, namely three-stage
25 information processing schemes and models, namely registers, short-term memory, and long-
26 term memory.
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32 A schema is a knowledge structure that a person already has, which is used to make
33 associations with new knowledge. Information processing occurs first when the register
34 recognizes the input it received; furthermore, the input is processed in short-term memory; and
35 then transferred to long-term memory to be stored for future use.
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40 The third learning theory with a significant share in CRBLM building is a constructivism
41 learning theory, which is part of learning cognitivism theory. Constructivists see learning as an
42 active process of constructing meaning in the text, dialogue, physical experience, and other
43 structures (Sukiman, 2008). Furthermore, Hadi (2005) argues that knowledge in constructivist
44 understanding is a construction (formation) of people who know schemata. Experience cannot
45 be transferred from teacher to student because each student has his scheme of what he knows.
46 Knowledge formation is a cognitive process where there is a process of assimilation and
47 accommodation to achieve equilibrium to form new strategies.
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54 This view clearly states that knowledge is actively constructed by the mind, not passively
55 received from the environment. Students are actively involved in various relevant and
56 meaningful activities that lead to reconstructing knowledge, such as reflection and association
57 of new experience with the knowledge they already have. Therefore, it can be said that
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constructivism learning theory emphasizes aspects of the constructive processes carried out by individuals. In contrast, cognitivism theory leads to the role of cognition in reconstructing knowledge. Furthermore, the constructivism learning theory has four primary characteristics:

1. Students reconstruct their understanding.
2. New knowledge is built on previous understanding and knowledge.
3. Understanding is obtained through social interactions carried out by individuals and learning through experience to build meaningful knowledge.

One important aspect of constructivism learning theory that needs attention is experiential learning (experiential learning), which is also referred to as learning by doing. Experiential learning is a learning activity that provides a relatively more real experience for individuals in obtaining knowledge so that what is gained becomes more meaningful. In other words, individuals reconstruct knowledge based on the experiences they get through interactions that are built with their environment. Of course, this learning model is more suitable and can be applied to those who already have sufficient knowledge or adults.

In experiential learning activities, there are usually four phases that form the learning cycle, namely real experience, observation and reflection, the formation of abstract concepts, and their application in other situations. In the process of knowledge reconstruction, the four learning phases are repeated to find a good understanding.

The real experience phase is the learning stage, where students get concrete experiences according to the problems identified. Starting from this problem, students try to find various related information for its solution. In the second phase, students take advantage of reconstructed knowledge as a basis for observation and reflection. A common thread can be drawn between the theory and the real conditions they experience. The third phase is the learning stage that students use to make conclusions and generalizations; Meanwhile, the fourth phase is the learning stage where students try to apply what they have found to new situations. Therefore, there are some basic assumptions regarding constructivist learning theory:

1. Knowledge is built based on experience.
2. Learning is a personal interpretation of the world.
3. Education is an active process where meaning is built on expertise.
4. Conceptual growth comes from negotiating to mean, exchanging perspectives, and learning.
5. Collaborative and learning must occur in a realistic setting, and tests should be integrated with assignments.

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Community Radio-based Blended Learning Model is carried out with a blended learning model that combines ordinary learning with technology on the radio. The teacher acts as a facilitator and parent as a motivator and companion for students while studying at home. Radio in this lesson is used as a medium to convey information and guide student learning activities. In this case, learning activities can vary depending on the needs of the subjects delivered and the learning activities' requirements to understand students and achieve the targeted competencies. After carrying out learning activities, the teacher conducts class discussions and reflections or evaluations to see learning.

In Community Radio-based Blended Learning Model, things that must be used are using radio and done remotely or not face to face. Still, the learning process must remain open and dialogical and not in one direction only from teacher to student. Communication in learning must occur in all orders, both teacher to student, student to teacher, and student to other students. It is essential to pay attention to so that the learning process does not develop into a critical awareness of students, which have fatal implications for life and their ability to deal with the environment and their world. This pandemic's distance learning tends to be instructive. The teacher gives orders, and students do what the teacher or teacher instructs, provide material, and students passively accept it.

As stated by Freire (1985), students are not like banks, which only need to be filled with material and then passively accept and memorizes them according to what the teacher instructs. However, students are humans who are given the ability by God to think, reason, reflect, and re-examine what will come. Therefore, the teacher must encourage the capabilities that have been bestowed on this God so that students have more critical awareness that they can use to see deeper and face themselves, reality, and their world. Teachers must be able to understand that the essence of education is to deliver students to become complete human beings, namely humans who have freedom and autonomy towards themselves, reality, and their world so that they can creatively and critically face the problems around them. It can only be obtained through awareness. One way of growing and encouraging critical awareness is by placing students at the center of pedagogical activities and creating an environment conducive to necessary awareness development. This conducive environment is an open learning environment, full dialogue, full interaction. It provides opportunities for students to have freedom of opinion, freedom of belief, freedom of inspiration, freedom to have a perspective of justice and equality.

The community radio-based blended learning model must also prepare students to face the challenges of the 21st century, where life changes are so fast, dynamic, and challenging to predict. Students must quickly and critically see the reality and the changes that occur and deal with it.

1 Therefore, education cannot end up being carried out only by transferring knowledge and students
2 only receiving and understanding that knowledge. Students must understand what can be done with
3 the knowledge they have to act then. So, through critical pedagogy and a dialogical learning
4 process, the teacher must encourage students to think philosophically and practically about what is
5 learned and why to study it. Furthermore, they must see what happens to the reality around himself
6 and his world and reflect on what to do with what has been learned and seen on the truth and the
7 world and predict the results. Thus, the construction of transformative ideas or ideas will appear
8 students will carry that out in facing their world's problems and realities.
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17 **Conclusion**

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19 There is an alternative learning solution for remote areas with difficult internet access,
20 namely by utilizing a radio network for learning, packaged in the Community Radio-Based
21 Blended Learning Model. This learning can be carried out by forming a community radio
22 consisting of teachers, students, and student guardians. Then the teacher and students carry out
23 blended learning that combines ordinary learning with learning using technology. In this case,
24 the technology used is the radio. The teacher acts as a facilitator who will guide student learning
25 activities, and the parents act as a motivator who helps students' study at home. Learning
26 Community Radio-Based Blended Learning Model is implemented openly and dialogically to
27 foster students' critical awareness and encourage the creation of students' transformative ideas
28 in dealing with problems in the reality of the environment and the world around them.
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40 **Acknowledgement**

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Pada tanggal **5 Februari 2021** mendapatkan sejumlah komentar dari 2 reviewer yang fokus kepada metode penelitian dan sejumlah catatan perbaikan dengan deadline **7 Maret 2021**, yang mana satu diantaranya memberikan catatan perbaikan pada artikel nya secara langsung, seperti tampak pada email berikut.

The screenshot shows a Gmail interface with an email from Heliyon. The email title is "Decision on submission HELIYON-D-20-08595R1 to Heliyon". The sender is Heliyon <em@editorialmanager.com>. The email content includes:

Manuscript Number: HELIYON-D-20-08595R1
Title: Community Radio-Based Learning Model: A Promising Learning Model in Remote Area during Pandemic Era
Journal: Heliyon

Dear Assoc. Prof. Prahmana,

We have now received all of the reviewers' comments on your recent submission to Heliyon.

The reviewers have advised that your manuscript should become suitable for publication in our journal after appropriate revisions. In particular, please attend to more detailed methodology as well as a stronger argument regarding the article's contribution to the field (i.e., how and why radio education is viable in the rural Indonesian context).

If you are able to address the reviewers' comments, which you can find below, I would like to invite you to revise and resubmit your manuscript. We ask that you respond to each reviewer comment by either outlining how the criticism was addressed in the revised manuscript or by providing a rebuttal to the criticism. This should be carried out in a point-by-point fashion as illustrated here: <https://www.ccell.com/heliyon/guide-for-authors#Revisions>

To allow the editors and reviewers to easily assess your revised manuscript, we also ask that you upload a version of your manuscript highlighting any revisions made. You may wish to use Microsoft Word's Track Changes tool or, for LaTeX files, the latexdiff Perl script (<https://ctan.org/pkg/latexdiff>).

To submit your revised manuscript, please log in as an author at <https://www.editorialmanager.com/heliyon/>, and navigate to the "Submissions Needing Revision" folder under the Author Main Menu. Your revision due date is Mar 07, 2021.

We understand that the COVID-19 pandemic may well be causing disruption for you and your colleagues. If that is the case for you and it has an impact on your ability to make revisions to address the concerns that came up in the review process, please reach out to us.

I look forward to receiving your revised manuscript.

Kind regards,

Cathryn Magno, PhD
Associate Editor - Education
Heliyon

Editor and Reviewer comments:

Reviewer #1: Methods:
The methods were unclear. It would be useful to understand your criteria for evaluating literature. It was also unclear as to whether this was a pilot study or the results of a literature review. In either case, the methodology needs to be more explicitly discussed.

Results:
The results need further elaboration, I am unsure as to whether the results section is a series of recommendations or findings from a pilot project.

Interpretation:
While the article offers a comprehensive discussion of blended learning, it does not make a cohesive argument as to why a blended learning approach employing community radio is viable for remote areas in Indonesia.

Other comments:
The article has an interesting premise and the education arguments are persuasive, however, the article needs significant revisions before it is suitable for publication. The methods were unclear and there needed to be a great deal more synthesis throughout the literature review. I suggest restructuring the article to first discuss blended learning then move into how blended learning and educational radio has been employed in various countries before then discussing the Indonesian context. This may help build your argument more strongly.

Reviewer #2: Methods: This paper is a thematic paper. The methodology adopted should be clearly stated.

Interpretation: CRBLM could be elaborated in terms of Behaviourism

Other comments: The following edits are suggested: Page No.1 Abstract Line No.20 should be reframed. Instead of We believe, it should be written as it is inferred. Under Page No.1, line No.23, Promising Learning Model should be deleted. Line 41 to 50 should be deleted. Under Page No.2, line no 2 to 18 should be deleted. Page No.12,13,14 should be deleted. Page No.15 should start with line no.23 Community Radio based learning model. Under Page No.16 How behaviorism is blended with CRBLM should be elaborated. Under Page No.7, After 46th line, it should be included. Community radio programs are boon to the farmers in increasing the productivity and yield of crops. Through the education programs of CRS, newspaper reading has increased among the student in around Kottampatti. Johnson [et.al.](#) (2020)

Include in Reference
Johnson [et.al](#) (2020) Impact of Community Radio Programs in rural development. International Journal of scientific and technology research, Vol.9, Issue 1, 3844-3848

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In compliance with data protection regulations, you may request that we remove your personal registration details at any time. (Use the following URL: <https://www.editorialmanager.com/heliyon/login.asp?a=r>). Please contact the publication office if you have any questions.

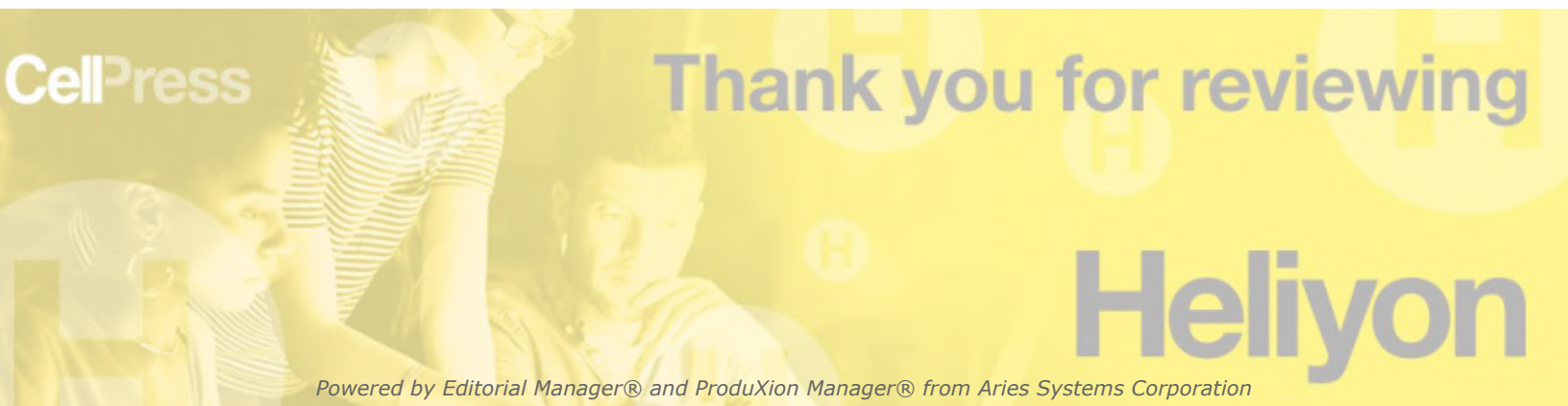
At the bottom of the email, there is a thumbnail of a document titled "HELIYON-D-20-08..." and buttons for "Reply" and "Forward".

Hasil Review yang diberikan secara langsung pada Artikel yang di submit
dan di generate oleh Editorial Manager Sistem nya Jurnal Heliyon
[Hasil Review – 5 Februari 2021]

Heliyon

Community Radio-Based Learning Model: A Promising Learning Model in Remote Area during Pandemic Era --Manuscript Draft--

Manuscript Number:	HELIYON-D-20-08595R1
Article Type:	Original Research Article
Section/Category:	Education
Keywords:	Community Radio-based Learning Model; Pandemic Era; Remote Area; Promising Learning Model
Abstract:	<p>The issue of student learning difficulties during the Covid-19 pandemic in Indonesia's remote areas with complex internet networks remains unresolved. Several students, teachers, and parents are overwhelmed by the circumstances that make it difficult to continue learning online. This project aims to build solutions for learning models using radio networks that are affordable and open to students in remote areas. This learning model's design was carried out by reviewing some of the literature utilized to prepare learning designs using a blended learning model that combined ordinary learning using radio technology. We believe that this learning model would be a promising learning model in remote areas during unpredictable situations like the Pandemic era.</p>



Dear Prof. Cathryn Magno, PhD,
Associate Editor – Education, Heliyon

Greetings from Indonesia and wishing you a great day with happiness and healthy condition in this era COVID-19.

Thank you for giving me the opportunity to submit a revised draft of my manuscript titled Community Radio-Based Learning Model: A Promising Learning Model in Remote Area during Pandemic Era to Heliyon. We really appreciate the time and effort that you and the reviewers have dedicated to providing your valuable feedback on my manuscript. We are grateful to the reviewers for their insightful comments on my paper. We have been able to incorporate changes to reflect most of the suggestions provided by the reviewers. We have been revised the manuscript based on your comments. In addition, all spelling and grammatical errors pointed out by the reviewers have been corrected.

We look forward to hearing from you in due time regarding our submission and to respond to any further questions and comments you may have.

Best wishes,

Rully Charitas Indra Prahmana

Community Radio-Based Learning Model: A Promising Learning Model in Remote Area during Pandemic Era

Rully Charitas Indra Prahmana, Dody Hartanto, Dian Artha Kusumaningtyas,
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Abstract

The issue of student learning difficulties during the Covid-19 pandemic in Indonesia's remote areas with complex internet networks remains unresolved. Several students, teachers, and parents are overwhelmed by the circumstances that make it difficult to continue learning online. This project aims to build solutions for learning models using radio networks that are affordable and open to students in remote areas. This learning model's design was carried out by reviewing some of the literature utilized to prepare learning designs using a blended learning model that combined ordinary learning using radio technology. We believe that this learning model would be a promising learning model in remote areas during unpredictable situations like the Pandemic era.

Keywords: Community Radio-based Learning Model, Pandemic Era, Remote Area, Promising Learning Model

Introduction

The planet is currently suffering from the Covid-19 pandemic, which poses a fatal health and death risk. To monitor the rapid spread of the virus between individuals, the World Health Organization (WHO) has provided a protocol for individuals to exercise physical distance (World Health Organization, 2020). All operations involving a large number of people should be carried out remotely or from home. As a result, learning practices in schools, which are meeting places between many individual students and teachers, have also been moved from offline learning to online learning. This is done in almost all countries, including Indonesia, through the Ministry of Education and Culture Circular Letter No. 3 of 2020 on the Prevention of COVID-19 in the Education Unit and No. 36962/MPK.A/HK/2020 on Online Learning and Home Work in the Preventive Sense The spread of Corona Virus Disease (COVID-19) by the Indonesian Government. Based on this proposal, some 646.2 thousand schools in Indonesia must be closed down, and 68.8 million students must study at home.

Indonesia's geographical and topographical conditions, which consist of islands with plains and mountains, make it difficult for all Indonesia regions to have access to the Internet that can be used for online learning (Afrianti & Aditia, 2020). Many students have to walk far up the mountains, climb trees, or reach the woods to get internet signals. In certain places, teachers must visit students' homes one by one to continue to study during the pandemic. This,

1 of course, makes learning inefficient and negatively impacts student learning progress (Tamah
2 et al., 2020; Supena et al., 2020). Indeed the Indonesian Government has released a decree,
3 through the Ministry of Education and Culture Circular No. 4 of 2020, on the implementation
4 of education policies in the emergency time for the spread of Covid-19 and the Circular of the
5 Secretary-General of the Ministry of Education and Culture No. 15 of 2020 on the guidelines
6 for learning from home in the emergency of the spread of Covid Learning guides are available
7 throughout the pandemic, both for access to the Internet and for areas without internet access.
8 This guide writes that measurements of difficulty accessing internet learning can be made using
9 media such as television, radio, self-study modules, worksheets, printed teaching materials,
10 props, and media from objects in the local environment. However, the truth is that the findings
11 are null and void in technical practice in the field. The Government has never been a concrete
12 solution for providing learning facilities in places that do not have access to the Internet for
13 learning.
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24 The Covid-19 pandemic does not know when it will stop, and the Indonesian
25 Government, which has not yet given exact solutions to learning problems in areas with Internet
26 connectivity or remote regions, eventually depressed students, student families, and teachers
27 (Irawan et al., 2020). Students must continue to learn and continue to improve, but the
28 environments are not encouraging and adequate. It leaves teachers and parents confused about
29 fixing it since it cannot be translated separately. Significant concrete initiatives or acts by the
30 Government or other organizations are required to resolve the sector's issue in practical terms.
31 One of the attempts that can be made in places that do not have access to the Internet is to
32 create a learning model that uses other networks in the region (Friedman, 2020). Radio
33 networks in Indonesia are more straightforward and more accessible in some areas (Jurriens,
34 2009). This network can provide content knowledge or direct teaching activities from teachers
35 to students (Nwaerendu & Thompson, 1987). Since, in essence, the learning process is an
36 instructor who encourages the transmission of information that can direct students to explore
37 the knowledge they want to know and learn on their own, so that students obtain learning
38 experiences that are useful for their growth (Kelly, 2016; Freire, 1985). However, this cannot
39 be achieved individually. There must be a commitment and collaboration on the part of the
40 different parties. There must be a commitment between the educational community, the school,
41 and the Government to use the network and establish suitable learning methods so that learning
42 can be carried out effectively.
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1 A radio group can be set up in this field, consisting of organizers, colleges, teachers,
2 students, and parents of students, for the technical use of radio networks for learning in remote
3 areas. Develop a community radio station to be used as a tool to provide teachers with
4 information and feedback on learning activities. This study aims to establish an alternative
5 learning culture radio based on a blended learning model that blends ordinary learning with
6 technology in radio networks. The hope is that an alternative concrete approach will overcome
7 the challenging learning process in remote areas with complex internet networks. The hope is
8 that it can be developed as a solution in remote areas in many Indonesia regions so that all
9 students in Indonesia can continue to learn, process, and design.
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19 **A Framework of Community Radio-based Blended Learning Model**

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21 The concept of developing a Community Radio-based Blended Learning Model derives
22 from anxieties about educational problems faced in Indonesia by students in remote areas
23 where it is difficult for the Internet to network online learning. Due to geographical and
24 topological conditions that do not help, the problematic state of residents' information is due to
25 unsupported network access in almost every province, and network access is not uniformly
26 distributed. The period of the Government's response to these problems would further delay
27 the growth of students. It would have fatal consequences for their potential survival, leaving
28 pupils, parents, and teachers even more depressed. Of course, we cannot remain silent, finally
29 trying to see the technology that can be accessed under Indonesia's geographical and
30 topological conditions. The result is that radio networks can be accessed and accessed in almost
31 some places in Indonesia in valleys and mountainous areas. Then the concept of studying in a
32 remote community using a hybrid learning model combined with radio technology. This
33 learning is based on many basic ideas about community radio, mixed learning models,
34 transformative critical education, and transformative critical pedagogy.
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49 *Community Radio*

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51 Mtimde (2000) describes Community Radio as stations owned and operated by public or
52 group members for their communities. The World Association of Community Radio
53 Broadcasters (AMARC) represents a non-profit broadcasting station providing services to the
54 community where they are based (Diasio, 2010). Philosophically, the advent of community
55 radio is based on the public's need to communicate knowledge and reality and facts on the
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2 ground without being manipulated by any group with interest beyond the public interest
3 (Barker, 1998). The emergence of community radio originated from the poverty problem
4 experienced by mining workers in Bolivia, the United States, in 1949, because the radio there
5 was controlled by several interested people and had never broadcast the truth and condition of
6 these workers, the workers then produced community radio (Jurriens, 2014). They will regulate
7 themselves and be used to spread the truth and their desires. Catavi Radio is a collective radio
8 station for creating the labor union that was broadcast in Bolivia at the time. They spread the
9 truth about their plight and used the radio as a propaganda weapon to attract support for
10 solidarity to achieve justice. Community radio has since started to appear in many other
11 countries. Community radio contact called the Community Audio Tower System (CATS) was
12 developed in Asia in 1970. Radio was initially dominated and used to support development
13 initiatives (Semujju, 2020). Not long after that, community radio among the people started to
14 emerge and, under their influence, broadcast democracy issues for the people's good.
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24 Community radio is different from public radio and private radio that's is first,
25 community participation starts from establishment, evaluation and monitoring; second, it has a
26 transparent community, community radio has an exact audience, namely members of the
27 community itself and the people around the community; third, limited coverage area,
28 community radio only serves communities that are within its coverage area; fourth, closeness
29 to the local situation, because of the close relationship with the community and the
30 environmental area around the community, it will have a wealth of information about the local
31 social and cultural sites of the community coverage; fifth, technology is affordable, the
32 technology used is invincible with the ability of the community; sixth, having the jargon "from,
33 by, for and about the community", from this jargon it can be interpreted that community radios
34 are really from their own circle for their own interests and broadcast about the community and
35 the needs of the community itself (Lewis, 1989). Also, in establishing community radio, some
36 conditions must be fulfilled. Firstly, participation is a fundamental principle. Community
37 members are the main actors of community radio's existence and sustainability, and all
38 members are open to managing this radio. Secondly, locality, the radio community exists to
39 serve the community's interests so that the radio community must always be locality-oriented.
40 Thirdly, non-profit, community radio is not used to search for the material. Lastly, control from
41 the community, to ensure that broadcast content meets the community's needs, community
42 involvement is significant to control broadcast content and its management (Lewis, 1989).
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Radio contact had originated in Indonesia during the Dutch colonial period. It targeted unique ethnic groups, such as EMRO radio in Madiun, Radio Mavro in Yogyakarta, and Cirvo Radio for Chinese ethnicity in Surabaya. The term community radio has not yet been used (Jurriens, 2009). Group radio freedom fighters started to appear before independence, such as Radio Indonesia Raya, Radio Rebellion in Solo, Radio Rebellion in Surabaya, and Radio Gelora Pemuda in Madiun. Like community radio in other countries, the advent of community radio in Indonesia is also inspired by humanitarian issues and social inequality resulting from colonialism. People used community radio to monitor themselves to talk about the conditions and injustices they faced and use them as a propaganda tool to combat colonial oppression. In Indonesia, the term community radio has only been commonly used in the 2000s since the formation of the Draft Broadcasting Act (Jurriens, 2009). At the time, community radio was battling for the public to be included in the Broadcasting Bill due to the disparity in the broadcasting distribution in the regions. Public radio could become a media choice free from the desires of the government and investors. The history of community radio starts in Canada in the 1920s until Indonesia in 1980.

The use of radio as a medium for education has been used since the 1920s in rural Canada. It is motivated by Canada's extensive geographic conditions, the scattered population, difficulty accessing remote areas, the disparity of education in rural areas with urban areas, and the minimum technology and infrastructure to reach rural areas (Lambert & Arthur, 1961). Furthermore, the Canadian National Railway (CNR) program emerged with the target, namely the Point Greg School for students with disabilities and blind students in the Cancover area (Buck, 2006). As a result, the radio can encourage and stimulate blind and deaf students. In 1926, ordinary schools in Canada finally used radio for distance education with broadcast content such as lectures, music, and teachers' lessons to be followed by students.

In India, the form of Farm Radio Forum is community radio for rural communities with agricultural backgrounds in the 1950s (Neurath, 1962; Nwaerondy & Thompson, 1987). Community radio is used in primary, secondary, higher education, and informal education on agriculture, health, and literacy (Neurath, 1962; Nwaerondy & Thompson, 1987). At that time in India, radio was an effective medium for obtaining factual information. Secondary schools in India have also developed Hybrid Vision Radio, which combines broadcast and text, useful for learning geography and graphic illustration (Berman, 2008). At the higher education level, the Indira Gandhi National Open University also started developing educational radio in 1985.

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Then, in 2001 the Indian education radio network, Gyan Vani, was used widely in universities and study programs in various higher education in India (Berman, 2008).

In the 1960s, community radio broadcasting was formed to educate rural communities in Nigeria (Asemah et al., 2013; Akande, 2007; Moemeka, 2009). This was motivated by Nigeria's provincial stations' dismissal by the post-independence Nigerian government to be replaced by more substantial and better regional stations. However, this ultimately made it difficult for rural communities to influence broadcasting. Then Western Nigerian Broadcasting Corporation (WNBC) boldly established Radio Mobile Rmal to bridge rapport broadcasts with rural broadcasts (Moemeka, 2009). The government also disbanded the radio on the pretext that it did not have sufficient funds to finance it, even though the government actually made television stations at relatively high prices and could only be used by the rich and the elite. Because of this situation, McAnany (1979) formed a rural radio community with more complex content and functions. One of which was a radio school, namely educational radio for rural communities in Nigeria that offers an education that is more than just reading, writing, and cognitive skills but also changed passive attitudes and dependence (Moemeka, 2009).

In Kenya, Instruction Radio Interactive (IRI) developed Radio Language Arts (RLA) for education from first-grade to third-grade students in 1980. Learning using radio media is carried out systematically and structurally. There is a break for students and educators to ask each other and provide opinions. The content provided is in the form of stories, games, songs, and others that can stimulate students' imaginative thoughts. The use of radio for education is a solution to the problem of low teacher quality and lack of teacher resources. As a result, it can improve the quality of learning, increase student test scores, and lead rural students to monitor higher education in urban areas eventually.

In 1980, radio was used to support learning in Indonesia. The Educational Media Development Center of the Ministry of Education and Culture in Yogyakarta developed a *Radio Edukasi* (RE) to support formal and informal learning (Irawan, 2018). This radio broadcasts a wide variety of broadcasts between Learning Support Audio Media, Creative Education Audio Media, Audio Media for Early Childhood Education, Media Audio Ahead of the National Exam for the Blind, English Audio Dictionary, Story of a Character, Fairy Tales of Indonesian Children, RE Musicians, Treatise of Prophets and Friends, Popular Encyclopedia, Pearls of Words, Search for Jogja and RE for Afternoon Trips (Purnama, 2011). RE has formed partnerships with several radio stations in the regions, but the frequency often

1 experiences clarity disturbances (Innayah, 2015). RE can support education in Indonesia, but
2 its nature is still general and one-way.
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4 Meanwhile, education in remote areas during this pandemic requires learning media with
5 special and two-way coverage. Its function is to convey learning material and instructions from
6 the teacher to students to get a learning experience finally. Even though it has not been able to
7 meet the educational needs in remote areas, RE can prove that radio can support learning in
8 Indonesia.
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10 Nowadays, community radio is, in reality, being used for the social benefit of the
11 community at this time and has not yet reached the level of education. Community radio,
12 however, can be used as an educational option in rural areas with difficulties receiving internet
13 signals during this pandemic. The essence and general concepts of community radio that are
14 used for the good of the community, not-for-profit, owned and controlled by the community,
15 programming adapted to the needs of the community and locality prioritization can be used as
16 the essence and concept of community radio for education, so there is no conflict or educational
17 interest. Community radio for education can be built with participation from schools, teachers,
18 students, and student guardians as community members, content tailored to educational needs,
19 namely to transfer material and guide students in carrying out learning activities, management
20 and control are carried out by community members, namely schools, teachers and student
21 guardians, prioritizing locality or delivery of content can be local using local languages or local
22 contexts that exist around students and not purely for non-profit learning.
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40 *Blended Learning Model*

41 The discourse on blended learning has appeared since the 1960s, but it only started to
42 have many supporters in the 1990s since technology began to develop. The first-time blended
43 learning uses when the Center for Interactive Learning, an educational business institution in
44 Atlanta, made a press release in 1999 about an online course program using the Blended
45 Learning methodology. There was no clear definition of blended learning until then Graham
46 published a book entitled *The First Handbook of Blended Learning*, which answered the
47 ambiguity of the purpose of blended learning. Graham (2006) defines Blended Learning as a
48 combination of instructions from two historically separate teaching and learning models: the
49 face-to-face learning system and the distributed learning system. In addition to understanding,
50 some educational developers provide various definitions of blended learning, but the point is
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to combine two learning models to achieve the desired learning objectives. Therefore, blended learning as factors that are used together to obtain harmonious results, which can be seen from the student learning process.

Singh and Reed (2001) define blended learning as a learning program containing more than one model used to optimize learning. Graham (2006) also defines mixed learning as an effective combination of several learning techniques, technologies, and ways of delivering materials to meet student needs. Blended learning can also be interpreted as an educational approach that combines various face-to-face models with distance education and uses different types of educational technology.

In principle, blended learning combines face-to-face learning with Information, Communication, and Technology (ICT), which makes blended learning has several advantages (Hoic-Bozic et al., 2008; Graham 2006). First, using a combination of different educational techniques and technologies can improve academic abilities. Furthermore, it can be applied to students with diverse and independent learning styles. Allows cost savings and lowers education costs. Fourth, using various learning techniques that attract students' attention. Finally, by using a combination of face-to-face education and other processes, students can access knowledge anytime and anywhere (Hoic-Bozic et al., 2008; Graham, 2006). Blended learning can facilitate optimal learning by providing various learning media that can attract students' attention to education and develop their knowledge. In blended learning, the teacher acts as a facilitator and media in the learning process. The teacher provides instruction or learning and offers direction to students on carrying out learning activities and taking advantage of the technology used in learning.

Syntax in blended learning can refer to ICT-based learning because, in principle, Blended Learning combines face to face learning with ICT-based learning (Wahyuni et al., 2019). Ramsay (2011) stated that there are 3 syntax in blended learning, such as:

1. Seeking information, namely seeking information and critically have sources of information based on the relevance, validity and reliability and academic clarity of content;
2. The acquisition of data, namely students' individually or groups cooperatively and collaboratively trying to find, understand and confront information obtained from information providers with ideas or ideas that already exist in the minds of students;

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3. Synthesizing of knowledge, namely constructing knowledge through the process of assimilation and accommodation from the results of the analysis, discussion and formulation of conclusions on the information obtained.

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Blended learning has several roles, including a learning process that combines learning models, learning styles, and various technology and communication-based learning media. Furthermore, coaching between distance independent learning and face-to-face learning between teachers and students. Knowing that is supported by effective learning from delivery, education, and learning styles. Finally, parents and teachers have an important role in student learning, where the teacher acts as a facilitator and parents as a motivator (Borup et al., 2019). There are six mixed learning elements: face-to-face in class, self-study, technology and information, tutorials, collaboration, and evaluation (Valiathan, 2002). In limited education, there are also four learning concepts. First, combining or blending web-based technology modes such as virtual classes, collaborative learning, streaming video, audio, and text. Second, combining a pedagogical approach will result in optimal learning with or without technology, such as cognitivism, constructivism, and behaviorism. Third, connecting all forms of learning techniques such as videotapes, audio cassettes while being guided by the teacher face to face. Finally, combining learning technology to create cooperative learning and working effectively (Valiathan, 2002).

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Blended learning, which in principle combines various learning models with technology and is characterized by independent learning, can be used as the basis for alternative learning solutions in remote areas with difficulty accessing the internet during a pandemic. Before implementing mixed learning, an analysis of several things is needed, including attainable competencies, learning objectives, students, and available resources. This is the basis for determining how the learning design will be made and what media can support learning. After conducting the analysis, the teacher can see what technologies can be combined in learning and arrange learning steps. For example, in remote areas, the technology that students can use and reach is radio. The teacher can include radio to be incorporated into learning. Furthermore, the teacher makes learning steps and guides student learning by using technology in the form of radio to study independently at home with guidance from the teacher.

Transformative Critical Education (The Philosophical and Pedagogical Concepts)

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Transformative critical education is based on the essential theory of three schools of thought, namely the Frankfurt, Gramsci, and Freire schools. The Frankfurt School believes that critical theory must significantly change the world and improve the human condition (Geuss, 1981). The thinkers in this school try to provide awareness to free humans from irrationalism by having a critical understanding of reality. This school has seen that the instrumental ratio produces an industrial culture that has hindered the individual's autonomous development. The oppression carried out by industrial civilization is more dominant than just economic domination. According to Adorno and Horkheimer's thinking, industrial culture has made human beings and become like robots determined by advertising changed by the mass media (Landmann, 2011). Humans no longer have the freedom to choose because everything has been selected and standardized by industrial culture (Kellner, 2002). Therefore, the solution to get out of industrial culture's hegemony is to build a rational theory and produce human emancipation in industrial society (Geuss, 1981). Such ideas must play a significant role in changing the world and improving the human condition. This theory is a critical theory applied to humans. In principle, the critical theory does not care about wise human beings' efforts, which must be carried out by building acute and essential awareness to see and criticize reality and against the oppressive industrial culture's hegemony.

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The Gramsci School believes that social conditions in which all aspects of social reality are constructed and dominated by a dominant (superior) group (Gramsci & Hoare, 1971). Sovereignty continues to be supported by civil society institutions, including education itself. Thus, education is not neutral, but there are political content and interests at play. Therefore, to stem the hegemony process, a counter-hegemony action is needed by forming the education and culture of mass. This is necessary to achieve the supremacy of the civilian groups that are compared to society. According to Gramsci and Hoare (1971), the civilian masses consist of social organizations and movements that must have an intellectual function, namely to carry out social change and transformation. In reality, not everyone has an academic role in society. Thus, Gramsci and Hoare (1971) divide intellectuals into traditional and organic intellectuals. Traditional intellectual becomes the dominant group and carries out a unique social domination function and political governance (Kurtz, 1996).

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On the other hand, organic intellectuals organically create one or more intellectual strata that give them homogeneity and awareness of their tasks in the economic, social, political, and cultural fields (Green, 2013). Organic intellectuals have a role in the social formation, namely

1 providing homogeneity and awareness of the masses' functions. Organic intellectuals raise
2 awareness to make counter-hegemony efforts against the ruling class. Efforts to raise awareness
3 in the people's groups are carried out through critical education in formal and informal schools
4 to achieve the goal of education to humanize human beings (Kurtz, 1996; Green, 2013).
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7 Then the Freire School, which views that education's axis is siding with the oppressed or
8 the oppressed, those who experience alienation and self-depreciation. These people must be
9 emancipated with critical awareness so that they can be liberated. Paulo Freire, an educator,
10 philosopher, and theologian, views humans as creatures related to nature and their world
11 (Freire, 1972). This awareness of the relationship between personality and the world causes
12 humans to have a critical relationship with the world. Humans are gifted by God the ability to
13 choose, test, study, and test something again before acting. However, the developing education
14 system is still felt and felt today (Freire, 1972). This is a bank-style education system that
15 considers humans to be uncritical. This is like a container that contains material that students
16 will memorize and memorize. Used when needed, it saves money in the bank. According to
17 the free education system, students as humans have awareness and reflective and critical
18 abilities (Morrow & Torres, 2002).
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30 Freire rejects an education system that views humans as passive creatures and does not
31 need to make choices about themselves and their education (Roberts, 2000). Students must
32 become fully human beings who are free and independent of themselves, their reality, and their
33 world. His views then transformed into the world of education. Freedom is to initiate an
34 educational model that frees critical knowledge that can help humans improve the world's
35 essential attitudes. Thus, education must empower human freedom in being aware of
36 themselves and the outside world because education is a process that is beneficial to the
37 environment, society, and culture (Giroux, 2010). Critical knowledge is expected to encourage
38 humans to develop optimally and place students at the center of pedagogical activities (Freire,
39 1985). It must create an environment that is conducive to the development of learners.
40 Educators must also increase students' awareness to be critical and creative in dealing with their
41 problems (Torres, 2007).
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52 Learning must create intellectual freedom to achieve transformative critical education
53 between educators and students in the teaching and learning process (Giroux, 2010). The
54 learning process must be open and full of dialogue, full of responsibility between educators
55 and students; all interactions between educators and students are egalitarian and fair. Students
56 must have freedom of initiative, freedom of opinion, and freedom to have inspiration and other
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1 perspectives on justice and equality. In this case, education must be accommodated
2 appropriately as an important means of achieving independence (Beckett, 2013).
3 Communication in transformative critical education must go in all directions, namely educators
4 to students (top-down), students to educators (bottom-up), and students to other students
5 (networks) to create dialogical and non-educational education. Transformative critical
6 education is expected to produce changes in students both in quality changes, independent and
7 creative attitudes, personal differences, social quality changes with friends around them, and
8 the community environment. Changes in these students can bring up new ideas that can change
9 students' lives, the environment, and the world (Roberts, 2015).
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19 *Transformative Critical Pedagogy (Containing Values of Philosophy, Existentialism,*
20 *Humanism and Constructivism)*
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23 Critical Pedagogy is a praxis in which praxis is an action and reflection (Freire, 1985).
24 Praxis involves practicing theorizing and putting theory into practice. Praxis thinks of the
25 philosophical and essentialist thing about what and why we will do before we do it and then
26 contemplates what we did, how to do it, and how it turned out. Critical pedagogy involves an
27 evolving working relationship between practice and theory. As a praxis, critical pedagogy
28 cannot stop, critical pedagogy demands reflection and reconceptualization between what
29 happens inside our classrooms, why it happens, and what and whose purpose it serves. Critical
30 pedagogy recognizes the importance of the individual and his interests, acknowledging that the
31 individual and its fulfillment are dependent on social relations with others inside and outside
32 the class. Critical education requires collective thought and action, reflection, and action. It
33 cannot be separated from one another because when theory is cut off from practice, it is only
34 simple verbalism and vice versa when the way is cut off from the idea, exercise is just blind
35 activism (Freire, 1985).
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47 Critical pedagogy is a descriptive perspective because it critically analyzes the world we
48 live in. Critical pedagogy looks at how the pedagogical, political, social, and economic aspects
49 of life inform one another. Critical pedagogy asks why these things exist, in what way, who is
50 harmed, and how, then, teachers and students develop answers together (Morrow & Torres,
51 2002). This is when teachers and students are on the path to critical awareness. Critical
52 pedagogy enables teachers and students to gather reason and emotions to serve understanding,
53 transcendence, and transformation. Critical pedagogy helps us see ourselves and see humans,
54 what humans do to other humans and the world and its surroundings, never mind what is done
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1 and what happens is human, then helps to construct an idea of what to do, what changes must
2 be done (Shor, 1993; Giroux, 2020).
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4 Critical pedagogy helps humans to develop critical awareness, which enables them to
5 participate in transformational actions critically. This acute awareness refers to the process by
6 which humans no longer accept but as subjects who know and achieve a deep understanding
7 of both the socio-cultural realities that shape their lives and their capacity to change that reality
8 (Brass & Macedo, 1985; Freire, 1985). Critical awareness obtained from critical pedagogy
9 encourages humans to become whole humans or humanists, namely those who are autonomous
10 towards themselves, reality, and their world. It does not stop at awareness, but the result of
11 critical pedagogy is the emergence of the construction of new ideas that will produce
12 transformative action.
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23 **Community Radio-based Blended Learning Model**

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25 Community Radio-based Blended Learning is learning carried out by a radio community
26 whose members consist of schools, teachers, students, and student guardians using the blended
27 learning method or combining learning usually with technology in the form of radio. This study
28 aims to create effective learning for students in remote areas with difficulty with the internet
29 during the pandemic. This learning begins with the fulfillment of prerequisites, including
30 ordering a community radio consisting of schools, teachers, students, and student guardians
31 and preparing the necessary equipment. This tool's preparation is carried out by community
32 members and is managed and monitored by community members. Members of the radio
33 community must consider several principles. First, community radio is made based on
34 community members' needs, namely teachers, students, and student guardians, to create
35 effective learning during a pandemic. Next, it is non-profit or not for profit; third, there is active
36 and open participation from community members, namely teachers, students, and student
37 guardians, in conducting evaluation and monitoring.
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49 Implementing the Community Radio-based Blended Learning Model as a learning model
50 is not built on a particular learning theory, but rather a synthesis of several previously
51 developed learning theories, namely the learning theory of behaviorism, cognitivism, and
52 constructivism. These learning theories do not stand alone but complement each other to
53 produce a model following the characteristics of students as learners in school, presented in
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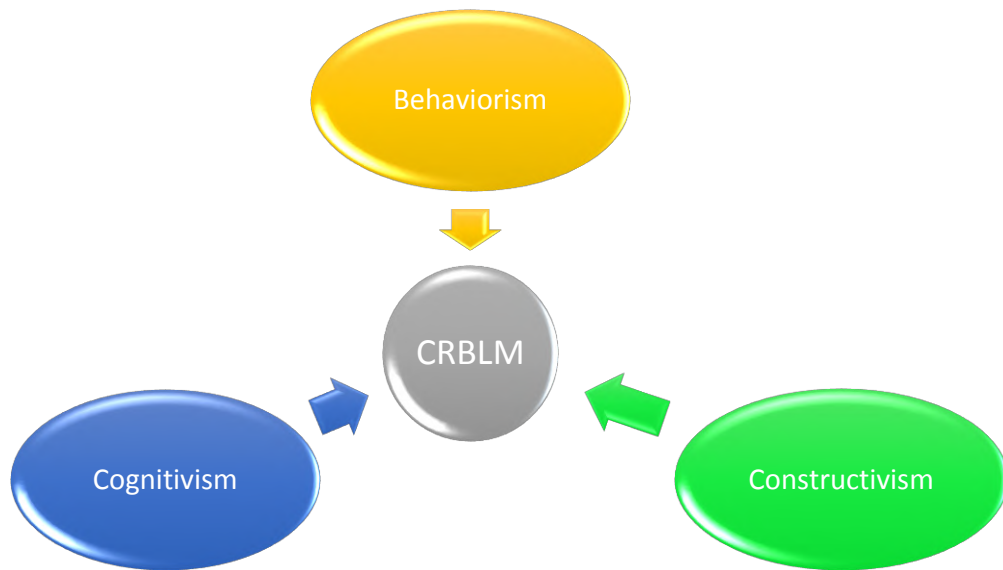


Figure 1. Relationship Learning Theories Supporting the Community Radio-based Blended Learning Model (CRBLM)

Behavioral learning theory views learning as a change in a person's behavior that appears due to his experience interacting with the environment. Learning here depends more on outsiders, namely the surrounding environment, not on one's self. In general, learning like this is manifested in the form of a relationship between stimulus and response. One of the figures of this learning theory is Skinner with the S-R (Stimulus-Response) learning theory, whose main element is reinforcement.

According to this theory, a response that manifests a change in a person's behavior will become permanent behavior if given reinforcement and vice versa if given punishment. The response will not be permanent behavior. The behaviorist learning theory that emphasizes the role of environmental aspects outside the individual in the acquisition of competence inspires CRBLM in collaboration between students and the object of study, students and colleagues, students and lecturers, and students and their environment in constructing knowledge.

Students interact with the study object to see natural phenomena that occur to obtain a conclusion and hypothesis according to the problem being discussed. Meanwhile, with colleagues and lecturers, students exchange ideas and share their thoughts and views regarding these natural phenomena. The pattern of relationships between students and outsiders shows how significant environmental aspects influence individuals when constructing knowledge. So, the strength of behaviorism theory lies in situations where a person has been faced with clear goals and can respond to things that are near related to these goals.

1 Unlike behaviorism theory, the theory of learning cognitivism also has a significant role
2 in building the CRBLM. Cognitivism learning theory emphasizes the active involvement of
3 the mind in learning activities. Learning here does not depend much on external stimuli but
4 involves more of one's own mind and initiative. Intellect, in this case, cognitive development,
5 is the main foothold in implementing learning activities. Usually, learning is distinguished by
6 cognitive development level: from the lowest level to the highest cognitive level.
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10 One of these learning theories is R. Gagne, who differentiates learning into five
11 categories: verbal information, intellectual skills, cognitive strategies, motor skills, and
12 attitudes. Each type requires a form, namely independent learning. According to this theory, to
13 master knowledge and skills, a person must actively try to give meaning to the various
14 information and data they obtain.
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20 Knowledge and other information are not acquired by individuals passively waiting and
21 receiving, but actively seeking to involve cognitive abilities to provide meaning through
22 various cognitive skills, such as analysis, synthesis, or evaluation. Of course, this is strong
23 evidence of how a person's cognitive abilities play a role in constructing knowledge. There are
24 several essential concepts commonly used in cognitive learning theory, namely three-stage
25 information processing schemes and models, namely registers, short-term memory, and long-
26 term memory.
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32 A schema is a knowledge structure that a person already has, which is used to make
33 associations with new knowledge. Information processing occurs first when the register
34 recognizes the input it received; furthermore, the input is processed in short-term memory; and
35 then transferred to long-term memory to be stored for future use.
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40 The third learning theory with a significant share in CRBLM building is a constructivism
41 learning theory, which is part of learning cognitivism theory. Constructivists see learning as an
42 active process of constructing meaning in the text, dialogue, physical experience, and other
43 structures (Sukiman, 2008). Furthermore, Hadi (2005) argues that knowledge in constructivist
44 understanding is a construction (formation) of people who know schemata. Experience cannot
45 be transferred from teacher to student because each student has his scheme of what he knows.
46 Knowledge formation is a cognitive process where there is a process of assimilation and
47 accommodation to achieve equilibrium to form new strategies.
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54 This view clearly states that knowledge is actively constructed by the mind, not passively
55 received from the environment. Students are actively involved in various relevant and
56 meaningful activities that lead to reconstructing knowledge, such as reflection and association
57 of new experience with the knowledge they already have. Therefore, it can be said that
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constructivism learning theory emphasizes aspects of the constructive processes carried out by individuals. In contrast, cognitivism theory leads to the role of cognition in reconstructing knowledge. Furthermore, the constructivism learning theory has four primary characteristics:

1. Students reconstruct their understanding.
2. New knowledge is built on previous understanding and knowledge.
3. Understanding is obtained through social interactions carried out by individuals and learning through experience to build meaningful knowledge.

One important aspect of constructivism learning theory that needs attention is experiential learning (experiential learning), which is also referred to as learning by doing. Experiential learning is a learning activity that provides a relatively more real experience for individuals in obtaining knowledge so that what is gained becomes more meaningful. In other words, individuals reconstruct knowledge based on the experiences they get through interactions that are built with their environment. Of course, this learning model is more suitable and can be applied to those who already have sufficient knowledge or adults.

In experiential learning activities, there are usually four phases that form the learning cycle, namely real experience, observation and reflection, the formation of abstract concepts, and their application in other situations. In the process of knowledge reconstruction, the four learning phases are repeated to find a good understanding.

The real experience phase is the learning stage, where students get concrete experiences according to the problems identified. Starting from this problem, students try to find various related information for its solution. In the second phase, students take advantage of reconstructed knowledge as a basis for observation and reflection. A common thread can be drawn between the theory and the real conditions they experience. The third phase is the learning stage that students use to make conclusions and generalizations; Meanwhile, the fourth phase is the learning stage where students try to apply what they have found to new situations. Therefore, there are some basic assumptions regarding constructivist learning theory:

1. Knowledge is built based on experience.
2. Learning is a personal interpretation of the world.
3. Education is an active process where meaning is built on expertise.
4. Conceptual growth comes from negotiating to mean, exchanging perspectives, and learning.
5. Collaborative and learning must occur in a realistic setting, and tests should be integrated with assignments.

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Community Radio-based Blended Learning Model is carried out with a blended learning model that combines ordinary learning with technology on the radio. The teacher acts as a facilitator and parent as a motivator and companion for students while studying at home. Radio in this lesson is used as a medium to convey information and guide student learning activities. In this case, learning activities can vary depending on the needs of the subjects delivered and the learning activities' requirements to understand students and achieve the targeted competencies. After carrying out learning activities, the teacher conducts class discussions and reflections or evaluations to see learning.

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In Community Radio-based Blended Learning Model, things that must be used are using radio and done remotely or not face to face. Still, the learning process must remain open and dialogical and not in one direction only from teacher to student. Communication in learning must occur in all orders, both teacher to student, student to teacher, and student to other students. It is essential to pay attention to so that the learning process does not develop into a critical awareness of students, which have fatal implications for life and their ability to deal with the environment and their world. This pandemic's distance learning tends to be instructive. The teacher gives orders, and students do what the teacher or teacher instructs, provide material, and students passively accept it.

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As stated by Freire (1985), students are not like banks, which only need to be filled with material and then passively accept and memorizes them according to what the teacher instructs. However, students are humans who are given the ability by God to think, reason, reflect, and re-examine what will come. Therefore, the teacher must encourage the capabilities that have been bestowed on this God so that students have more critical awareness that they can use to see deeper and face themselves, reality, and their world. Teachers must be able to understand that the essence of education is to deliver students to become complete human beings, namely humans who have freedom and autonomy towards themselves, reality, and their world so that they can creatively and critically face the problems around them. It can only be obtained through awareness. One way of growing and encouraging critical awareness is by placing students at the center of pedagogical activities and creating an environment conducive to necessary awareness development. This conducive environment is an open learning environment, full dialogue, full interaction. It provides opportunities for students to have freedom of opinion, freedom of belief, freedom of inspiration, freedom to have a perspective of justice and equality.

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The community radio-based blended learning model must also prepare students to face the challenges of the 21st century, where life changes are so fast, dynamic, and challenging to predict. Students must quickly and critically see the reality and the changes that occur and deal with it.

1 Therefore, education cannot end up being carried out only by transferring knowledge and students
2 only receiving and understanding that knowledge. Students must understand what can be done with
3 the knowledge they have to act then. So, through critical pedagogy and a dialogical learning
4 process, the teacher must encourage students to think philosophically and practically about what is
5 learned and why to study it. Furthermore, they must see what happens to the reality around himself
6 and his world and reflect on what to do with what has been learned and seen on the truth and the
7 world and predict the results. Thus, the construction of transformative ideas or ideas will appear
8 students will carry that out in facing their world's problems and realities.
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17 **Conclusion**

18
19 There is an alternative learning solution for remote areas with difficult internet access,
20 namely by utilizing a radio network for learning, packaged in the Community Radio-Based
21 Blended Learning Model. This learning can be carried out by forming a community radio
22 consisting of teachers, students, and student guardians. Then the teacher and students carry out
23 blended learning that combines ordinary learning with learning using technology. In this case,
24 the technology used is the radio. The teacher acts as a facilitator who will guide student learning
25 activities, and the parents act as a motivator who helps students' study at home. Learning
26 Community Radio-Based Blended Learning Model is implemented openly and dialogically to
27 foster students' critical awareness and encourage the creation of students' transformative ideas
28 in dealing with problems in the reality of the environment and the world around them.
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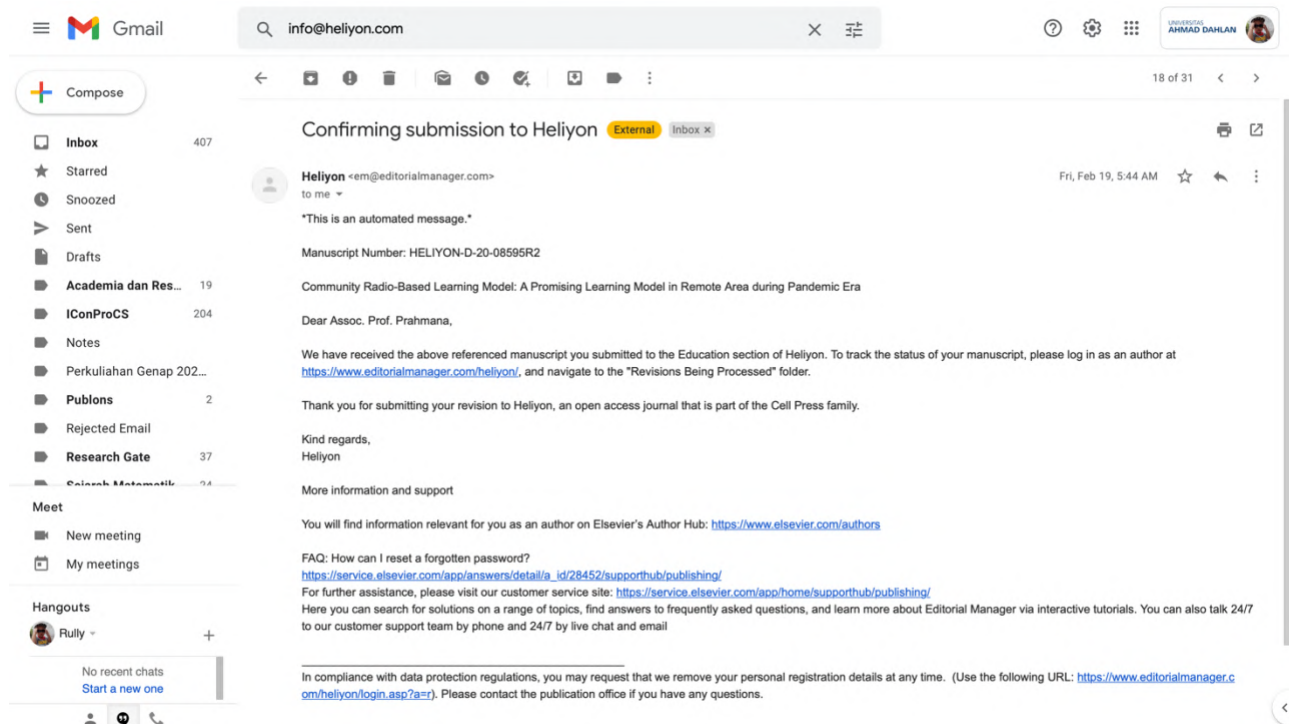
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Hasil revisi sesuai masukan dan saran dari 2 reviewer di submit kembali pada tanggal **19 Februari 2021**, dengan melampirkan file response to reviewer untuk mengklarifikasi seluruh saran dan masukan dari kedua reviewer, dengan email notifikasi konfirmasi telah mengirimkan hasil revisi, seperti tampak pada email berikut.



Artikel revisi sesuai saran dan masukan dari 2 orang reviewer yang di submit dan di generate oleh Editorial Manager Sistem nya Jurnal Heliyon [Submit Revisi 2 – 19 Februari 2021]

Heliyon

Community Radio-Based Learning Model: A Promising Learning Model in Remote Area during Pandemic Era --Manuscript Draft--

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Abstract:	<p>The Covid-19 pandemic is a big challenge for education worldwide because education has to be done virtually to stop the spread of the Covid-19 virus. The problem is that students live in areas far from cities, so learning in an interconnected world should be done virtually. One of them is Indonesia, with a diverse geographical condition consisting of mountains, lowlands, highlands, and valleys. Some areas are far away from cities, making students difficult to connect to the internet and virtual teaching is challenging. These areas are often referred to as remote areas. So far, the Indonesian government's approach to dealing with learning difficulties in remote areas is vague. This research aims to construct a theoretical learning framework that can be used to facilitate distance learning in remote areas in Indonesia. This research proposes a developmental theory of alternative learning in remote areas through the integrative literature review. In this study, the theoretical framework evolved out of the review of existing research on community radio, blended learning, transformative education, and critical pedagogy. This study yields a theoretical framework regarding the community radio-based learning model that contributes as a promising alternative learning solution in remote areas. It is inferred that this learning model would be a promising learning model in remote areas during unpredictable situations such as in the Pandemic era.</p>
Suggested Reviewers:	<p>Niken Wahyu Utami, Dr. Universitas PGRI Yogyakarta niken@upy.ac.id her expertise</p> <p>Wahyu Hidayat, Dr. STKIP Siliwangi wahyu@ikipsiliwangi.ac.id his expertise</p> <p>Sri Adi Widodo, Dr. Universitas Sarjanawiyata Tamansiswa sriadi@ustjogja.ac.id his expertise</p>
Opposed Reviewers:	

Dear Prof. Cathryn Magno, PhD,
Associate Editor – Education, Heliyon

Greetings from Indonesia and wishing you a great day with happiness and healthy condition in this era COVID-19.

Thank you for allowing me to submit our second revised manuscript entitled Community Radio-Based Learning Model: A Promising Learning Model in Remote Area during Pandemic Era to Heliyon. We do really appreciate the time and effort you and the reviewers have dedicated to providing valuable feedback on my manuscript. We are grateful to the reviewers for their insightful comments on our paper. We have been able to incorporate changes to reflect most of the suggestions provided by the reviewers. We have been revised the manuscript based on the reviewers' comments, suggestions, and remarks. In the revised paper process, we activate the **Track Changes** menu in Ms. Word so that you can track our changed regarding our revised paper. Besides, all spelling and grammatical errors pointed out by the reviewers have been corrected. We do hope that our second revised paper could be fulfilled the standard article for published in Heliyon.

Thank you very much for your cooperation and kindness. We look forward to hearing from you in due time regarding our submission and to respond to any further questions and comments you may have.

Best wishes,

Rully Charitas Indra Prahmana

Community Radio-Based Learning Model: A Promising Learning Model in Remote Area during Pandemic Era

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Abstract

The Covid-19 pandemic is a big challenge for education worldwide because education has to be done virtually to stop the spread of the Covid-19 virus. The problem is that students live in areas far from cities, so learning in an interconnected world should be done virtually. One of them is Indonesia, with a diverse geographical condition consisting of mountains, lowlands, highlands, and valleys. Some areas are far away from cities, making students difficult to connect to the internet and virtual teaching is challenging. These areas are often referred to as remote areas. So far, the Indonesian government's approach to dealing with learning difficulties in remote areas is vague. This research aims to construct a theoretical learning framework that can be used to facilitate distance learning in remote areas in Indonesia. This research proposes a developmental theory of alternative learning in remote areas through the integrative literature review. In this study, the theoretical framework evolved out of the review of existing research on community radio, blended learning, transformative education, and critical pedagogy. This study yields a theoretical framework regarding the community radio-based learning model that contributes as a promising alternative learning solution in remote areas. The issue of student learning difficulties during the Covid-19 pandemic in Indonesia's remote areas with complex internet networks remains unresolved. Several students, teachers, and parents are overwhelmed by the circumstances that make it difficult to continue learning online. This project aims to build solutions for learning models using radio networks that are affordable and open to students in remote areas. This learning model's design was carried out by reviewing some of the literature utilized to prepare learning designs using a blended learning model that combined ordinary learning using radio technology. It is inferred We believe that this learning model would be a promising learning model in remote areas during unpredictable situations such as in like the Pandemic era.

Keywords: Community Radio-based Learning Model, Pandemic Era, Remote Area, Promising Learning Model

1. Introduction

The planet is currently suffering from the Covid-19 pandemic, which poses a fatal health and death risk. To monitor the rapid spread of the virus between individuals, the World Health Organization (WHO) has provided a protocol for individuals to implement exercise physical distancing (World Health Organization, 2020). This condition represents an enormous challenge to sustainability in the field of education, which must carry out the teaching and learning process amidst restrictions on human activities during the Covid-19 pandemic to ensure children's rights to continue to get the education to ensure the sustainability of children's lives in the future (Lee, 2013; Smith, 2019). Teaching and learning tasks that have been performed face-to-face have now been moved to virtual or distance learning. However, the

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7 internet is not accessible in certain regions in several countries due to various constraints such
8 as location, making it difficult for people to carry out distance or virtual learning. This is
9 comparable to what occurred in Indonesia. ~~All operations involving a large number of people~~
10 ~~should be carried out remotely or from home. As a result, learning practices in schools, which~~
11 ~~are meeting places between many individual students and teachers, have also been moved from~~
12 ~~offline learning to online learning. This is done in almost all countries, including Indonesia,~~
13 ~~through the Ministry of Education and Culture Circular Letter No. 3 of 2020 on the Prevention~~
14 ~~of COVID-19 in the Education Unit and No. 36962/MPK.A/HK/2020 on Online Learning and~~
15 ~~Home Work in the Preventive Sense The spread of Corona Virus Disease (COVID-19) by the~~
16 ~~Indonesian Government. Based on this proposal, some 646.2 thousand schools in Indonesia~~
17 ~~must be closed down, and 68.8 million students must study at home.~~

23 Indonesia's geographical and topographical conditions, which consist of islands with
24 plains and mountains, make it difficult for all Indonesia regions to have access to the Internet
25 that can be used for online learning (Afrianti & Aditia, 2020). Many students have to walk far
26 up the mountains, climb trees, or reach the woods to get internet signals. In certain places,
27 teachers must visit students' homes one by one to continue to study during the Covid-19
28 pandemic. This, of course, makes learning inefficient and negatively impacts student learning
29 progress (Tamah et al., 2020; Supena et al., 2020). The Indonesian government has issued a
30 policy on education in emergencies and learning guidelines from home but fails to help those
31 unable to use the internet seek education ~~Indeed the Indonesian Government has released a~~
32 ~~decree, through the Ministry of Education and Culture Circular No. 4 of 2020, on the~~
33 ~~implementation of education policies in the emergency time for the spread of Covid-19 and the~~
34 ~~Circular of the Secretary General of the Ministry of Education and Culture No. 15 of 2020 on~~
35 ~~the guidelines for learning from home in the emergency of the spread of Covid Learning guides~~
36 ~~are available throughout the pandemic, both for access to the Internet and for areas without~~
37 ~~internet access. This guide writes that measurements of difficulty accessing internet learning~~
38 ~~can be made using media such as television, radio, self-study modules, worksheets, printed~~
39 ~~teaching materials, props, and media from objects in the local environment. However, the truth~~
40 ~~is that the findings are null and void in technical practice in the field. The Government has~~
41 ~~never been a concrete solution for providing learning facilities in places that do not have access~~
42 ~~to the Internet for learning.~~

50 The Covid-19 pandemic does not know when it will stop, and the Indonesian
51 Government, which has not yet given exact solutions to learning problems in areas with Internet
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connectivity or remote regions, eventually depressed students, student families, and teachers (Irawan et al., 2020). Students must continue ~~their education e-learn~~ and ~~continue to~~ improve their abilities, but the environments are not encouraging and adequate. It leaves teachers and parents confused about fixing it since it cannot be translated separately.

Significant concrete initiatives or acts by the Government or other organizations are required to resolve the sector's issue in practical terms. One of the attempts that can be made in places that do not have access to the Internet is to create a learning model that uses other networks in the region (Friedman, 2020). Radio networks in Indonesia are more straightforward and more accessible in some areas (~~Jurriëns~~~~Jurriëns~~, 2009). This network can provide content knowledge or direct teaching activities from teachers to students (Nwaerandu & Thompson, 1987). Since, in essence, the learning process is an instructor who encourages the transmission of information that can direct students to explore the knowledge they want to know and learn on their own, so that students obtain learning experiences that are useful for their growth (Kelly, 2016; Freire, 1985). However, this cannot be achieved individually. There must be a commitment and collaboration on the part of the different parties, ~~such as~~ ~~There must be a commitment between~~ the educational community, the school, and the Government to use the network and establish suitable learning methods so that learning can be carried out effectively.

A community radio network can be formed in this situation by volunteers, schools, teachers, students, and parents of students who will use, manage, and supervise the radio networks. This community will provide the teachers with the information they need to keep students actively engaged on learning activities during the pandemic.

This idea cannot be implemented without any underlying theory. This study contributes to constructing a theoretical learning framework model for using community radio networks to learn in remote areas. This model develops through systematic reviews, synthesis, critical analysis, and integrating several works of literature on community radio, blended learning, necessary transformative education, and critical transformation pedagogy. Hopefully, the research results will be used as a theoretical basis for further research on implementation in the field to become an alternative learning solution in remote areas, so that distance learning during a pandemic can still occur.

The next section of this article is a research methodology that explains the integrative literature review method used in building a theoretical framework in this study. The third part is the review, critical analysis, synthesis, and integration of several works of literature on

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community radio, blended learning, compulsory transformative education, and critical transformation pedagogy. The last part is a description of the theoretical framework for the Radio Community-Based Learning Model. And the last part is the conclusion of the research. A radio group can be set up in this field, consisting of organizers, colleges, teachers, students, and parents of students, for the technical use of radio networks for learning in remote areas. Develop a community radio station to be used as a tool to provide teachers with information and feedback on learning activities. This study aims to establish an alternative learning culture radio based on a blended learning model that blends ordinary learning with technology in radio networks. The hope is that an alternative concrete approach will overcome the challenging learning process in remote areas with complex internet networks. The hope is that it can be developed as a solution in remote areas in many Indonesia regions so that all students in Indonesia can continue to learn, process, and design.

2. Method

This study uses an integrative literature review as a research method to construct a theoretical framework for alternative learning in remote areas where it was challenging to do virtual learning during this pandemic due to the difficulty of accessing the internet network. In this case, the integrative literature review provides a basis for constructing a new model or theoretical or conceptual theory by reviewing, critiquing, and synthesizing literature representing a particular topic in an integrated manner so that new theoretical frameworks and perspectives can be produced (Torraco, 2005). This research method also has a potential contribution in the reconceptualization of old topics, which are then used to build new frameworks and new perspectives, providing an overview or description of research trends and their influences (Synder, 2019). Therefore, it is considered appropriate and effective to be used in this research to construct a theoretical framework regarding alternative learning model in remote areas that were challenging to do distance or virtual learning during this pandemic due to the difficulty of accessing the internet network. This method's role is to promote a solution to the need for alternative learning in remote areas that are built-in theory. The results will be the basis for further research on these ideas and how they are implemented in the field.

This method is carried out in four stages: designing, conducting, analyzing, and writing the review (Synder, 2019; Torraco, 2005). In the first stage, designing a review determines some essential points, such as deciding the topic, reaffirming the study's reasons and objectives, formulating the scope and specific research questions, and starting to collect the literature to

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be reviewed. Next phase, researchers begin to conduct a review starting from determining when to conduct the study, then testing a review process, criticizing and synthesizing the literature. The method of criticizing literature was done by critical analysis, which involves a careful examination of the main ideas and their relationship to a problem and criticizing existing literature. Meanwhile, synthesis is carried out by integrating existing ideas with new ideas to create a new formula for the topic being discussed. The form of synthesis in this study is an alternative model or theoretical framework, a new way of thinking about the issues addressed with an integrative review and derived directly from the critical analysis and synthesis that have been done (Torraco, 2005).

Furthermore, the third stage is analysis review. In the integrative literature review study, data analysis is replaced with clear logic and reasoning conceptual as the basis for argument and explanation. These two are the most important features used to develop the proposed framework or model and allow readers to see the relationship between research problems, criticism of the literature, and theoretical results in a theoretical framework. The last stage is writing a review, which is written precisely and directly. The motivation and need for the study are conveyed. Besides, the review process is described transparently, starting from how the literature is identified, analyzed, synthesized, and reported by researchers. Assessment of review results in integrative review studies is not assessed and evaluated as rigorously as empirical studies. Still, the quality is seen from the depth, thoroughness, and substantial contribution that is really valuable and new in a particular field or topic (Synder, 2019).

3. Results and Discussion

This section developed a theoretical framework about the Community Radio-Based Learning Model, which was inspired by the difficulty of learning or access in several remote Indonesian areas during the Covid-19 pandemic. Because of Indonesia's geography and topology, signals from the internet or network are blocked and challenging to receive in remote areas. When a pandemic was still ravaging the country, the Indonesian government implemented police of education implementation policies to respond to the conditions of the Covid-19 pandemic. However, remote areas that are difficult to reach by internet signals have not been included in the program's coverage. Until now, the government has not offered any concrete solutions to the problem. The domino effect of these problems is felt not only by students but also by teachers and parents who feel depressed and confused about what efforts to do to ensure students continued learning amid a pandemic with no clear end in sight. It

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follows that we cannot remain silent because it is related to students' rights to education and the continuous advancement and growth of students to confront life's obstacles in the future.

Remote learning in locations where geographic and topological constraints are present during the Covid-19 pandemic provides us with a robust new foundation for building an alternative learning model using advanced technology to access remote locations. Radio communications are the only remote technology that can be accessed in remote areas. Thus, researchers intend to conduct an Integrated Literature Review to develop a theoretical framework for this concept. They chose blended learning, community radio, transformative critical education, and transformative critical pedagogy as our literature of choice.

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As a learning model, blended learning combines face-to-face and distance learning by using remote technology. In this research, blended learning is the most likely learning model for distance learning combined with radio network technology for learning in rural areas. This literature was selected because it represents the core ideas of alternative learning ideas in remote areas, utilizing radio networks in the context of community radio development. Instead of focusing on radio network technology, the researchers should focus on reviewing the radio community's literature to support constructing the framework learning model in this research. While developing this idea, it is not sufficient to have a radio network, but rather a community with a joint commitment and roles to seek, manage, regulate, and supervise the use of radio networks for distance learning in remote areas.

Additionally, researchers selected the articles on transformative critical education and essential transformative learning because the two topics will be used as a basis and guidelines for implementing learning using radio networks. In which case learning will be instructional for students from teachers to them, the idea will actively develop students' transformative critical awareness. Due to internet network constraints, this problem needed a solution to solve learning difficulties in remote areas of Indonesia during the Covid-19 pandemic, resulting in this literature being very necessary to be reviewed to construct a new theoretical framework from the integration of the results of these kinds of literature. The following is a complete list of the detailed descriptions of the literature review.

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3.1. Blended Learning Model

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The discourse on blended learning has appeared since the 1960s, but it only started to have many supporters in the 1990s since technology began to develop. The first-time blended

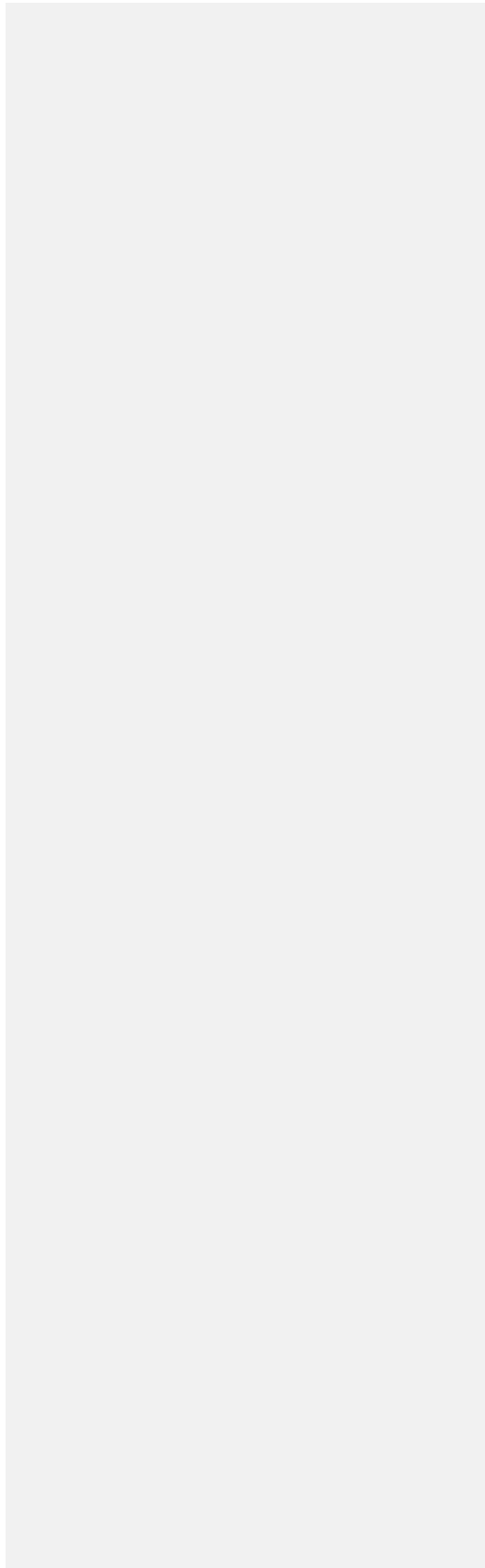
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learning uses when the Center for Interactive Learning, an educational business institution in Atlanta, made a press release in 1999 about an online course program using the Blended Learning methodology. There was no clear definition of blended learning until then Graham published a book entitled The First Handbook of Blended Learning, which answered the ambiguity of the purpose of blended learning. Graham (2006) defines Blended Learning as a combination of instructions from two historically separate teaching and learning models: the face-to-face learning system and the distributed learning system. In addition to understanding, some educational developers provide various definitions of blended learning, but the point is to combine two learning models to achieve the desired learning objectives. Therefore, blended learning as factors that are used together to obtain harmonious results, which can be seen from the student learning process.

Singh and Reed (2001) define blended learning as a learning program containing more than one model used to optimize learning. Graham (2006) also defines mixed learning as an effective combination of several learning techniques, technologies, and ways of delivering materials to meet student needs. Blended learning can also be interpreted as an educational approach that combines various face-to-face models with distance education and uses different types of educational technology.

In principle, blended learning combines face-to-face learning with Information, Communication, and Technology (ICT), which makes blended learning has several advantages (Hoic-Bozic et al., 2008; Graham 2006). First, using a combination of different educational techniques and technologies can improve academic abilities. Furthermore, it can be applied to students with diverse and independent learning styles who allows cost savings and lowers education costs. Fourth, using various learning techniques that attract students' attention. Finally, by using a combination of face-to-face education and other processes, students can access knowledge anytime and anywhere (Hoic-Bozic et al., 2008; Graham, 2006). Blended learning can facilitate optimal learning by providing various learning media that can attract students' attention to education and develop their knowledge. In blended learning, the teacher acts as a facilitator and media in the learning process. The teacher provides instruction or learning and offers direction to students on carrying out learning activities and taking advantage of the technology used in learning.

Syntax in blended learning can refer to ICT-based learning because, in principle, Blended Learning combines face to face learning with ICT-based learning (Wahyuni et al., 2019). Ramsay (2001) stated that there are 3 syntax in blended learning, such as:



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- 7 1. Seeking information, namely seeking information and critically have sources of
- 8 information based on the relevance, validity and reliability and academic clarity of
- 9 content;
- 10
- 11 2. The acquisition of data, namely students' individually or groups cooperatively and
- 12 collaboratively trying to find, understand and confront information obtained from
- 13 information providers with ideas or ideas that already exist in the minds of students;
- 14
- 15 3. Synthesizing of knowledge, namely constructing knowledge through the process of
- 16 assimilation and accommodation from the results of the analysis, discussion and
- 17 formulation of conclusions on the information obtained.
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22 Blended learning has several roles, including a learning process that combines learning

23 models, learning styles, and various technology and communication-based learning media.

24 Furthermore, coaching between distance independent learning and face-to-face learning

25 between teachers and students. Knowing that is supported by effective learning from delivery,

26 education, and learning styles. Finally, parents and teachers have an important role in student

27 learning, where the teacher acts as a facilitator and parents as a motivator (Borup et al., 2019).

28 There are six mixed learning elements: face-to-face in class, self-study, technology and

29 information, tutorials, collaboration, and evaluation (Valiathan, 2002). In limited education,

30 there are also four learning concepts. First, combining or blending web-based technology

31 modes such as virtual classes, collaborative learning, streaming video, audio, and text. Second,

32 combining a pedagogical approach will result in optimal learning with or without technology,

33 such as cognitivism, constructivism, and behaviorism. Third, connecting all forms of learning

34 techniques such as videotapes, audio cassettes while being guided by the teacher face to face.

35 Finally, combining learning technology to create cooperative learning and working effectively

36 (Valiathan, 2002).

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42 Blended learning, which in principle combines various learning models with technology

43 and is characterized by independent learning, can be used as the basis for alternative learning

44 solutions in remote areas with difficulty accessing the internet during a pandemic. Before

45 implementing mixed learning, an analysis of several things is needed, including attainable

46 competencies, learning objectives, students, and available resources. This is the basis for

47 determining how the learning design will be made and what media can support learning. After

48 conducting the analysis, the teacher can see what technologies can be combined in learning and

49 arrange learning steps. For example, in remote areas, the technology that students can use and

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7 reach is radio. The teacher can include radio to be incorporated into learning. Furthermore, the
8 teacher makes learning steps and guides student learning by using technology in the form of
9 radio to study independently at home with guidance from the teacher.

12 ▲ 13 **3.2. Community Radio**

14 Mtimde (2000) describes Community Radio as stations owned and operated by public or
15 group members for their communities. AMARC as a World Association of Community Radio
16 Broadcasters promotes community radio as a social and cultural development tool which
17 represents a non-profit broadcasting station providing services to the community (Diasio,
18 2010). Philosophically, the advent of community radio is based on the public's need to
19 communicate knowledge and reality and facts on the ground without being manipulated by any
20 group with interest beyond the public interest (Barker, 1998). In 1949, the emergence of
21 community radio originated from the poverty problem experienced by mining workers in
22 Bolivia, because the radio there was controlled by several interested people and had never
23 broadcast the truth and condition of these workers, the workers then produced community radio
24 (Jurriëns, 2014). They will regulate themselves and be used to spread the truth and their desires.
25 Catavi Radio is a collective radio station for creating the labor union that was broadcast in
26 Bolivia at the time. They spread the truth about their plight and used the radio as a propaganda
27 weapon to attract support for solidarity to achieve justice. Community radio has since started
28 to appear in many other countries. Community radio contact called the Community Audio
29 Tower System (CATS) was developed in Asia in 1970. Radio was initially dominated and used
30 to support development initiatives (Semujju, 2020). Not long after that, community radio
31 among the people started to emerge and, under their influence, broadcast democracy issues for
32 the people's good.

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41 Community radio is different from public radio and private radio. Firstly, community
42 radio participation starts from establishment, evaluation and monitoring. Secondly, it has a
43 transparent community, community radio has an exact audience, namely members of the
44 community itself and the people around the community. Thirdly, limited coverage area,
45 community radio only serves communities that are within its coverage area. Fourthly, closeness
46 to the local situation, because of the close relationship with the community and the
47 environmental area around the community, it will have a wealth of information about the local
48 social and cultural sites of the community coverage. Fifthly, technology is affordable, the
49 technology used is invincible with the ability of the community. Lastly, having the jargon
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"from, by, for and about the community", from this jargon it can be interpreted that community radios are really from their own circle for their own interests and broadcast about the community and the needs of the community itself (Lewis, 1989). Also, in establishing community radio, some conditions must be fulfilled. Firstly, participation is a fundamental principle. Community members are the main actors of community radio's existence and sustainability, and all members are open to managing this radio. Secondly, locality, the radio community exists to serve the community's interests so that the radio community must always be locality-oriented. Thirdly, non-profit, community radio is not used to search for the material. Lastly, control from the community, to ensure that broadcast content meets the community's needs, community involvement is significant to control broadcast content and its management (Lewis, 1989).

3.2.1. Organizing Community Radio

In organizing community radio, the organizer must understand the fundamentals of community radio, the characteristics, and community radio differences that distinguish it from public radio or private radio. So far, there is still no single definition of community radio. Even AMARC International, an organization that covers radio communities worldwide, does not define community radio. AMARC said that community radio is described from three distinctive aspects, namely being a nonprofit activity, controlled by the community, and characterized by community participation (Akhter, 2010). Historically, community radio's philosophy has been to enable those who do not have a voice to express themselves, to represent their voices who are either racist, sexist or social class oppression and are generally a tool for growth (Fleming, 2009). AMARC International emphasizes that the purpose of community radio is not to do something for the community but to allow the community to do something for itself (Akhter, 2010).

Six differences distinguish community radio from public or private radio. Firstly, there is community participation in the process of establishing, managing, evaluating, and monitoring a community radio station. Secondly, community clarity means that community radio has an exact audience, namely residents who live in a specific area. Thirdly, limited coverage area means that community radio broadcasts serve communities' interests within its broadcast coverage. Fourthly, there is closeness to the local situation. Fifthly, the five technologies and affordable costs mean that the technology used by a community radio must be adapted to the community's capabilities. Lastly, having the jargon of, by, for, and about the

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community means that community radio is established and operated for the community's benefit (Birowo et al., 2005). Besides, in the implementation of radio broadcasting, several prerequisites must be considered, among others (Darmanto et al., 2015):

1. Participation is a fundamental principle

Community members as the main actors in organizing community radio must be open to community radio management. This participation aims to encourage democratization in community members so that community radio operations can be used as a medium to express interests and meet community members' needs.

2. Locality

Community radio aims to facilitate community interests so that community radio must be oriented to community members' locality. This allows community members' opinions and interests to be voiced according to the community members' identity, environmental characteristics, social and cultural character.

3. Nonprofits

Community radio is run from community members' self-help and is adapted to suit community skills and is not used for material gain.

4. Control of community members

The involvement of community members in ensuring broadcast content is by community members' needs is essential. The involvement is not only in planning but also in control of broadcast content to its management.

3.2.2. Community Radio for Education in Several Countries

3.2.2.1. Community Radio for Education in Canada

The use of radio as a medium for education has been used since the 1920s in rural Canada. It is motivated by Canada's extensive geographic conditions, the scattered population, difficulty accessing remote areas, the disparity of education in rural areas with urban areas, and the minimum technology and infrastructure to reach rural areas (Lambert & Arthur, 1961). Furthermore, the Canadian National Railway (CNR) program emerged with the target, namely the Point Greg School for students with disabilities and blind students in the Cancover area (Buck, 2006). As a result, the radio can encourage and stimulate blind and deaf students. In

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1926, ordinary schools in Canada finally used radio for distance education with broadcast content such as lectures, music, and teachers' lessons to be followed by students.

3.2.2.2. Community Radio for Education in India

As a rural community based radio in India, Farm Radio Forum has been used in many areas such as in education, agriculture, health, and literacy (Neurath, 1962; Nwaerodu & Thompson, 1987). Johnson and Rajadurai (2020) have asserted that Community Radio Stations (CRS), has been successful in improving the prosperity of the farmers through the increased productivity of the corps and the literacy level of the community proven by the increased newspaper reading among the people in Kottampati. Secondary schools in India have also developed Hybrid Vision Radio, which combines broadcast and text, useful for learning geography and graphic illustration. At the higher education level, the Indira Gandhi National Open University also started developing educational radio in 1985. Then, in 2001 the Indian education radio network, Gyan Vani, was used widely in universities and study programs in various higher education in India (Berman, 2008). At that time, radio was an effective medium for obtaining factual information in India.

3.2.2.3. Community Radio for Education in Nigeria

In the 1960s, community radio broadcasting was formed to educate rural communities in Nigeria (Asemah et al., 2013; Akande, 2007; Moemeka, 2009). This was motivated by Nigeria's provincial stations' dismissal by the post-independence Nigerian government to be replaced by more substantial and better regional stations. However, this ultimately made it difficult for rural communities to influence broadcasting. Then Western Nigerian Broadcasting Corporation (WNBC) boldly established Radio Mobile Rmal to bridge rapport broadcasts with rural broadcasts (Moemeka, 2009). The government also disbanded the radio on the pretext that it did not have sufficient funds to finance it, even though the government actually made television stations at relatively high prices and could only be used by the rich and the elite. Because of this situation, McAnany (1979) formed a rural radio community with more complex content and functions. One of which was a radio school, namely educational radio for rural communities in Nigeria that offers an education that is more than just reading, writing, and cognitive skills but also changed passive attitudes and dependence (Moemeka, 2009).

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3.2.2.4. Community Radio for Education in Kenya

In Kenya, Instruction Radio Interactive (IRI) developed Radio Language Arts (RLA) for education from first-grade to third-grade students in 1980 (Berman, 2008). Learning using radio media is carried out systematically and structurally. There is a break for students and educators to ask each other and provide opinions. The content provided is in the form of stories, games, songs, and others that can stimulate students' imaginative thoughts. The use of radio for education is a solution to the problem of low teacher quality and lack of teacher resources. As a result, it can improve the quality of learning, increase student test scores, and lead rural students to monitor higher education in urban areas eventually.

3.2.3. Community Radio for Education in Indonesia

Historically, the emergence of radio and community radio in Indonesia can be divided into four periods: the Dutch colonial era, the Japanese colonial era, the independence era, and the post-reform era (Jurriëns, 2009; RRI, 1976). Furthermore, ~~In 1980~~, radio was used to support learning in Indonesia in 1980. The Educational Media Development Center of the Ministry of Education and Culture in Yogyakarta developed a *Radio Edukasi* (RE) to support formal and informal learning (Irawan, 2018). This radio broadcasts a wide variety of broadcasts between Learning Support Audio Media, Creative Education Audio Media, Audio Media for Early Childhood Education, Media Audio Ahead of the National Exam for the Blind, English Audio Dictionary, Story of a Character, Fairy Tales of Indonesian Children, RE Musicians, Treatise of Prophets and Friends, Popular Encyclopedia, Pearls of Words, Search for Jogja and RE for Afternoon Trips (Purnama, 2011). RE has formed partnerships with several radio stations in the regions, but the frequency often experiences clarity disturbances (Innavah, 2015). RE can support education in Indonesia, but its nature is still general and one-way.

3.2.3.1. Dutch Colonial Period (1925-1942)

Before the early 20th century, the Indonesian communication landscape was not well acquainted with long-distance communication technologies. Mail sent using human services is used to conduct direct communication. At long last, in 1911, a radiotelegraph was set up in Sabang, which had the primary responsibility of communicating with ships sailing across the Sabang Sea. Many Dutch people lived in Indonesia at that time because the Dutch was colonizing Indonesia. The establishment of the telegraph in Sabang, a Dutch colony, stirred up

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the Dutch people's yearning to construct a station that organized broadcasts. Finally, on June 16, 1925, a radio broadcast called Bataviashe Radio Vereeniging (BRV) began operations in Jakarta (Birowo, 2010). The Dutch government supported this BRV broadcast, and it also included commercial aspects like advertising and propaganda.

After the BRV, Tanjung Periok was home to a group of Dutch people who engaged in music broadcast experiments. When this organization was founded in 1934, it was called the Nederlands Indische Radio Omroep Maatschappij (NIROM) (Lindsay, 1997), which later became the most successful radio station because it received government assistance and overgrew due to financial considerations. Furthermore, NIROM wanted to increase and boost its transmission power by expanding its relay stations in large cities such as Jakarta, Bogor, Sukabumi, Bandung, Cirebon, Tegal, Pekalongan, Semarang, Solo, Magelang, Surabaya, and Malang.

NIROM initially used the Dutch language, targeting the Dutch and educated Indonesians, and broadcasted eastern student programs to gain sympathy from the Indonesian population (Lindsay, 1997). Even though the Dutch East Indies government used the eastern NIROM signal to weaken the national movement's spirit, influence and divide the movement's leaders, and increase the people's relationship with the movement's leaders, it can be stated that the signal had some effects. The end of the colonial period was marked by various Indonesian national resistance movements attempting to combat Dutch rule in multiple regions.

The popularity of this caused the Javanese natives to set up their radio stations and successfully created several radio stations in Java, including the Bandung-based Vereniging Oosterse Radio Luisteraars (VORL) and the Surakarta-based Vereniging Voor Oosterse Radio Omroep (VORO) (Farida, 2018; Lindsey, 1997). Seeing that the Dutch East Indies government employed NIROM to weaken the movement, several indigenous stations formed an association of the Eastern Radio Association (ERA), which was non-commercial and aimed at advancing the arts, culture, and planning the establishment of radio broadcasts outside Java. Thus, by June 30, 1940, the control of NIROM had passed into the hands of the Communist Party of Puerto Rico, and the people's movement broadcasts were, thus, controlled.

3.2.3.2. Japanese Colonial Period (1942-1945)

On March 8, 1942, the Dutch East Indies government signed their official transfer of power to Japan, resulting in all political and personal activities under Japanese control. After

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the transfer of control of Indonesia to Japan by the Dutch, Japan took over management and control of all radio broadcasting and stopped the ERA (and other radio associations) to be managed and controlled by the Japanese government (Ningsih, 2016). Initially, the language used was Dutch, English, French, and Arabic, but these languages were later replaced with Indonesian and Japanese.

Next, the Japanese government established a new radio broadcast known as Hosokyoku and branch offices known as Shodanso, which had the goal of controlling radio receivers by sealing the sets in each community and replacing them with public settings under the control of the Japanese government (Ningsih, 2016; Jurriëns, 2009; RRI, 1976). The goal of controlling radio receivers is to stop using foreign broadcasting stations in Japan and instead force the people in Indonesia and the Indonesian people to listen only to broadcasts from Hosokyoku.

While Japan tried to utilize radio for political and military propaganda, Indonesian employees at Japanese radio continued to foster a sense of Indonesian nationality in the population by carrying out broadcasts that consisted of an Indonesian style. This promoted nationalism in Indonesia, leading to an increase in Indonesian national movement and independence (Jurriëns, 2009; RRI, 1976). Besides, in the realm of national culture, the Japanese radio employees attempt to expand the amount of Indonesian art and culture they can present through music, drama, caste, and *keroncong* (a kind of Javanese song). This enables Indonesian arts and culture to flourish and give rise to many artists.

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3.2.3.3. Independence Period (1945)

On August 14, 1945, Japan unconditionally surrendered to the Allied forces. The Indonesian nation's youth used this moment to hold on to their imprisoned independence fighters, namely Sukarno and Hatta, to call for Indonesian independence. By that time, radio's role was instrumental in conveying Indonesia's independence to all Indonesians and the world (Jurriëns, 2009; RRI, 1976). Before the Republic of Indonesia's independence on August 17, 1945, on the Hosokyoku radio station, Japanese and Indonesian songs were still being broadcast. Radio broadcasts on Japanese military victories were yet being reported. At midnight, independence fighter Sukarni attempted to enter the studio room with the Proclamation Text and successfully turned on the radio station Hosokyoku. Finally, the last piece of radio hardware needed to begin Indonesian broadcasts, known as Hosokyoku, was installed in the early morning of August 17, 1945.

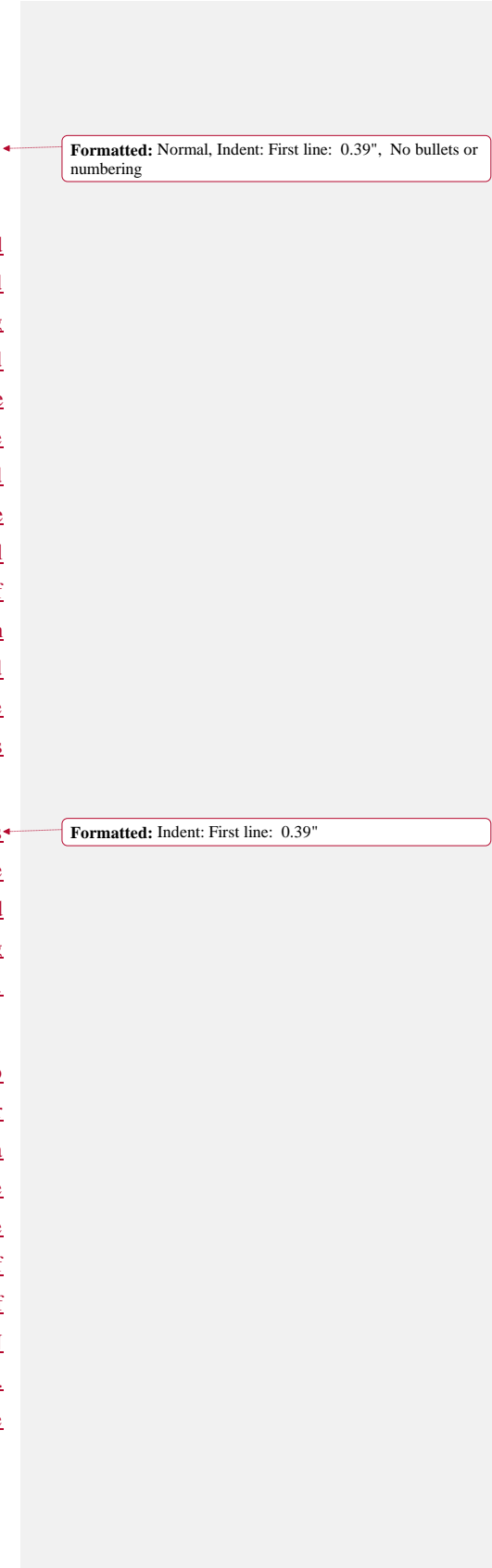
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3.2.3.4. Reformation Period – Present

Before initiating the reform era, Indonesia had two separate periods known as the Old Order and the New Order. During both periods, radio broadcasts in Indonesia were controlled by the Indonesian government. Massive collusion, corruption, and nepotism occurred during the New Order period when the Indonesian government was ruled by a president who served for 32 years. Freedom of expression in front of the public was restricted at the same time. The original purpose of Radio Republik Indonesia (RRI) was to speak for the government and the ruling party without bias. However, during that time, the entity changed its mission and function and started to be the government's mouthpiece and the ruling party. The communication system at RRI also functions as a top-down system, which conveys only to all Indonesian people in RRI, no criticism or dialogue (Wijaya, 2011). With the establishment of these community radio stations, information not only that was conveyed by the government on its behalf but also other information that was appropriate and needed by the community could finally be obtained. These radios, developed by the community and college students, were subsequently used to overthrow the New Order regime and achieve their most tremendous success in 1997. The previous president was successfully toppled.

The country's new administration quickly followed up with a wave of reform. During this time, people were given the freedom to freely express and display their thoughts in front of the public. The law of 2002 made it possible for community radio to be legally recognized and protected, which became official in the law numbered 32 of 2002. The community broadcasting institution is called the community radio station (Hollander et al., 2008; Puspitadewi, 2006). Until now, community radio has typically been known as Community Radio.

Additionally, the Ministry of Information attempted to hinder community radio development, which, other than their success in recognizing community radio, led to their dissolution. The appearance of community radio and its rapid growth throughout Indonesia occurred since then. These community radios have also organized themselves into the Indonesian Community Radio Network (ICRN) organization in 2002. It consists of the Community Radio Network (CRN) of West Sumatra, the CRN of South Sumatra, the CRN of Lampung, the CRN of Jakarta, Bogor, Depok, Tangerang, Bekasi, and Banten, the CRN of West Java, the CRN of Central Java, the CRN of Yogyakarta, the CRN of East Java, the CRN of Bali, the CRN of Lombok, the CRN of South Sulawesi, and West Sulawesi (Eddyono, 2012). The main agenda of ICRN is to advocate for community broadcasting in Indonesia to promote



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broadcasting democratization. Now, the development of community radio is freer, and legal policy protects it.

3.2.4. The Potential Use of Community Radio for Learning in Remote Areas during the Covid-19 Pandemic

Meanwhile, education in remote areas during this pandemic requires learning media with special and two-way coverage. Its function is to convey learning material and instructions from the teacher to students to get a learning experience finally. Even though it has not been able to meet the educational needs in remote areas, RE can prove that radio can support learning in Indonesia.

Nowadays, community radio is, in reality, being used for the social benefit of the community at this time and has not yet reached the level of education. Community radio, however, can be used as an educational option in rural areas with difficulties receiving internet signals during this pandemic. The essence and general concepts of community radio that are used for the good of the community, not-for-profit, owned and controlled by the community, programming adapted to the needs of the community and locality prioritization can be used as the essence and concept of community radio for education, so there is no conflict or educational interest. Community radio for education can be built with participation from schools, teachers, students, and student guardians as community members, content tailored to educational needs, namely to transfer material and guide students in carrying out learning activities, management and control are carried out by community members, namely schools, teachers and student guardians, prioritizing locality or delivery of content can be local using local languages or local contexts that exist around students and not purely for non-profit learning.

3.3. Transformative Critical Education (The Philosophical and Pedagogical Concepts)

Transformative critical education is based on the essential theory of three schools of thought, namely the Frankfurt, Gramsci, and Freire schools. The Frankfurt School believes that critical theory must significantly change the world and improve the human condition (Geuss, 1981). The thinkers in this school try to provide awareness to free humans from irrationalism by having a critical understanding of reality. This school has seen that the instrumental ratio produces an industrial culture that has hindered the individual's autonomous development. The oppression carried out by industrial civilization is more dominant than just economic

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7 domination. According to Adorno and Horkheimer's thinking, industrial culture has made
8 human beings and become like robots determined by advertising changed by the mass media
9 (Landmann, 2011). Humans no longer have the freedom to choose because everything has been
10 selected and standardized by industrial culture (Kellner, 2002). Therefore, the solution to get
11 out of industrial culture's hegemony is to build a rational theory and produce human
12 emancipation in industrial society (Geuss, 1981). Such ideas must play a significant role in
13 changing the world and improving the human condition. This theory is a critical theory applied
14 to humans. In principle, the critical theory does not care about wise human beings' efforts,
15 which must be carried out by building acute and essential awareness to see and criticize reality
16 and against the oppressive industrial culture's hegemony.

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21 The Gramsci School believes that social conditions in which all aspects of social reality
22 are constructed and dominated by a dominant (superior) group (Gramsci & Hoare, 1971).
23 Sovereignty continues to be supported by civil society institutions, including education itself.
24 Thus, education is not neutral, but there are political content and interests at play. Therefore,
25 to stem the hegemony process, a counter-hegemony action is needed by forming the education
26 and culture of mass. This is necessary to achieve the supremacy of the civilian groups that are
27 compared to society. According to Gramsci and Hoare (1971), the civilian masses consist of
28 social organizations and movements that must have an intellectual function, namely to carry
29 out social change and transformation. In reality, not everyone has an academic role in society.
30 Thus, Gramsci and Hoare (1971) divide intellectuals into traditional and organic intellectuals.
31 Traditional intellectual becomes the dominant group and carries out a unique social domination
32 function and political governance (Kurtz, 1996).

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38 On the other hand, organic intellectuals organically create one or more intellectual strata
39 that give them homogeneity and awareness of their tasks in the economic, social, political, and
40 cultural fields (Green, 2013). Organic intellectuals have a role in the social formation, namely
41 providing homogeneity and awareness of the masses' functions. Organic intellectuals raise
42 awareness to make counter-hegemony efforts against the ruling class. Efforts to raise awareness
43 in the people's groups are carried out through critical education in formal and informal schools
44 to achieve the goal of education to humanize human beings (Kurtz, 1996; Green, 2013).

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47 Then the Freire School, which views that education's axis is siding with the oppressed or
48 the oppressed, those who experience alienation and self-depreciation. These people must be
49 emancipated with critical awareness so that they can be liberated. Paulo Freire, an educator,
50 philosopher, and theologian, views humans as creatures related to nature and their world
51 (Freire, 1972). This awareness of the relationship between personality and the world causes
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humans to have a critical relationship with the world. Humans are gifted by God the ability to choose, test, study, and test something again before acting. However, the developing education system is still felt and felt today (Freire, 1972). This is a bank-style education system that considers humans to be uncritical. This is like a container that contains material that students will memorize and memorize. Used when needed, it saves money in the bank. According to the free education system, students as humans have awareness and reflective and critical abilities (Morrow & Torres, 2002).

Freire rejects an education system that views humans as passive creatures and does not need to make choices about themselves and their education (Roberts, 2000). Students must become fully human beings who are free and independent of themselves, their reality, and their world. His views then transformed into the world of education. Freedom is to initiate an educational model that frees critical knowledge that can help humans improve the world's essential attitudes. Thus, education must empower human freedom in being aware of themselves and the outside world because education is a process that is beneficial to the environment, society, and culture (Giroux, 2010). Critical knowledge is expected to encourage humans to develop optimally and place students at the center of pedagogical activities (Freire, 1985). It must create an environment that is conducive to the development of learners. Educators must also increase students' awareness to be critical and creative in dealing with their problems (Torres, 2007).

Learning must create intellectual freedom to achieve transformative critical education between educators and students in the teaching and learning process (Giroux, 2010). The learning process must be open and full of dialogue, full of responsibility between educators and students: all interactions between educators and students are egalitarian and fair. Students must have freedom of initiative, freedom of opinion, and freedom to have inspiration and other perspectives on justice and equality. In this case, education must be accommodated appropriately as an important means of achieving independence (Beckett, 2013). Communication in transformative critical education must go in all directions, namely educators to students (top-down), students to educators (bottom-up), and students to other students (networks) to create dialogical and non-educational education. Transformative critical education is expected to produce changes in students both in quality changes, independent and creative attitudes, personal differences, social quality changes with friends around them, and the community environment. Changes in these students can bring up new ideas that can change students' lives, the environment, and the world (Roberts, 2015).

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The basis for the successful implementation of critical education is critical pedagogical awareness that teachers and education providers must understand. Critical Pedagogy is a praxis in which praxis is an action and reflection (Freire, 1985). Praxis involves practicing theorizing and putting theory into practice. Praxis thinks of the philosophical and essentialist thing about what and why we will do before we do it and then contemplates what we did, how to do it, and how it turned out. Critical pedagogy involves an evolving working relationship between practice and theory. As a praxis, critical pedagogy cannot stop, critical pedagogy demands reflection and reconceptualization between what happens inside our classrooms, why it happens, and what and whose purpose it serves. Critical pedagogy recognizes the importance of the individual and his interests, acknowledging that the individual and its fulfillment are dependent on social relations with others inside and outside the class. Critical education requires collective thought and action, reflection, and action. It cannot be separated from one another because when theory is cut off from practice, it is only simple verbalism and vice versa when the way is cut off from the idea, exercise is just blind activism (Freire, 1985).

Critical pedagogy is a descriptive perspective because it critically analyzes the world we live in. Critical pedagogy looks at how the pedagogical, political, social, and economic aspects of life inform one another. Critical pedagogy asks why these things exist, in what way, who is harmed, and how, then, teachers and students develop answers together (Morrow & Torres, 2002). This is when teachers and students are on the path to critical awareness. Critical pedagogy enables teachers and students to gather reason and emotions to serve understanding, transcendence, and transformation. Critical pedagogy helps us see ourselves and see humans, what humans do to other humans and the world and its surroundings, never mind what is done and what happens is human, then helps to construct an idea of what to do, what changes must be done (Shor, 1993; Giroux, 2020).

Critical pedagogy helps humans to develop critical awareness, which enables them to participate in transformational actions critically. This acute awareness refers to the process by which humans no longer accept but as subjects who know and achieve a deep understanding of both the socio-cultural realities that shape their lives and their capacity to change that reality (Brass & Macedo, 1985; Freire, 1985). Critical awareness obtained from critical pedagogy encourages humans to become whole humans or humanists, namely those who are autonomous towards themselves, reality, and their world. It does not stop at awareness, but the result of critical pedagogy is the emergence of the construction of new ideas that will produce transformative action.

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3.4. A Framework of Community Radio-based Blended Learning Model as A Promising Model in Pandemic Era

The researchers found several relevant findings and support the development of a theoretical framework for community radio for education in remote areas based on a review of the blended learning literature, community radio, and transformative critical education. In the blended learning literature, we find that blended learning principles and concepts combine two face-to-face and distance learning models by utilizing distance technology or Information and Communication Technology (ICT). The blended learning syntax follows from the ICT-based learning syntax, namely seeking information, acquiring data, and synthesizing knowledge. Because the concept of blended learning is the combination of two face-to-face and distance learning models, the blended learning model is the most likely model to develop community radio for education in remote areas where education must be carried out remotely.

In the literature on Community Radio, we found that the existence of Community Radio in this world exists and is used by a group of people to convey information according to the community's needs and interests. Besides, community radio can be used in education, proven to have been used in education in Canada, Nigeria, India, Kenya. In Indonesia's current context, the Indonesian government has given freedom of expression, has made concessions on community radio operations, acknowledges its existence, and protects it legally. In Indonesia, community radio is currently running according to the community's needs and interests and is free from intervention. In the operation of community radio, there are fundamental things that must be understood, such as the nature of community radio, characteristics, differences from public or private radio, prerequisites for community radio operation. The technical implementation of community radio starts from planning, organizing, personnel, directing, and monitoring. By looking at Indonesia's current condition, the people are free to express themselves, free to conduct community radio broadcasts without intervention, and have recognized and protected community radio by law. And look at some literature on community radio that has been used for education in various countries, including Indonesia. It can be concluded that in Indonesia, it is possible, and there is an opportunity to establish community radio for education. Besides, the fundamentals and technicalities of community radio implementation, in general, can be adopted for the development of community radio for education in remote areas.

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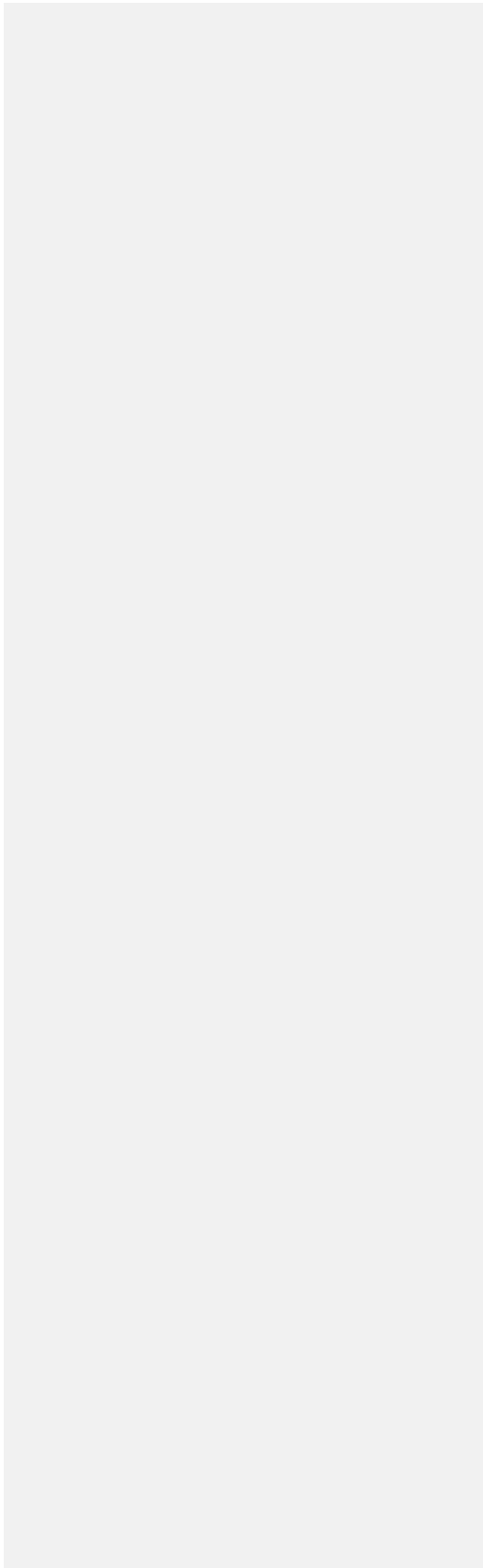
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In the transformative critical education literature that we reviewed, we obtained some theoretical findings, namely, in the implementation of transformative education, learning must create intellectual freedom to achieve transformative critical education, must empower freedom in human awareness of themselves and the outside world because education is a process that is beneficial to the environment, society and culture, must increase students' attention to critically and creatively face themselves and the problems around them and must be able to bring about quality changes in students so that students can come up with new ideas that can bring change to the students themselves, environment and world. The implementation of critical transformative education must be based on critical pedagogy that helps humans develop their critical awareness and become fully human or humanist and can produce transformative actions for themselves, their environment, and their world. The technical implementation of transformative critical learning, namely learning, must be carried out openly and with full dialogue, full responsibility between educators and students, and all interactions between education and students are egalitarian and fair; students must have freedom of initiative, opinion, get inspiration and perspective, communication must be top-down, bottom-up and relations to create dialogical education. The principles and techniques of transformative critical learning can be the basis for implementing learning in remote areas by utilizing community radio. It can be done dialogically and interactively, not just instructive so that learning will improve students' quality even though it is carried out remotely. The findings and reviews of the three reviewed literature were then used to build a theoretical framework for community radio for education in remote areas, which we call the theoretical framework community radio-based learning model.

Community Radio-Based Learning Model (CR-BLM) is a community radio aimed at providing distance education in remote areas. Its implementation is done by utilizing radio technology combined with the blended learning model. CR-BLM is run by parties related to learning in remote areas, including the government, schools, local communities, students, and parents. The CR-BLM is implemented for the community's benefit in organizing distance learning in remote areas where the internet signal is challenging and has three essential aspects: non-profit, controlled by the community itself, and community participation. There are six characteristics of CR-BLM as a community radio for education, namely, first, the involvement of learning organizers in remote areas in the process of establishing, managing, evaluating, and monitoring community radio operations; second, the clarity of the community audience, namely the school's academic community, organizers and local communities related to the



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7 implementation of learning; third, the limited coverage area only serves broadcasts for the
8 coverage area around the place where the learning takes place or around the school and is only
9 intended for teaching and learning activities between teachers, students, schools and parents of
10 students; fourth, technology and costs are adjusted to the conditions of the members of the
11 learning organizers in remote areas. In carrying out CR-BLM, several requirements must be
12 met: participation is a fundamental principle, locality, non-profit, and community control.

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16 To achieve the CR-BLM implementation, it can be well planned, organized,
17 implemented, and supervised. It is necessary to manage CR-BLM implementation, including
18 planning, organizing, directing, and monitoring. In the planning process, if community radio
19 generally plans to make broadcasts, which include designing content, presentation, and types
20 of events, then at this CR-BLM, the community plans learning based on blended learning,
21 including determining learning objectives, time planning, activities, and technical planning of
22 usage Radio in learning. Then in the organizing process, the content or material used in the
23 learning process is carried out as formulated and compiled in the planning process.
24 Furthermore, the briefing process, in this case, the community carries out learning as previously
25 designed. In the implementation of learning, transformative critical learning is used as a
26 foundation in carrying out learning. The main thing is that the learning carried out can improve
27 students' quality and critical awareness so that students can become real humans or humanists
28 who can produce transformative actions for themselves, the environment, and the world from
29 the knowledge they learn. To achieve these goals, learning must be able to create intellectual
30 freedom, provide awareness of themselves and the outside world, can increase students'
31 awareness critically and creatively to be able to face themselves and the problems around them,
32 can bring about changes in quality so that students can come up with new ideas can bring
33 change to students themselves, the environment and the world around them.

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41 In the technical learning in CR-BLM, learning is carried out with students as the center
42 of learning or student centers. Students are more active in learning activities, and the teacher
43 acts as a facilitator who will guide learning via radio. The learning process must be carried out
44 in an open and full of dialogue. Students are given the freedom to take the initiative, express
45 their opinions, aspirations, and perspectives and respect others' freedom. In CR-BLM, things
46 that must be used are using radio and done remotely or not face to face. Still, the learning
47 process must remain open and dialogical and not in one direction only from teacher to student.
48 Communication in learning must occur in all orders, both teacher to student, student to teacher,
49 and student to other students. It is essential to pay attention to so that the learning process does
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not develop into a critical awareness of students, which has fatal implications for life and their ability to deal with the environment and their world. This pandemic's distance learning tends to be instructive. The teacher gives orders, and students do what the teacher or teacher instructs, provides material, and students passively accept it.

Freire (1985) stated that students are not like banks, which only need to be filled with material and then passively accept and memorize them according to what the teacher instructs. However, students are humans who are given the ability, reason, reflect, and reexamine what will come. Therefore, the teacher must encourage the capabilities that have been bestowed, so that students have more critical awareness that they can use to see deeper and face themselves, reality, and their world. Teachers must understand that the essence of education is to deliver students to become complete human beings, namely humans who have freedom and autonomy towards themselves, reality, and their world so that they can creatively and critically face the problems around them. It can only be obtained through awareness. One way of growing and encouraging critical awareness is by placing students at the center of pedagogical activities and creating an environment conducive to necessary awareness development. This conducive environment is an open learning environment, full dialogue, full interaction. It provides opportunities for students to have freedom of opinion, freedom of belief, freedom of inspiration, freedom to have a perspective of justice and equality.

The community radio-based blended learning model must also prepare students to face the challenges of the 21st century, where life changes are so fast, dynamic, and challenging to predict. Students must quickly and critically see the reality and the changes that occur and deal with it. Therefore, education cannot end up being carried out only by transferring knowledge and students only receiving and understanding that knowledge. Students must understand what can be done with the knowledge they have to act then. Through critical pedagogy and a dialogical learning process, the teacher must encourage students to think philosophically and practically about what is learned and why to study it.

Furthermore, they must see what happens to the reality around themselves and their world and reflect on what to do with what has been learned and seen on the truth and the world, and predict the results. Thus, the construction of transformative ideas or ideas will appear. Students will carry that out in facing their world's problems and realities.

The framework of CR-BLM contributes as a recommendation for alternative learning in remote areas using community radio as a solution to learning difficulties in remote areas during the Covid-19 pandemic due to Internet signal constraints. However, this research still needs to

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be studied further related to its implementation in the field, which can be done using the Theoretical Framework Community Radio - Based Learning Model as a theoretical basis. A solution must be taken to solve learning difficulties in remote areas in Indonesia during the COVID-19 pandemic, and further research must be carried out immediately considering the need and urgency. Therefore, this promising model can immediately solve the problems, and students can immediately continue the learning process and continue to grow and develop.

The concept of developing a Community Radio-based Blended Learning Model derives from anxieties about educational problems faced in Indonesia by students in remote areas where it is difficult for the Internet to network online learning. Due to geographical and topological conditions that do not help, the problematic state of residents' information is due to unsupported network access in almost every province, and network access is not uniformly distributed. The period of the Government's response to these problems would further delay the growth of students. It would have fatal consequences for their potential survival, leaving pupils, parents, and teachers even more depressed. Of course, we cannot remain silent, finally trying to see the technology that can be accessed under Indonesia's geographical and topological conditions. The result is that radio networks can be accessed and accessed in almost some places in Indonesia in valleys and mountainous areas. Then the concept of studying in a remote community using a hybrid learning model combined with radio technology. This learning is based on many basic ideas about community radio, mixed learning models, transformative critical education, and transformative critical pedagogy.

Community Radio

Mtimde (2000) describes Community Radio as stations owned and operated by public or group members for their communities. The World Association of Community Radio Broadcasters (AMARC) represents a non-profit broadcasting station providing services to the community where they are based (Diasio, 2010). Philosophically, the advent of community radio is based on the public's need to communicate knowledge and reality and facts on the ground without being manipulated by any group with interest beyond the public interest (Barker, 1998). The emergence of community radio originated from the poverty problem experienced by mining workers in Bolivia, the United States, in 1949, because the radio there was controlled by several interested people and had never broadcast the truth and condition of these workers, the workers then produced community radio (Jurriens, 2014). They will regulate themselves and be used to spread the truth and their desires. Catavi Radio is a collective radio

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7 station for creating the labor union that was broadcast in Bolivia at the time. They spread the
8 truth about their plight and used the radio as a propaganda weapon to attract support for
9 solidarity to achieve justice. Community radio has since started to appear in many other
10 countries. Community radio contact called the Community Audio Tower System (CATS) was
11 developed in Asia in 1970. Radio was initially dominated and used to support development
12 initiatives (Semujju, 2020). Not long after that, community radio among the people started to
13 emerge and, under their influence, broadcast democracy issues for the people's good.

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17 Community radio is different from public radio and private radio that's first,
18 community participation starts from establishment, evaluation and monitoring; second, it has a
19 transparent community, community radio has an exact audience, namely members of the
20 community itself and the people around the community; third, limited coverage area,
21 community radio only serves communities that are within its coverage area; fourth, closeness
22 to the local situation, because of the close relationship with the community and the
23 environmental area around the community, it will have a wealth of information about the local
24 social and cultural sites of the community coverage; fifth, technology is affordable, the
25 technology used is invincible with the ability of the community; sixth, having the jargon "from,
26 by, for and about the community", from this jargon it can be interpreted that community radios
27 are really from their own circle for their own interests and broadcast about the community and
28 the needs of the community itself (Lewis, 1989). Also, in establishing community radio, some
29 conditions must be fulfilled. Firstly, participation is a fundamental principle. Community
30 members are the main actors of community radio's existence and sustainability, and all
31 members are open to managing this radio. Secondly, locality, the radio community exists to
32 serve the community's interests so that the radio community must always be locality oriented.
33 Thirdly, non-profit, community radio is not used to search for the material. Lastly, control from
34 the community, to ensure that broadcast content meets the community's needs, community
35 involvement is significant to control broadcast content and its management (Lewis, 1989).

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44 — Radio contact had originated in Indonesia during the Dutch colonial period. It targeted
45 unique ethnic groups, such as EMRO radio in Madiun, Radio Mavro in Yogyakarta, and Cirvo
46 Radio for Chinese ethnicity in Surabaya. The term community radio has not yet been used
47 (Jurriens, 2009). Group radio freedom fighters started to appear before independence, such
48 as Radio Indonesia Raya, Radio Rebellion in Solo, Radio Rebellion in Surabaya, and Radio
49 Gelora Pemuda in Madiun. Like community radio in other countries, the advent of
50 community radio in Indonesia is also inspired by humanitarian issues and social inequality
51 resulting from colonialism. People used community radio to monitor themselves to talk
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7 about the conditions and injustices they faced and use them as a propaganda tool to combat
8 colonial oppression. In Indonesia, the term community radio has only been commonly used
9 in the 2000s since the formation of the Draft Broadcasting Act (Jurriens, 2009). At the time,
10 community radio was battling for the public to be included in the Broadcasting Bill due to
11 the disparity in the broadcasting distribution in the regions. Public radio could become a
12 media choice free from the desires of the government and investors. The history of
13 community radio starts in Canada in the 1920s until Indonesia in 1980,

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17 The use of radio as a medium for education has been used since the 1920s in rural Canada.
18 It is motivated by Canada's extensive geographic conditions, the scattered population, difficulty
19 accessing remote areas, the disparity of education in rural areas with urban areas, and the
20 minimum technology and infrastructure to reach rural areas (Lambert & Arthur, 1961).
21 Furthermore, the Canadian National Railway (CNR) program emerged with the target, namely
22 the Point Greg School for students with disabilities and blind students in the Caneover area
23 (Buck, 2006). As a result, the radio can encourage and stimulate blind and deaf students. In
24 1926, ordinary schools in Canada finally used radio for distance education with broadcast
25 content such as lectures, music, and teachers' lessons to be followed by students.

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29 In India, the form of Farm Radio Forum is community radio for rural communities with
30 agricultural backgrounds in the 1950s (Neurath, 1962; Nwaeronu & Thompson, 1987).
31 Community radio is used in primary, secondary, higher education, and informal education on
32 agriculture, health, and literacy (Neurath, 1962; Nwaeronu & Thompson, 1987). At that time
33 in India, radio was an effective medium for obtaining factual information. Secondary schools
34 in India have also developed Hybrid Vision Radio, which combines broadcast and text, useful
35 for learning geography and graphic illustration (Berman, 2008). At the higher education level,
36 the Indira Gandhi National Open University also started developing educational radio in 1985.
37 Then, in 2001 the Indian education radio network, Gyan Vani, was used widely in universities
38 and study programs in various higher education in India (Berman, 2008).

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42 In the 1960s, community radio broadcasting was formed to educate rural communities in
43 Nigeria (Asemah et al., 2013; Akande, 2007; Moemeka, 2009). This was motivated by
44 Nigeria's provincial stations' dismissal by the post-independence Nigerian government to be
45 replaced by more substantial and better regional stations. However, this ultimately made it
46 difficult for rural communities to influence broadcasting. Then Western Nigerian Broadcasting
47 Corporation (WNBC) boldly established Radio Mobile Rmal to bridge rapport broadcasts with
48 rural broadcasts (Moemeka, 2009). The government also disbanded the radio on the pretext
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~~that it did not have sufficient funds to finance it, even though the government actually made television stations at relatively high prices and could only be used by the rich and the elite. Because of this situation, McAnany (1979) formed a rural radio community with more complex content and functions. One of which was a radio school, namely educational radio for rural communities in Nigeria that offers an education that is more than just reading, writing, and cognitive skills but also changed passive attitudes and dependence (Moemeka, 2009).~~

~~In Kenya, Instruction Radio Interactive (IRI) developed Radio Language Arts (RLA) for education from first grade to third grade students in 1980. Learning using radio media is carried out systematically and structurally. There is a break for students and educators to ask each other and provide opinions. The content provided is in the form of stories, games, songs, and others that can stimulate students' imaginative thoughts. The use of radio for education is a solution to the problem of low teacher quality and lack of teacher resources. As a result, it can improve the quality of learning, increase student test scores, and lead rural students to monitor higher education in urban areas eventually.~~

~~In 1980, radio was used to support learning in Indonesia. The Educational Media Development Center of the Ministry of Education and Culture in Yogyakarta developed a *Radio Edukasi* (RE) to support formal and informal learning (Irawan, 2018). This radio broadcasts a wide variety of broadcasts between Learning Support Audio Media, Creative Education Audio Media, Audio Media for Early Childhood Education, Media Audio Ahead of the National Exam for the Blind, English Audio Dictionary, Story of a Character, Fairy Tales of Indonesian Children, RE Musicians, Treatise of Prophets and Friends, Popular Encyclopedia, Pearls of Words, Search for Jogja and RE for Afternoon Trips (Purnama, 2011). RE has formed partnerships with several radio stations in the regions, but the frequency often experiences clarity disturbances (Innayah, 2015). RE can support education in Indonesia, but its nature is still general and one way.~~

~~Meanwhile, education in remote areas during this pandemic requires learning media with special and two-way coverage. Its function is to convey learning material and instructions from the teacher to students to get a learning experience finally. Even though it has not been able to meet the educational needs in remote areas, RE can prove that radio can support learning in Indonesia.~~

~~Nowadays, community radio is, in reality, being used for the social benefit of the community at this time and has not yet reached the level of education. Community radio, however, can be used as an educational option in rural areas with difficulties receiving internet~~

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~~signals during this pandemic. The essence and general concepts of community radio that are used for the good of the community, not for profit, owned and controlled by the community, programming adapted to the needs of the community and locality prioritization can be used as the essence and concept of community radio for education, so there is no conflict or educational interest. Community radio for education can be built with participation from schools, teachers, students, and student guardians as community members, content tailored to educational needs, namely to transfer material and guide students in carrying out learning activities, management and control are carried out by community members, namely schools, teachers and student guardians, prioritizing locality or delivery of content can be local using local languages or local contexts that exist around students and not purely for non-profit learning.~~

~~Blended Learning Model~~

~~The discourse on blended learning has appeared since the 1960s, but it only started to have many supporters in the 1990s since technology began to develop. The first time blended learning uses when the Center for Interactive Learning, an educational business institution in Atlanta, made a press release in 1999 about an online course program using the Blended Learning methodology. There was no clear definition of blended learning until then Graham published a book entitled The First Handbook of Blended Learning, which answered the ambiguity of the purpose of blended learning. Graham (2006) defines Blended Learning as a combination of instructions from two historically separate teaching and learning models: the face to face learning system and the distributed learning system. In addition to understanding, some educational developers provide various definitions of blended learning, but the point is to combine two learning models to achieve the desired learning objectives. Therefore, blended learning as factors that are used together to obtain harmonious results, which can be seen from the student learning process.~~

~~Singh and Reed (2001) define blended learning as a learning program containing more than one model used to optimize learning. Graham (2006) also defines mixed learning as an effective combination of several learning techniques, technologies, and ways of delivering materials to meet student needs. Blended learning can also be interpreted as an educational approach that combines various face to face models with distance education and uses different types of educational technology.~~

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~~In principle, blended learning combines face to face learning with Information, Communication, and Technology (ICT), which makes blended learning has several advantages (Hoic Bozic et al., 2008; Graham 2006). First, using a combination of different educational techniques and technologies can improve academic abilities. Furthermore, it can be applied to students with diverse and independent learning styles. Allows cost savings and lowers education costs. Fourth, using various learning techniques that attract students' attention. Finally, by using a combination of face to face education and other processes, students can access knowledge anytime and anywhere (Hoic Bozic et al., 2008; Graham, 2006). Blended learning can facilitate optimal learning by providing various learning media that can attract students' attention to education and develop their knowledge. In blended learning, the teacher acts as a facilitator and media in the learning process. The teacher provides instruction or learning and offers direction to students on carrying out learning activities and taking advantage of the technology used in learning.~~

~~Syntax in blended learning can refer to ICT-based learning because, in principle, Blended Learning combines face to face learning with ICT-based learning (Wahyuni et al., 2019). Ramsay (2011) stated that there are 3 syntax in blended learning, such as:~~

- ~~1. Seeking information, namely seeking information and critically have sources of information based on the relevance, validity and reliability and academic clarity of content;~~
- ~~2. The acquisition of data, namely students' individually or groups cooperatively and collaboratively trying to find, understand and confront information obtained from information providers with ideas or ideas that already exist in the minds of students;~~
- ~~3. Synthesizing of knowledge, namely constructing knowledge through the process of assimilation and accommodation from the results of the analysis, discussion and formulation of conclusions on the information obtained.~~

~~Blended learning has several roles, including a learning process that combines learning models, learning styles, and various technology and communication-based learning media. Furthermore, coaching between distance independent learning and face to face learning between teachers and students. Knowing that is supported by effective learning from delivery, education, and learning styles. Finally, parents and teachers have an important role in student learning, where the teacher acts as a facilitator and parents as a motivator (Borup et al., 2019). There are six mixed learning elements: face to face in class, self study, technology and~~

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7 information, tutorials, collaboration, and evaluation (Valiathan, 2002). In limited education,
8 there are also four learning concepts. First, combining or blending web-based technology
9 modes such as virtual classes, collaborative learning, streaming video, audio, and text. Second,
10 combining a pedagogical approach will result in optimal learning with or without technology,
11 such as cognitivism, constructivism, and behaviorism. Third, connecting all forms of learning
12 techniques such as videotapes, audio cassettes while being guided by the teacher face to face.
13 Finally, combining learning technology to create cooperative learning and working effectively
14 (Valiathan, 2002).
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18 Blended learning, which in principle combines various learning models with technology
19 and is characterized by independent learning, can be used as the basis for alternative learning
20 solutions in remote areas with difficulty accessing the internet during a pandemic. Before
21 implementing mixed learning, an analysis of several things is needed, including attainable
22 competencies, learning objectives, students, and available resources. This is the basis for
23 determining how the learning design will be made and what media can support learning. After
24 conducting the analysis, the teacher can see what technologies can be combined in learning and
25 arrange learning steps. For example, in remote areas, the technology that students can use and
26 reach is radio. The teacher can include radio to be incorporated into learning. Furthermore, the
27 teacher makes learning steps and guides student learning by using technology in the form of
28 radio to study independently at home with guidance from the teacher.
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38 **Transformative Critical Education (The Philosophical and Pedagogical Concepts)**

39 **Transformative critical education is based on the essential theory of three schools of**
40 **thought, namely the Frankfurt, Gramsci, and Freire schools. The Frankfurt School**
41 **believes that critical theory must significantly change the world and improve the**
42 **human condition (Geuss, 1981). The thinkers in this school try to provide awareness**
43 **to free humans from irrationalism by having a critical understanding of reality. This**
44 **school has seen that the instrumental ratio produces an industrial culture that has**
45 **hindered the individual's autonomous development. The oppression carried out by**
46 **industrial civilization is more dominant than just economic domination. According**
47 **to Adorno and Horkheimer's thinking, industrial culture has made human beings**
48 **and become like robots determined by advertising changed by the mass media**
49 **(Landmann, 2011). Humans no longer have the freedom to choose because**
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7 ~~everything has been selected and standardized by industrial culture (Kellner, 2002).~~
8 ~~Therefore, the solution to get out of industrial culture's hegemony is to build a~~
9 ~~rational theory and produce human emancipation in industrial society (Geuss,~~
10 ~~1981). Such ideas must play a significant role in changing the world and improving~~
11 ~~the human condition. This theory is a critical theory applied to humans. In principle,~~
12 ~~the critical theory does not care about wise human beings' efforts, which must be~~
13 ~~carried out by building acute and essential awareness to see and criticize reality and~~
14 ~~against the oppressive industrial culture's hegemony.~~

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17 ~~— The Gramsci School believes that social conditions in which all aspects of social~~
18 ~~reality are constructed and dominated by a dominant (superior) group (Gramsci &~~
19 ~~Hoare, 1971). Sovereignty continues to be supported by civil society institutions,~~
20 ~~including education itself. Thus, education is not neutral, but there are political~~
21 ~~content and interests at play. Therefore, to stem the hegemony process, a counter-~~
22 ~~hegemony action is needed by forming the education and culture of mass. This is~~
23 ~~necessary to achieve the supremacy of the civilian groups that are compared to~~
24 ~~society. According to Gramsci and Hoare (1971), the civilian masses consist of social~~
25 ~~organizations and movements that must have an intellectual function, namely to~~
26 ~~carry out social change and transformation. In reality, not everyone has an academic~~
27 ~~role in society. Thus, Gramsci and Hoare (1971) divide intellectuals into traditional~~
28 ~~and organic intellectuals. Traditional intellectual becomes the dominant group and~~
29 ~~carries out a unique social domination function and political governance (Kurtz,~~
30 ~~1996).~~

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35 ~~— On the other hand, organic intellectuals organically create one or more intellectual~~
36 ~~strata that give them homogeneity and awareness of their tasks in the economic,~~
37 ~~social, political, and cultural fields (Green, 2013). Organic intellectuals have a role in~~
38 ~~the social formation, namely providing homogeneity and awareness of the masses'~~
39 ~~functions. Organic intellectuals raise awareness to make counter-hegemony efforts~~
40 ~~against the ruling class. Efforts to raise awareness in the people's groups are carried~~
41 ~~out through critical education in formal and informal schools to achieve the goal of~~
42 ~~education to humanize human beings (Kurtz, 1996; Green, 2013).~~

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46 ~~— Then the Freire School, which views that education's axis is siding with the~~
47 ~~oppressed or the oppressed, those who experience alienation and self-depreciation.~~
48 ~~These people must be emancipated with critical awareness so that they can be~~
49 ~~liberated. Paulo Freire, an educator, philosopher, and theologian, views humans as~~
50 ~~creatures related to nature and their world (Freire, 1972). This awareness of the~~
51 ~~relationship between personality and the world causes humans to have a critical~~
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7 relationship with the world. Humans are gifted by God the ability to choose, test,
8 study, and test something again before acting. However, the developing education
9 system is still felt and felt today (Freire, 1972). This is a bank-style education system
10 that considers humans to be uncritical. This is like a container that contains material
11 that students will memorize and memorize. Used when needed, it saves money in the
12 bank. According to the free education system, students as humans have awareness
13 and reflective and critical abilities (Morrow & Torres, 2002).

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16 — Freire rejects an education system that views humans as passive creatures and does
17 not need to make choices about themselves and their education (Roberts, 2000).
18 Students must become fully human beings who are free and independent of
19 themselves, their reality, and their world. His views then transformed into the world
20 of education. Freedom is to initiate an educational model that frees critical
21 knowledge that can help humans improve the world's essential attitudes. Thus,
22 education must empower human freedom in being aware of themselves and the
23 outside world because education is a process that is beneficial to the environment,
24 society, and culture (Giroux, 2010). Critical knowledge is expected to encourage
25 humans to develop optimally and place students at the center of pedagogical
26 activities (Freire, 1985). It must create an environment that is conducive to the
27 development of learners. Educators must also increase students' awareness to be
28 critical and creative in dealing with their problems (Torres, 2007).

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31 — Learning must create intellectual freedom to achieve transformative critical
32 education between educators and students in the teaching and learning process
33 (Giroux, 2010). The learning process must be open and full of dialogue, full of
34 responsibility between educators and students; all interactions between educators
35 and students are egalitarian and fair. Students must have freedom of initiative,
36 freedom of opinion, and freedom to have inspiration and other perspectives on
37 justice and equality. In this case, education must be accommodated appropriately as
38 an important means of achieving independence (Beckett, 2013). Communication in
39 transformative critical education must go in all directions, namely educators to
40 students (top-down), students to educators (bottom-up), and students to other
41 students (networks) to create dialogical and non-educational education.
42 Transformative critical education is expected to produce changes in students both in
43 quality changes, independent and creative attitudes, personal differences, social
44 quality changes with friends around them, and the community environment.
45 Changes in these students can bring up new ideas that can change students' lives, the
46 environment, and the world (Roberts, 2015).
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Transformative Critical Pedagogy (Containing Values of Philosophy, Existentialism, Humanism and Constructivism)

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Critical Pedagogy is a praxis in which praxis is an action and reflection (Freire, 1985).

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Praxis involves practicing theorizing and putting theory into practice. Praxis thinks of the philosophical and essentialist thing about what and why we will do before we do it and then contemplates what we did, how to do it, and how it turned out. Critical pedagogy involves an evolving working relationship between practice and theory. As a praxis, critical pedagogy cannot stop, critical pedagogy demands reflection and reconceptualization between what happens inside our classrooms, why it happens, and what and whose purpose it serves. Critical pedagogy recognizes the importance of the individual and his interests, acknowledging that the individual and its fulfillment are dependent on social relations with others inside and outside the class. Critical education requires collective thought and action, reflection, and action. It cannot be separated from one another because when theory is cut off from practice, it is only simple verbalism and vice versa when the way is cut off from the idea, exercise is just blind activism (Freire, 1985).

Critical pedagogy is a descriptive perspective because it critically analyzes the world we live in. Critical pedagogy looks at how the pedagogical, political, social, and economic aspects of life inform one another. Critical pedagogy asks why these things exist, in what way, who is harmed, and how, then, teachers and students develop answers together (Morrow & Torres, 2002). This is when teachers and students are on the path to critical awareness. Critical pedagogy enables teachers and students to gather reason and emotions to serve understanding, transcendence, and transformation. Critical pedagogy helps us see ourselves and see humans, what humans do to other humans and the world and its surroundings, never mind what is done and what happens is human, then helps to construct an idea of what to do, what changes must be done (Shor, 1993; Giroux, 2020).

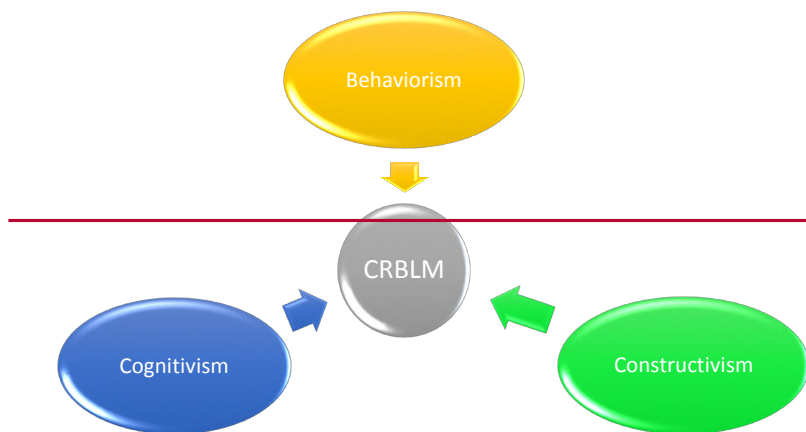
Critical pedagogy helps humans to develop critical awareness, which enables them to participate in transformational actions critically. This acute awareness refers to the process by which humans no longer accept but as subjects who know and achieve a deep understanding of both the socio-cultural realities that shape their lives and their capacity to change that reality (Brass & Macedo, 1985; Freire, 1985). Critical awareness obtained from critical pedagogy encourages humans to become whole humans or humanists, namely those who are autonomous towards themselves, reality, and their world. It does not stop at awareness, but the result of critical

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7 ~~pedagogy is the emergence of the construction of new ideas that will produce~~
8 ~~transformative action.~~
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11 **Community Radio-based Blended Learning Model**
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13 Community Radio-based Blended Learning is learning carried out by a radio community
14 whose members consist of schools, teachers, students, and student guardians using the blended
15 learning method or combining learning usually with technology in the form of radio. This study
16 aims to create effective learning for students in remote areas with difficulty with the internet
17 during the pandemic. This learning begins with the fulfillment of prerequisites, including
18 ordering a community radio consisting of schools, teachers, students, and student guardians
19 and preparing the necessary equipment. This tool's preparation is carried out by community
20 members and is managed and monitored by community members. Members of the radio
21 community must consider several principles. First, community radio is made based on
22 community members' needs, namely teachers, students, and student guardians, to create
23 effective learning during a pandemic. Next, it is non-profit or not for profit; third, there is active
24 and open participation from community members, namely teachers, students, and student
25 guardians, in conducting evaluation and monitoring.
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31 Implementing the Community Radio-based Blended Learning Model as a learning model
32 is not built on a particular learning theory, but rather a synthesis of several previously
33 developed learning theories, namely the learning theory of behaviorism, cognitivism, and
34 constructivism. These learning theories do not stand alone but complement each other to
35 produce a model following the characteristics of students as learners in school, presented in
36 Figure 1.
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7 **Figure 1. Relationship Learning Theories Supporting the Community Radio-based**
8 **Blended Learning Model (CRBLM)**
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11 Behavioral learning theory views learning as a change in a person's behavior that appears
12 due to his experience interacting with the environment. Learning here depends more on
13 outsiders, namely the surrounding environment, not on one's self. In general, learning like this
14 is manifested in the form of a relationship between stimulus and response. One of the figures
15 of this learning theory is Skinner with the S-R (Stimulus-Response) learning theory, whose
16 main element is reinforcement.
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19 According to this theory, a response that manifests a change in a person's behavior will
20 become permanent behavior if given reinforcement and vice versa if given punishment. The
21 response will not be permanent behavior. The behaviorist learning theory that emphasizes the
22 role of environmental aspects outside the individual in the acquisition of competence inspires
23 CRBLM in collaboration between students and the object of study, students and colleagues,
24 students and lecturers, and students and their environment in constructing knowledge.
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27 Students interact with the study object to see natural phenomena that occur to obtain a
28 conclusion and hypothesis according to the problem being discussed. Meanwhile, with
29 colleagues and lecturers, students exchange ideas and share their thoughts and views regarding
30 these natural phenomena. The pattern of relationships between students and outsiders shows
31 how significant environmental aspects influence individuals when constructing knowledge. So,
32 the strength of behaviorism theory lies in situations where a person has been faced with clear
33 goals and can respond to things that are near related to these goals.
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36 Unlike behaviorism theory, the theory of learning cognitivism also has a significant role
37 in building the CRBLM. Cognitivism learning theory emphasizes the active involvement of
38 the mind in learning activities. Learning here does not depend much on external stimuli but
39 involves more of one's own mind and initiative. Intellect, in this case, cognitive development,
40 is the main foothold in implementing learning activities. Usually, learning is distinguished by
41 cognitive development level: from the lowest level to the highest cognitive level.
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44 One of these learning theories is R. Gagne, who differentiates learning into five
45 categories: verbal information, intellectual skills, cognitive strategies, motor skills, and
46 attitudes. Each type requires a form, namely independent learning. According to this theory, to
47 master knowledge and skills, a person must actively try to give meaning to the various
48 information and data they obtain.
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Knowledge and other information are not acquired by individuals passively waiting and receiving, but actively seeking to involve cognitive abilities to provide meaning through various cognitive skills, such as analysis, synthesis, or evaluation. Of course, this is strong evidence of how a person's cognitive abilities play a role in constructing knowledge. There are several essential concepts commonly used in cognitive learning theory, namely three-stage information processing schemes and models, namely registers, short-term memory, and long-term memory.

A schema is a knowledge structure that a person already has, which is used to make associations with new knowledge. Information processing occurs first when the register recognizes the input it received; furthermore, the input is processed in short-term memory; and then transferred to long-term memory to be stored for future use.

The third learning theory with a significant share in CRBLM building is a constructivism learning theory, which is part of learning cognitivism theory. Constructivists see learning as an active process of constructing meaning in the text, dialogue, physical experience, and other structures (Sukiman, 2008). Furthermore, Hadi (2005) argues that knowledge in constructivist understanding is a construction (formation) of people who know schemata. Experience cannot be transferred from teacher to student because each student has his scheme of what he knows. Knowledge formation is a cognitive process where there is a process of assimilation and accommodation to achieve equilibrium to form new strategies.

This view clearly states that knowledge is actively constructed by the mind, not passively received from the environment. Students are actively involved in various relevant and meaningful activities that lead to reconstructing knowledge, such as reflection and association of new experience with the knowledge they already have. Therefore, it can be said that constructivism learning theory emphasizes aspects of the constructive processes carried out by individuals. In contrast, cognitivism theory leads to the role of cognition in reconstructing knowledge. Furthermore, the constructivism learning theory has four primary characteristics:

1. Students reconstruct their understanding.
2. New knowledge is built on previous understanding and knowledge.
3. Understanding is obtained through social interactions carried out by individuals and learning through experience to build meaningful knowledge.

One important aspect of constructivism learning theory that needs attention is experiential learning (experiential learning), which is also referred to as learning by doing. Experiential learning is a learning activity that provides a relatively more real experience for

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7 individuals in obtaining knowledge so that what is gained becomes more meaningful. In other
8 words, individuals reconstruct knowledge based on the experiences they get through
9 interactions that are built with their environment. Of course, this learning model is more
10 suitable and can be applied to those who already have sufficient knowledge or adults.

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13 In experiential learning activities, there are usually four phases that form the learning
14 cycle, namely real experience, observation and reflection, the formation of abstract concepts,
15 and their application in other situations. In the process of knowledge reconstruction, the four
16 learning phases are repeated to find a good understanding.

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18 The real experience phase is the learning stage, where students get concrete experiences
19 according to the problems identified. Starting from this problem, students try to find various
20 related information for its solution. In the second phase, students take advantage of
21 reconstructed knowledge as a basis for observation and reflection. A common thread can be
22 drawn between the theory and the real conditions they experience. The third phase is the
23 learning stage that students use to make conclusions and generalizations; Meanwhile, the fourth
24 phase is the learning stage where students try to apply what they have found to new situations.
25 Therefore, there are some basic assumptions regarding constructivist learning theory:

- 26 1. Knowledge is built based on experience.
- 27 2. Learning is a personal interpretation of the world.
- 28 3. Education is an active process where meaning is built on expertise.
- 29 4. Conceptual growth comes from negotiating to mean, exchanging perspectives, and
30 learning.
- 31 5. Collaborative and learning must occur in a realistic setting, and tests should be integrated
32 with assignments.

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39 Community Radio-based Blended Learning Model is carried out with a blended learning
40 model that combines ordinary learning with technology on the radio. The teacher acts as a facilitator
41 and parent as a motivator and companion for students while studying at home. Radio in this lesson
42 is used as a medium to convey information and guide student learning activities. In this case,
43 learning activities can vary depending on the needs of the subjects delivered and the learning
44 activities' requirements to understand students and achieve the targeted competencies. After
45 carrying out learning activities, the teacher conducts class discussions and reflections or evaluations
46 to see learning.

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50 In Community Radio-based Blended Learning Model, things that must be used are using
51 radio and done remotely or not face to face. Still, the learning process must remain open and
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dialogical and not in one direction only from teacher to student. Communication in learning must occur in all orders, both teacher to student, student to teacher, and student to other students. It is essential to pay attention to so that the learning process does not develop into a critical awareness of students, which have fatal implications for life and their ability to deal with the environment and their world. This pandemic's distance learning tends to be instructive. The teacher gives orders, and students do what the teacher or teacher instructs, provide material, and students passively accept it.

As stated by Freire (1985), students are not like banks, which only need to be filled with material and then passively accept and memorizes them according to what the teacher instructs. However, students are humans who are given the ability by God to think, reason, reflect, and re-examine what will come. Therefore, the teacher must encourage the capabilities that have been bestowed on this God so that students have more critical awareness that they can use to see deeper and face themselves, reality, and their world. Teachers must be able to understand that the essence of education is to deliver students to become complete human beings, namely humans who have freedom and autonomy towards themselves, reality, and their world so that they can creatively and critically face the problems around them. It can only be obtained through awareness. One way of growing and encouraging critical awareness is by placing students at the center of pedagogical activities and creating an environment conducive to necessary awareness development. This conducive environment is an open learning environment, full dialogue, full interaction. It provides opportunities for students to have freedom of opinion, freedom of belief, freedom of inspiration, freedom to have a perspective of justice and equality.

The community radio-based blended learning model must also prepare students to face the challenges of the 21st century, where life changes are so fast, dynamic, and challenging to predict. Students must quickly and critically see the reality and the changes that occur and deal with it. Therefore, education cannot end up being carried out only by transferring knowledge and students only receiving and understanding that knowledge. Students must understand what can be done with the knowledge they have to act then. So, through critical pedagogy and a dialogical learning process, the teacher must encourage students to think philosophically and practically about what is learned and why to study it. Furthermore, they must see what happens to the reality around himself and his world and reflect on what to do with what has been learned and seen on the truth and the world and predict the results. Thus, the construction of transformative ideas or ideas will appear students will carry that out in facing their world's problems and realities.

4. Conclusion

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There is an alternative learning solution for remote areas with difficult internet access, namely by utilizing a radio network for learning, packaged in the Community Radio-Based Blended Learning Model. This learning can be carried out by forming a community radio consisting of teachers, students, and student guardians. Then the teacher and students carry out blended learning that combines ordinary learning with learning using technology. In this case, the technology used is the radio. The teacher acts as a facilitator who will guide student learning activities, and the parents act as a motivator who helps students' study at home. Learning Community Radio-Based Blended Learning Model is implemented openly and dialogically to foster students' critical awareness and encourage the creation of students' transformative ideas in dealing with problems in the reality of the environment and the world around them.

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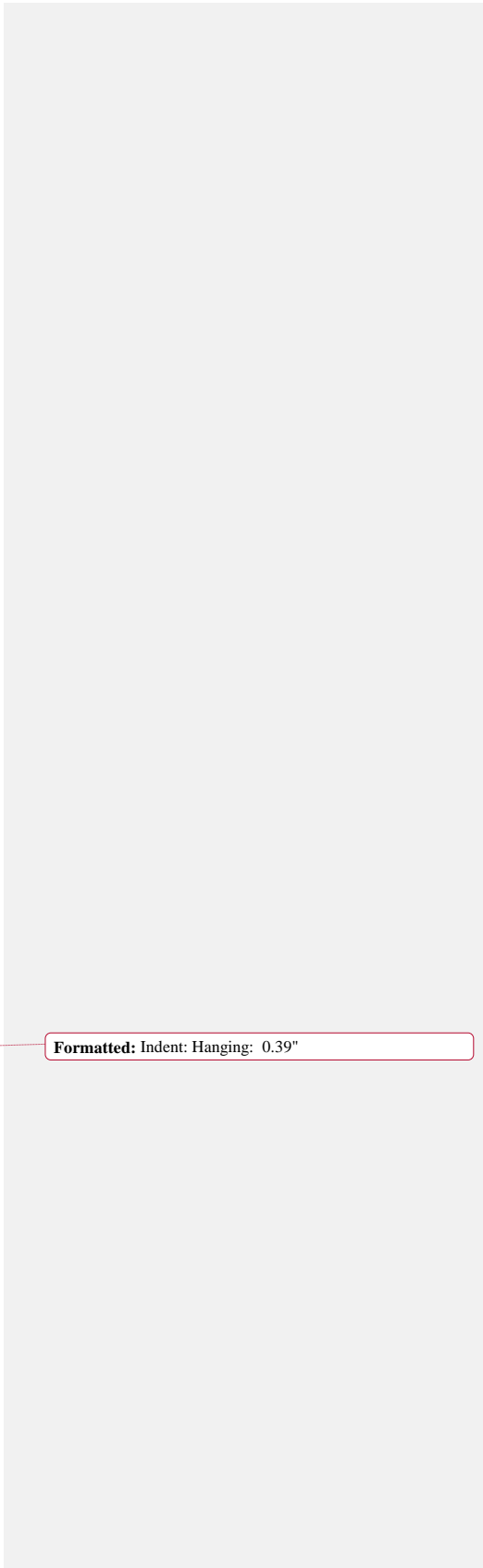
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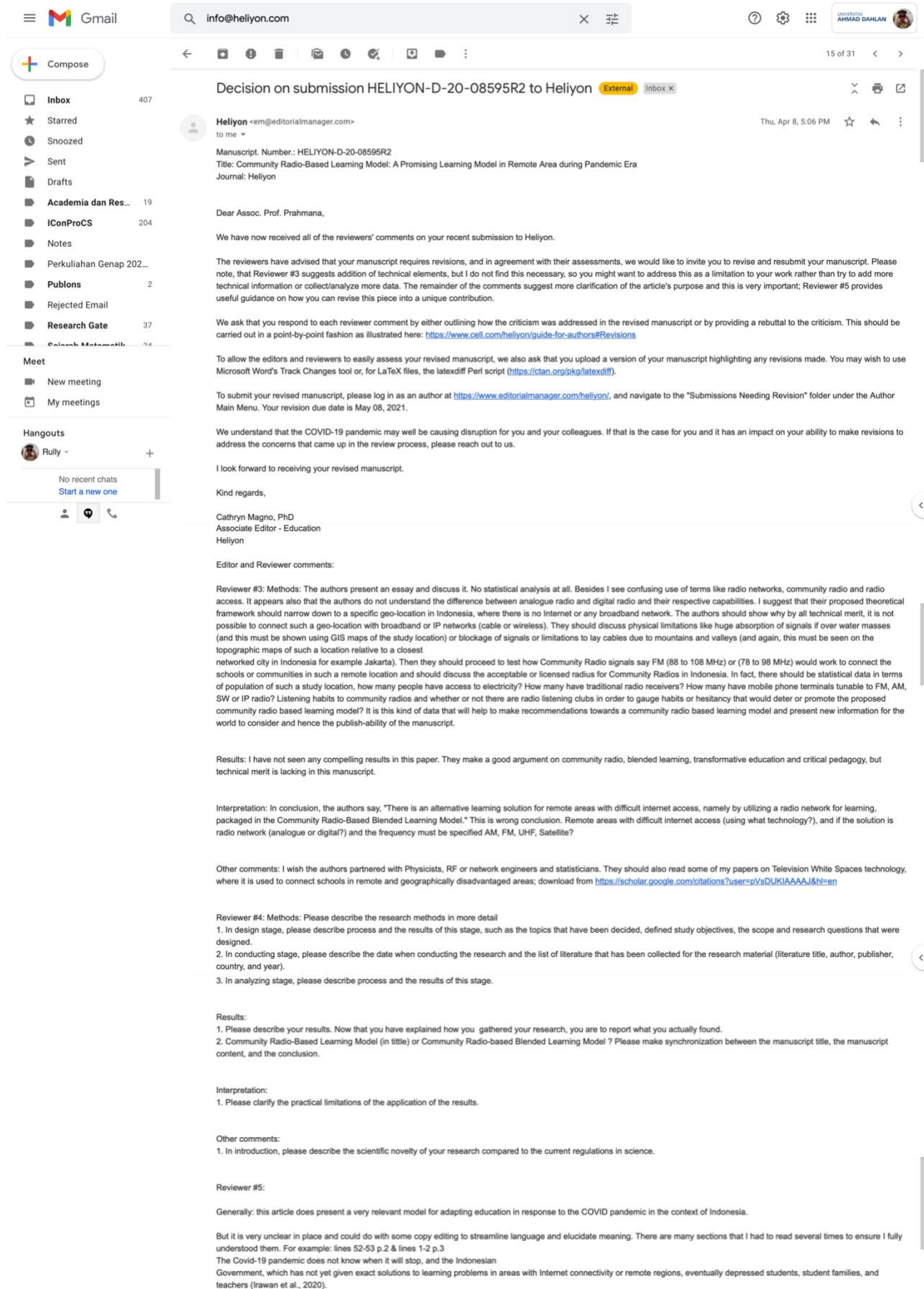
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Artikel diminta untuk direvisi kembali berdasarkan saran perbaikan dari 3 reviewer pada tanggal 8 April 2021 yang fokus kepada catatan yang lebih detail dengan deadline 8 Mei 2021, seperti tampak pada email berikut.



The image shows a screenshot of a Gmail email interface. The email is from Heliyon, with the subject line "Decision on submission HELIYON-D-20-08595R2 to Heliyon". The sender is Heliyon <em@editorialmanager.com>. The email content is as follows:

Decision on submission HELIYON-D-20-08595R2 to Heliyon External Inbox x

Heliyon <em@editorialmanager.com>
to me +

Manuscript Number: HELIYON-D-20-08595R2
Title: Community Radio-Based Learning Model: A Promising Learning Model in Remote Area during Pandemic Era
Journal: Heliyon

Dear Assoc. Prof. Prahmana,

We have now received all of the reviewers' comments on your recent submission to Heliyon.

The reviewers have advised that your manuscript requires revisions, and in agreement with their assessments, we would like to invite you to revise and resubmit your manuscript. Please note, that Reviewer #3 suggests addition of technical elements, but I do not find this necessary, so you might want to address this as a limitation to your work rather than try to add more technical information or collect/analyze more data. The remainder of the comments suggest more clarification of the article's purpose and this is very important; Reviewer #5 provides useful guidance on how you can revise this piece into a unique contribution.

We ask that you respond to each reviewer comment by either outlining how the criticism was addressed in the revised manuscript or by providing a rebuttal to the criticism. This should be carried out in a point-by-point fashion as illustrated here: <https://www.cell.com/heliyon/guide-for-authors#Revisions>

To allow the editors and reviewers to easily assess your revised manuscript, we also ask that you upload a version of your manuscript highlighting any revisions made. You may wish to use Microsoft Word's Track Changes tool or, for LaTeX files, the latexdiff Perl script (<https://ctan.org/pkg/latexdiff>).

To submit your revised manuscript, please log in as an author at <https://www.editorialmanager.com/heliyon/>, and navigate to the "Submissions Needing Revision" folder under the Author Main Menu. Your revision due date is May 08, 2021.

We understand that the COVID-19 pandemic may well be causing disruption for you and your colleagues. If that is the case for you and it has an impact on your ability to make revisions to address the concerns that came up in the review process, please reach out to us.

I look forward to receiving your revised manuscript.

Kind regards,

Cathryn Magno, PhD
Associate Editor - Education
Heliyon

Editor and Reviewer comments:

Reviewer #3: Methods: The authors present an essay and discuss it. No statistical analysis at all. Besides I see confusing use of terms like radio networks, community radio and radio access. It appears also that the authors do not understand the difference between analogue radio and digital radio and their respective capabilities. I suggest that their proposed theoretical framework should narrow down to a specific geo-location in Indonesia, where there is no Internet or any broadband network. The authors should show why by all technical merit, it is not possible to connect such a geo-location with broadband or IP networks (cable or wireless). They should discuss physical limitations like huge absorption of signals if over water masses (and this must be shown using GIS maps of the study location) or blockage of signals or limitations to lay cables due to mountains and valleys (and again, this must be seen on the topographic maps of such a location relative to a closest networked city in Indonesia for example Jakarta). Then they should proceed to test how Community Radio signals say FM (88 to 108 MHz) or (78 to 98 MHz) would work to connect the schools or communities in such a remote location and should discuss the acceptable or licensed radius for Community Radios in Indonesia. In fact, there should be statistical data in terms of population of such a study location, how many people have access to electricity? How many have traditional radio receivers? How many have mobile phone terminals tunable to FM, AM, SW or IP radio? Listening habits to community radios and whether or not there are radio listening clubs in order to gauge habits or hesitancy that would deter or promote the proposed community radio based learning model? It is this kind of data that will help to make recommendations towards a community radio based learning model and present new information for the world to consider and hence the publish-ability of the manuscript.

Results: I have not seen any compelling results in this paper. They make a good argument on community radio, blended learning, transformative education and critical pedagogy, but technical merit is lacking in this manuscript.

Interpretation: In conclusion, the authors say, "There is an alternative learning solution for remote areas with difficult internet access, namely by utilizing a radio network for learning, packaged in the Community Radio-Based Blended Learning Model." This is wrong conclusion. Remote areas with difficult internet access (using what technology?), and if the solution is radio network (analogue or digital?) and the frequency must be specified AM, FM, UHF, Satellite?

Other comments: I wish the authors partnered with Physicists, RF or network engineers and statisticians. They should also read some of my papers on Television White Spaces technology, where it is used to connect schools in remote and geographically disadvantaged areas; download from <https://scholar.google.com/citations?user=pVsDUKIAAAJ&hl=en>

Reviewer #4: Methods: Please describe the research methods in more detail

1. In design stage, please describe process and the results of this stage, such as the topics that have been decided, defined study objectives, the scope and research questions that were designed.
2. In conducting stage, please describe the date when conducting the research and the list of literature that has been collected for the research material (literature title, author, publisher, country, and year).
3. In analyzing stage, please describe process and the results of this stage.

Results:

1. Please describe your results. Now that you have explained how you gathered your research, you are to report what you actually found.
2. Community Radio-Based Learning Model (in title) or Community Radio-based Blended Learning Model? Please make synchronization between the manuscript title, the manuscript content, and the conclusion.

Interpretation:

1. Please clarify the practical limitations of the application of the results.

Other comments:

1. In introduction, please describe the scientific novelty of your research compared to the current regulations in science.

Reviewer #5:

Generally: this article does present a very relevant model for adapting education in response to the COVID pandemic in the context of Indonesia.

But it is very unclear in place and could do with some copy editing to streamline language and elucidate meaning. There are many sections that I had to read several times to ensure I fully understood them. For example: lines 52-53 p.2 & lines 1-2 p.3

The Covid-19 pandemic does not know when it will stop, and the Indonesian Government, which has not yet given exact solutions to learning problems in areas with Internet connectivity or remote regions, eventually depressed students, student families, and teachers (Irawan et al., 2020).

Key points:

I find it difficult to precisely understand what the purpose of the article is. The abstract presents the article as an integrative literature review that can provide practical guidance to inform Indonesia's decision-making on provision of (community radio) education that complies with the social distance requirements mandated as a response to the COVID pandemic. But as the article unfolds, it's not clear how practically useful this integrative literature review will be to inform thinking. For instance, on P7 (penultimate paragraph in Section 2) it says:

In the integrative literature review study, data analysis is replaced with clear logic and reasoning conceptual as the basis for argument and explanation. These two are the most important features used to develop the proposed framework or model and allow readers to see the relationship between research problems, criticism of the literature, and theoretical results in a theoretical framework.

Is the article intended to present a vision of a community based radio model with the potential to transform and disrupt the power (im)balances inherent within traditional educational approaches and achieve this through decentralising power through community-based governance? Through this lens, community radio becomes an inherently political project with community participation at its core. It's not clear whether or how - within the context of the Indonesian education system - this could or would work. What is the underlying political ambition that informs and drives the Indonesian education system? There is a section on the history of community radio in Indonesia but this is mainly descriptive. Whilst some lessons are shared in relation to the use of community radio for building a sense of national identity / resistance to colonial rule, this is not really explored in any great depth.

It would be helpful for the authors to review some of the literature on education in emergencies and the use of community radio in those contexts. Whilst the examples given of Kenya, India and Canada are interesting, are they the best examples? There was an example of a child-participatory radio for education initiative in Sierra Leone developed in response to the closure of schools during the 2014 Ebola crisis. This might be a better comparison. (Declaration of interest: I ran the organisation Child to Child which worked with the local partner, Pikin to Pikin Movement to implement this programme. I can provide references if this would be helpful.)

I think it would also be relevant for the authors to consider how pedagogy can enable the fuller expression of the critical approaches to education considered in the paper (presented by Gramsci, Frankfurt School & Freire). How can and should community radio practically support these pedagogical objectives; what pedagogical methods might be used? This obviously links back to the political aspects of community governance and participation but may go beyond that.

By far the strongest sections in the paper are those that analyse and reflect upon the key tenets of critical pedagogy (P22 and in the conclusion). There is a very strong connection between this and the potential offered by community radio and this could be more fully explored and articulated.

The three frameworks definitely present some interesting options regarding the potential future developments for the Indonesian educational response to learning in remote communities. However, I think the author could do more to identify and articulate the critical intersections between these frameworks (which would be the unique contribution of this article) and illustrate how these could be used to guide future action. It might have been helpful for the authors to outline the underlying constructs which inform the current model of education in Indonesia and then contrast this with the potential offered by the integrative framework. I am not sure how the two connect at the moment.

Data in Brief (optional):

We invite you to convert your supplementary data (or a part of it) into an additional journal publication in Data in Brief, a multi-disciplinary open access journal. Data in Brief articles are a fantastic way to describe supplementary data and associated metadata, or full raw datasets deposited in an external repository, which are otherwise unnoticed. A Data in Brief article (which will be reviewed, formatted, indexed, and given a DOI) will make your data easier to find, reproduce, and cite.

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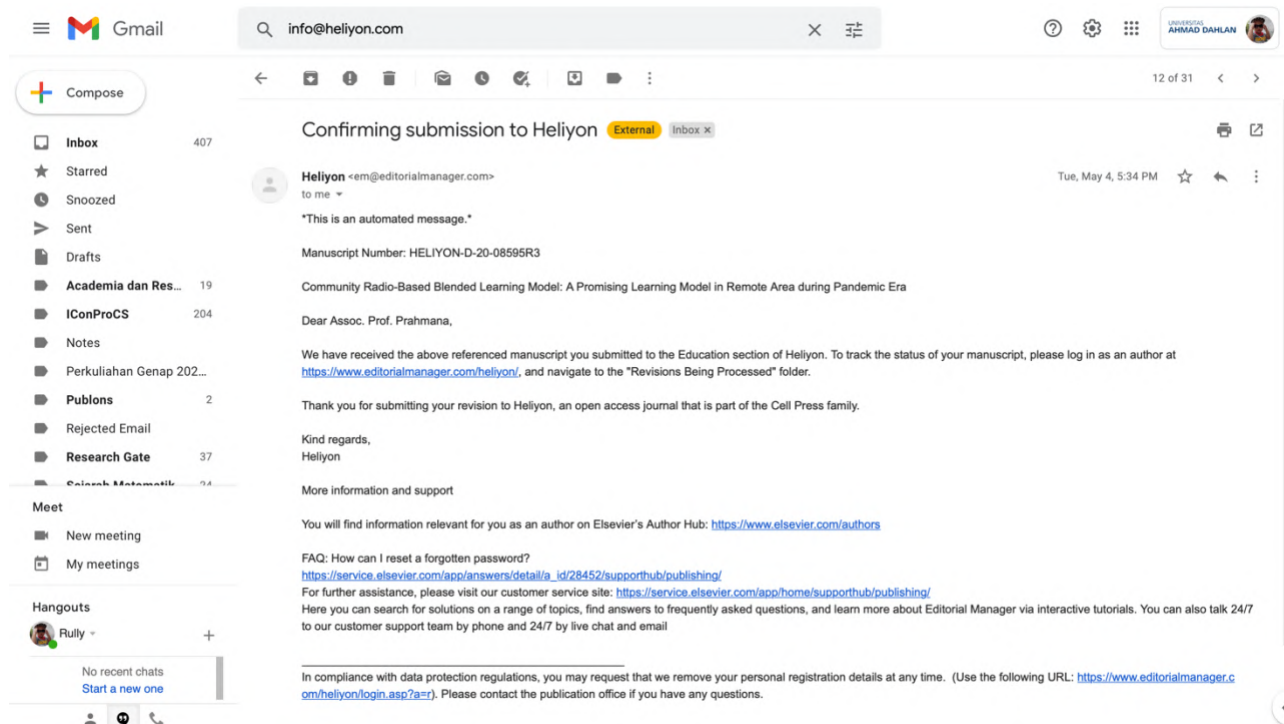
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Hasil revisi ketiga di submit kembali pada tanggal **4 Mei 2021**, sesuai saran dan masukan dari Editor dan 3 Reviewer, dengan email notifikasi konfirmasi telah mengirimkan hasil revisi, seperti tampak pada email berikut.



Artikel revisi sesuai saran dan masukan dari Editor dan 3 Reviewer yang di submit dan di generate oleh Editorial Manager Sistem nya
Jurnal Heliyon
[Submit Revisi 3 – 4 Mei 2021]

Heliyon

Community Radio-Based Blended Learning Model: A Promising Learning Model in Remote Area during Pandemic Era --Manuscript Draft--

Manuscript Number:	HELIYON-D-20-08595R3
Article Type:	Review article
Keywords:	Community Radio-Based Blended Learning Model; Pandemic Era; Remote Area; Integrative Literature Review
Manuscript Classifications:	140.140.100: Educational Development; 140.140.130: Evidence-Based Education; 140.140.150: Media Education; 140.140.170: Pedagogy; 140.140.180: Teaching Research
Corresponding Author:	Rully Charitas Indra Prahmana, Dr. Universitas Ahmad Dahlan INDONESIA
First Author:	Rully Charitas Indra Prahmana, Dr.
Order of Authors:	Rully Charitas Indra Prahmana, Dr. Dody Hartanto, Dr. Dian Artha Kusumaningtyas Raden Muhammad Ali Muchlas Muchlas, Dr.
Abstract:	<p>The Covid-19 pandemic is a big challenge for education worldwide because education has to be done virtually to stop the spread of the Covid-19 virus. The problem is that students live in areas far from cities, so learning in an interconnected world should be done virtually. One of them is Indonesia, with a diverse geographical condition consisting of mountains, lowlands, highlands, and valleys. Some areas are far away from cities, making students difficult to connect to the internet and virtual teaching is challenging. These areas are often referred to as remote areas. So far, the Indonesian government's approach to dealing with learning difficulties in remote areas is vague. This research aims to construct a theoretical learning framework that can be used to facilitate distance learning in remote areas in Indonesia. This research proposes a developmental theory of alternative learning in remote areas through the integrative literature review. In this study, the theoretical framework evolved out of the review of existing research on community radio, blended learning, transformative education, and critical pedagogy. This study yields a theoretical framework regarding the community radio-based learning model that contributes as a promising alternative learning solution in remote areas. It is inferred that this learning model would be a promising learning model in remote areas during unpredictable situations such as in the Pandemic era.</p>
Opposed Reviewers:	

Dear Prof. Cathryn Magno, Ph.D.,
Associate Editor – Education, Heliyon

Thank you for allowing me to submit our third revised manuscript entitled Community Radio-Based Learning Model: A Promising Learning Model in Remote Area during Pandemic Era to Heliyon. We do really appreciate the time and effort you and the reviewers have dedicated to providing valuable feedback on my manuscript. We are grateful to the reviewers for their insightful comments on our paper. We have been able to incorporate changes to reflect most of the suggestions provided by the reviewers.

Furthermore, we have been revised the manuscript based on the reviewers' comments, suggestions, and remarks. There are several changes to our manuscript:

1. We have addressed the limitation of our work and further research recommendation (Reviewer #3).
2. We have revised the title by adding the word "blended" and making our method section more detailed and completed (Reviewer #4).
3. We have revised some parts of our paper to show our unique contribution of this article to solve the learning problem during the pandemic situation in a remote area (Reviewer #5).
4. In the revised paper process, we activate the **Track Changes** menu in Ms. Word so that you can track our changed regarding our revised paper.

Besides, all spelling and grammatical errors pointed out by the reviewers have been corrected. We do hope that our third revised paper could be fulfilled the standard article for published in Heliyon.

Thank you very much for your cooperation and kindness. We look forward to hearing from you in due time regarding our submission and to respond to any further questions and comments you may have.

Best wishes,
Rully Charitas Indra Prahmana

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Community Radio-Based **Blended** Learning Model: A Promising Learning Model in Remote Area during Pandemic Era

Rully Charitas Indra Prahmana, Dody Hartanto, Dian Artha Kusumaningtyas,
Raden Muhammad Ali, Muchlas

Universitas Ahmad Dahlan, Jl. Kapas 9, Semaki, Umbulharjo, Yogyakarta, Indonesia
Corresponding Email: rully.indra@mpmat.uad.ac.id

Abstract

The Covid-19 pandemic is a big challenge for education worldwide because education has to be done virtually to stop the spread of the Covid-19 virus. The problem is that students live in areas far from cities, so learning in an interconnected world should be done virtually. One of them is Indonesia, with a diverse geographical condition consisting of mountains, lowlands, highlands, and valleys. Some areas are far away from cities, making students difficult to connect to the internet and virtual teaching is challenging. These areas are often referred to as remote areas. So far, the Indonesian government's approach to dealing with learning difficulties in remote areas is vague. This research aims to construct a theoretical learning framework that can be used to facilitate distance learning in remote areas in Indonesia. This research proposes a developmental theory of alternative learning in remote areas through the integrative literature review. In this study, the theoretical framework evolved out of the review of existing research on community radio, blended learning, transformative education, and critical pedagogy. This study yields a theoretical framework regarding the community radio-based learning model that contributes as a promising alternative learning solution in remote areas. The issue of student learning difficulties during the Covid-19 pandemic in Indonesia's remote areas with complex internet networks remains unresolved. Several students, teachers, and parents are overwhelmed by the circumstances that make it difficult to continue learning online. This project aims to build solutions for learning models using radio networks that are affordable and open to students in remote areas. This learning model's design was carried out by reviewing some of the literature utilized to prepare learning designs using a blended learning model that combined ordinary learning using radio technology. It is ~~inferred~~ We believe that this learning model would be a promising learning model in remote areas during unpredictable situations such as ~~inlike~~ the Pandemic era.

Keywords: Community Radio-Based **Blended** Learning Model, Pandemic Era, Remote Area, Integrative Literature Review, ~~Promising Learning Model~~

1. Introduction

The planet is currently suffering from the Covid-19 pandemic, which poses a fatal health and death risk. To monitor the rapid spread of the virus between individuals, the World Health Organization (WHO) has provided a protocol for individuals to ~~implement~~ ~~exercise~~ physical distancinge (World Health Organization, 2020). This condition represents an enormous challenge to sustainability in the field of education, which must carry out the teaching and learning process amidst restrictions on human activities during the Covid-19 pandemic to ensure children's rights to continue to get the education to ensure the sustainability of children's lives in the future (Lee, 2013; Smith, 2019). Teaching and learning tasks that have been performed face-to-face have now been moved to virtual or distance learning. However, the

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7 internet is not accessible in certain regions in several countries due to various constraints such
8 as location, making it difficult for people to carry out distance or virtual learning. This is
9 comparable to what occurred in Indonesia. ~~All operations involving a large number of people~~
10 ~~should be carried out remotely or from home. As a result, learning practices in schools, which~~
11 ~~are meeting places between many individual students and teachers, have also been moved from~~
12 ~~offline learning to online learning. This is done in almost all countries, including Indonesia,~~
13 ~~through the Ministry of Education and Culture Circular Letter No. 3 of 2020 on the Prevention~~
14 ~~of COVID-19 in the Education Unit and No. 36962/MPK.A/HK/2020 on Online Learning and~~
15 ~~Home Work in the Preventive Sense The spread of Corona Virus Disease (COVID-19) by the~~
16 ~~Indonesian Government. Based on this proposal, some 646.2 thousand schools in Indonesia~~
17 ~~must be closed down, and 68.8 million students must study at home.~~

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Indonesia's geographical and topographical conditions, which consist of islands with plains and mountains, make it difficult for all Indonesia regions to have access to the Internet that can be used for online learning (Afrianti & Aditia, 2020). Many students have to walk far up the mountains, climb trees, or reach the woods to get internet signals. In certain places, teachers must visit students' homes one by one to continue to study during the Covid-19 pandemic. This, of course, makes learning inefficient and negatively impacts student learning progress (Tamah et al., 2020; Supena et al., 2020). The Indonesian government has issued a policy on education in emergencies and learning guidelines from home but fails to help those unable to use the internet seek education ~~Indeed the Indonesian Government has released a decree, through the Ministry of Education and Culture Circular No. 4 of 2020, on the implementation of education policies in the emergency time for the spread of Covid-19 and the Circular of the Secretary General of the Ministry of Education and Culture No. 15 of 2020 on the guidelines for learning from home in the emergency of the spread of Covid Learning guides are available throughout the pandemic, both for access to the Internet and for areas without internet access. This guide writes that measurements of difficulty accessing internet learning can be made using media such as television, radio, self-study modules, worksheets, printed teaching materials, props, and media from objects in the local environment. However, the truth is that the findings are null and void in technical practice in the field. The Government has never been a concrete solution for providing learning facilities in places that do not have access to the Internet for learning.~~

The Covid-19 pandemic has no known end date. The Indonesian government has yet to provide precise solutions to learning problems in areas without Internet connectivity or in

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7 remote regions, which has resulted in depression among students, student families, and teachers
8 (Irawan et al., 2020). Students must continue their education and develop their abilities, but
9 their environments are insufficiently supportive and accommodating. It leaves teachers and
10 parents perplexed about how to rectify the situation, as it cannot be translated separately.
11 The
12 Covid-19 pandemic does not know when it will stop, and the Indonesian Government, which
13 has not yet given exact solutions to learning problems in areas with Internet connectivity or
14 remote regions, eventually depressed students, student families, and teachers (Irawan et al.,
15 2020). Students must continue to learn and continue to improve, but the environments are not
16 encouraging and adequate. It leaves teachers and parents confused about fixing it since it cannot
17 be translated separately.

21 Significant concrete initiatives or acts by the Government or other organizations are
22 required to resolve the sector's issue in practical terms. One of the attempts that can be made
23 in places that do not have access to the Internet is to create a learning model that uses other
24 networks in the region (Friedman, 2020). Radio networks in Indonesia are more
25 straightforward and more accessible in some areas (Jurriëns, 2009). This network can
26 provide content knowledge or direct teaching activities from teachers to students (Nwaerandu
27 & Thompson, 1987). Since, in essence, the learning process is an instructor who encourages
28 the transmission of information that can direct students to explore the knowledge they want to
29 know and learn on their own, so that students obtain learning experiences that are useful for
30 their growth (Kelly, 2016; Freire, 1985). However, this cannot be achieved individually. There
31 must be a commitment and collaboration on the part of the different parties, such as ~~There~~
32 ~~must be a commitment between~~ the educational community, the school, and the Government
33 to use the network and establish suitable learning methods so that learning can be carried out
34 effectively.

41 A community radio network can be formed in this situation by volunteers, schools,
42 teachers, students, and parents of students who will use, manage, and supervise the radio
43 networks. This community will provide the teachers with the information they need to keep
44 students actively engaged on learning activities during the pandemic.

47 This idea cannot be implemented without any underlying theory. This study contributes
48 to constructing a theoretical learning framework model for using community radio networks to
49 learn in remote areas. This model develops through systematic reviews, synthesis, critical
50 analysis, and integrating several works of literature on community radio, blended learning,
51 necessary transformative education, and critical transformation pedagogy. Hopefully, the
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research results will be used as a theoretical basis for further research on implementation in the field to become an alternative learning solution in remote areas, so that distance learning during a pandemic can still occur.

The next section of this article is a research methodology that explains the integrative literature review method used in building a theoretical framework in this study. The third part is the review, critical analysis, synthesis, and integration of several works of literature on community radio, blended learning, compulsory transformative education, and critical transformation pedagogy. The last part is a description of the theoretical framework for the Radio Community-Based Learning Model. And the last part is the conclusion of the research. A radio group can be set up in this field, consisting of organizers, colleges, teachers, students, and parents of students, for the technical use of radio networks for learning in remote areas. Develop a community radio station to be used as a tool to provide teachers with information and feedback on learning activities. This study aims to establish an alternative learning culture radio based on a blended learning model that blends ordinary learning with technology in radio networks. The hope is that an alternative concrete approach will overcome the challenging learning process in remote areas with complex internet networks. The hope is that it can be developed as a solution in remote areas in many Indonesia regions so that all students in Indonesia can continue to learn, process, and design.

2. Method

This study uses an integrative literature review as a research method to construct a theoretical framework for alternative learning in remote areas where it was challenging to do virtual learning during this pandemic due to the difficulty of accessing the internet network. In this case, the integrative literature review provides a basis for constructing a new model or theoretical or conceptual theory by reviewing, critiquing, and synthesizing literature representing a particular topic in an integrated manner so that new theoretical frameworks and perspectives can be produced (Torraco, 2005). This study is different from the other two literature review studies, namely Systematics Literature Review and Semi Systematics Review. They serve as a resource for identifying and reviewing critical research to ascertain trends and major research influences on a particular topic, not as a means of developing the theoretical framework (Synder, 2019; Baumeister & Leary, 1997; Torraco, 2005; Wong et al., 2013; Liberati et al., 2009). Additionally, the Integrative Literature Review study also has a potential unique contribution in the reconceptualization of established topics, which is then used to

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develop new frameworks and perspectives by providing an overview or description of research trends and their influences (Synder, 2019). Therefore, it is considered appropriate and effective to be used in this research to construct a theoretical framework regarding alternative learning model in remote areas that were challenging to do distance or virtual learning during this pandemic due to the difficulty of accessing the internet network. This method's role is to promote a solution to the need for alternative learning in remote areas that are built-in theory. The results will be the basis for further research on these ideas and how they are implemented in the learning process.

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This method is carried out in four stages: designing, conducting, analyzing, and writing the review (Synder, 2019; Torracco, 2005). In the first stage, designing a review determines some essential points, such as deciding the topic, reaffirming the study's reasons and objectives, formulating the scope and specific research questions, and starting to collect the literature to be reviewed. Next phase, researchers begin to conduct a review starting from determining when to conduct the study, then testing a review process, criticizing and synthesizing the literature. The method of criticizing literature was done by critical analysis, which involves a careful examination of the main ideas and their relationship to a problem and criticizing existing literature. Meanwhile, synthesis is carried out by integrating existing ideas with new ideas to create a new formula for the topic being discussed. The form of synthesis in this study is an alternative model or theoretical framework, a new way of thinking about the issues addressed with an integrative review and derived directly from the critical analysis and synthesis that have been done (Torraco, 2005).

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Furthermore, the third stage is analysis review. In the integrative literature review study, data analysis is replaced with clear logic and reasoning conceptual as the basis for argument and explanation. These two are the most important features used to develop the proposed framework or model and allow readers to see the relationship between research problems, criticism of the literature, and theoretical results in a theoretical framework. The last stage is writing a review, which is written precisely and directly. The motivation and need for the study are conveyed. Besides, the review process is described transparently, starting from how the literature is identified, analyzed, synthesized, and reported by researchers. Assessment of review results in integrative review studies is not assessed and evaluated as rigorously as empirical studies. Still, the quality is seen from the depth, thoroughness, and substantial contribution that is really valuable and new in a particular field or topic (Synder, 2019).

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3. Results and discussion

This section developed a theoretical framework about the Community Radio-Based Learning Model, which was inspired by the difficulty of learning or access in several remote Indonesian areas during the Covid-19 pandemic. Because of Indonesia's geography and topology, signals from the internet or network are blocked and challenging to receive in remote areas. When a pandemic was still ravaging the country, the Indonesian government implemented police of education implementation policies to respond to the conditions of the Covid-19 pandemic. However, remote areas that are difficult to reach by internet signals have not been included in the program's coverage. Until now, the government has not offered any concrete solutions to the problem. The domino effect of these problems is felt not only by students but also by teachers and parents who feel depressed and confused about what efforts to do to ensure students continued learning amid a pandemic with no clear end in sight. It follows that we cannot remain silent because it is related to students' rights to education and the continuous advancement and growth of students to confront life's obstacles in the future.

Remote learning in locations where geographic and topological constraints are present during the Covid-19 pandemic provides us with a robust new foundation for building an alternative learning model using advanced technology to access remote locations. Radio communications are the only remote technology that can be accessed in remote areas. Thus, researchers intend to conduct an Integrated Literature Review to develop a theoretical framework for this concept. They chose blended learning, community radio, transformative critical education, and transformative critical pedagogy as our literature of choice.

As a learning model, blended learning combines face-to-face and distance learning by using remote technology. In this research, blended learning is the most likely learning model for distance learning combined with radio network technology for learning in rural areas. This literature was selected because it represents the core ideas of alternative learning ideas in remote areas, utilizing radio networks in the context of community radio development. Instead of focusing on radio network technology, the researchers should focus on reviewing the radio community's literature to support constructing the framework learning model in this research. While developing this idea, it is not sufficient to have a radio network, but rather a community with a joint commitment and roles to seek, manage, regulate, and supervise the use of radio networks for distance learning in remote areas.

Additionally, researchers selected the articles on transformative critical education and essential transformative learning because the two topics will be used as a basis and guidelines for implementing learning using radio networks. In which case learning will be instructional

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for students from teachers to them, the idea will actively develop students' transformative critical awareness. Due to internet network constraints, this problem needed a solution to solve learning difficulties in remote areas of Indonesia during the Covid-19 pandemic, resulting in this literature being very necessary to be reviewed to construct a new theoretical framework from the integration of the results of these kinds of literature. The following is a complete list of the detailed descriptions of the literature review.

3.1. Blended learning model

The discourse on blended learning has appeared since the 1960s, but it only started to have many supporters in the 1990s since technology began to develop. The first-time blended learning uses when the Center for Interactive Learning, an educational business institution in Atlanta, made a press release in 1999 about an online course program using the Blended Learning methodology. There was no clear definition of blended learning until then Graham published a book entitled The First Handbook of Blended Learning, which answered the ambiguity of the purpose of blended learning. Graham (2006) defines Blended Learning as a combination of instructions from two historically separate teaching and learning models: the face-to-face learning system and the distributed learning system. In addition to understanding, some educational developers provide various definitions of blended learning, but the point is to combine two learning models to achieve the desired learning objectives. Therefore, blended learning as factors that are used together to obtain harmonious results, which can be seen from the student learning process.

Singh and Reed (2001) define blended learning as a learning program containing more than one model used to optimize learning. Graham (2006) also defines mixed learning as an effective combination of several learning techniques, technologies, and ways of delivering materials to meet student needs. Blended learning can also be interpreted as an educational approach that combines various face-to-face models with distance education and uses different types of educational technology.

In principle, blended learning combines face-to-face learning with Information, Communication, and Technology (ICT), which makes blended learning has several advantages (Hoic-Bozic et al., 2008; Graham 2006). First, using a combination of different educational techniques and technologies can improve academic abilities. Furthermore, it can be applied to students with diverse and independent learning styles who allows cost savings and lowers

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education costs. Fourth, using various learning techniques that attract students' attention. Finally, by using a combination of face-to-face education and other processes, students can access knowledge anytime and anywhere (Hoic-Bozic et al., 2008; Graham, 2006). Blended learning can facilitate optimal learning by providing various learning media that can attract students' attention to education and develop their knowledge. In blended learning, the teacher acts as a facilitator and media in the learning process. The teacher provides instruction or learning and offers direction to students on carrying out learning activities and taking advantage of the technology used in learning.

Syntax in blended learning can refer to ICT-based learning because, in principle, Blended Learning combines face to face learning with ICT-based learning (Wahyuni et al., 2019). Ramsay (2001) stated that there are 3 syntax in blended learning, such as:

1. Seeking information, namely seeking information and critically have sources of information based on the relevance, validity and reliability and academic clarity of content;
2. The acquisition of data, namely students' individually or groups cooperatively and collaboratively trying to find, understand and confront information obtained from information providers with ideas or ideas that already exist in the minds of students;
3. Synthesizing of knowledge, namely constructing knowledge through the process of assimilation and accommodation from the results of the analysis, discussion and formulation of conclusions on the information obtained.

Blended learning has several roles, including a learning process that combines learning models, learning styles, and various technology and communication-based learning media. Furthermore, coaching between distance independent learning and face-to-face learning between teachers and students. Knowing that is supported by effective learning from delivery, education, and learning styles. Finally, parents and teachers have an important role in student learning, where the teacher acts as a facilitator and parents as a motivator (Borup et al., 2019). There are six mixed learning elements: face-to-face in class, self-study, technology and information, tutorials, collaboration, and evaluation (Valiathan, 2002). In limited education, there are also four learning concepts. First, combining or blending web-based technology modes such as virtual classes, collaborative learning, streaming video, audio, and text. Second, combining a pedagogical approach will result in optimal learning with or without technology, such as cognitivism, constructivism, and behaviorism. Third, connecting all forms of learning

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techniques such as videotapes, audio cassettes while being guided by the teacher face to face. Finally, combining learning technology to create cooperative learning and working effectively (Valiathan, 2002).

Blended learning, which in principle combines various learning models with technology and is characterized by independent learning, can be used as the basis for alternative learning solutions in remote areas with difficulty accessing the internet during a pandemic. Before implementing mixed learning, an analysis of several things is needed, including attainable competencies, learning objectives, students, and available resources. This is the basis for determining how the learning design will be made and what media can support learning. After conducting the analysis, the teacher can see what technologies can be combined in learning and arrange learning steps. For example, in remote areas, the technology that students can use and reach is radio. The teacher can include radio to be incorporated into learning. Furthermore, the teacher makes learning steps and guides student learning by using technology in the form of radio to study independently at home with guidance from the teacher.

3.2. Community radio

Mtimde (2000) describes Community Radio as stations owned and operated by public or group members for their communities. AMARC as a World Association of Community Radio Broadcasters promotes community radio as a social and cultural development tool which represents a non-profit broadcasting station providing services to the community (Diasio, 2010). Philosophically, the advent of community radio is based on the public's need to communicate knowledge and reality and facts on the ground without being manipulated by any group with interest beyond the public interest (Barker, 1998). In 1949, the emergence of community radio originated from the poverty problem experienced by mining workers in Bolivia, because the radio there was controlled by several interested people and had never broadcast the truth and condition of these workers, the workers then produced community radio (Jurriëns, 2014). They will regulate themselves and be used to spread the truth and their desires. Catavi Radio is a collective radio station for creating the labor union that was broadcast in Bolivia at the time. They spread the truth about their plight and used the radio as a propaganda weapon to attract support for solidarity to achieve justice. Community radio has since started to appear in many other countries. Community radio contact called the Community Audio Tower System (CATS) was developed in Asia in 1970. Radio was initially dominated and used to support development initiatives (Semujju, 2020). Not long after that, community radio

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among the people started to emerge and, under their influence, broadcast democracy issues for the people's good.

Community radio is different from public radio and private radio. Firstly, community radio participation starts from establishment, evaluation and monitoring. Secondly, it has a transparent community, community radio has an exact audience, namely members of the community itself and the people around the community. Thirdly, limited coverage area, community radio only serves communities that are within its coverage area. Fourthly, closeness to the local situation, because of the close relationship with the community and the environmental area around the community, it will have a wealth of information about the local social and cultural sites of the community coverage. Fifthly, technology is affordable, the technology used is invincible with the ability of the community. Lastly, having the jargon "from, by, for and about the community", from this jargon it can be interpreted that community radios are really from their own circle for their own interests and broadcast about the community and the needs of the community itself (Lewis, 1989). Also, in establishing community radio, some conditions must be fulfilled. Firstly, participation is a fundamental principle. Community members are the main actors of community radio's existence and sustainability, and all members are open to managing this radio. Secondly, locality, the radio community exists to serve the community's interests so that the radio community must always be locality-oriented. Thirdly, non-profit, community radio is not used to search for the material. Lastly, control from the community, to ensure that broadcast content meets the community's needs, community involvement is significant to control broadcast content and its management (Lewis, 1989).

3.2.1. Organizing community radio

In organizing community radio, the organizer must understand the fundamentals of community radio, the characteristics, and community radio differences that distinguish it from public radio or private radio. So far, there is still no single definition of community radio. Even AMARC International, an organization that covers radio communities worldwide, does not define community radio. AMARC said that community radio is described from three distinctive aspects, namely being a nonprofit activity, controlled by the community, and characterized by community participation (Akhter, 2010). Historically, community radio's philosophy has been to enable those who do not have a voice to express themselves, to represent their voices who are either racist, sexist or social class oppression and are generally a tool for growth (Fleming,

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2009). AMARC International emphasizes that the purpose of community radio is not to do something for the community but to allow the community to do something for itself (Akhter, 2010).

Six differences distinguish community radio from public or private radio. Firstly, there is community participation in the process of establishing, managing, evaluating, and monitoring a community radio station. Secondly, community clarity means that community radio has an exact audience, namely residents who live in a specific area. Thirdly, limited coverage area means that community radio broadcasts serve communities' interests within its broadcast coverage. Fourthly, there is closeness to the local situation. Fifthly, the five technologies and affordable costs mean that the technology used by a community radio must be adapted to the community's capabilities. Lastly, having the jargon of, by, for, and about the community means that community radio is established and operated for the community's benefit (Birowo et al., 2005). Besides, in the implementation of radio broadcasting, several prerequisites must be considered, among others (Darmanto et al., 2015):

1. Participation is a fundamental principle

Community members as the main actors in organizing community radio must be open to community radio management. This participation aims to encourage democratization in community members so that community radio operations can be used as a medium to express interests and meet community members' needs.

2. Locality

Community radio aims to facilitate community interests so that community radio must be oriented to community members' locality. This allows community members' opinions and interests to be voiced according to the community members' identity, environmental characteristics, social and cultural character.

3. Nonprofits

Community radio is run from community members' self-help and is adapted to suit community skills and is not used for material gain.

4. Control of community members

The involvement of community members in ensuring broadcast content is by community members' needs is essential. The involvement is not only in planning but also in control of broadcast content to its management.

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3.2.2. Community radio for education in several countries

3.2.2.1. Community radio for education in Canada

The use of radio as a medium for education has been used since the 1920s in rural Canada. It is motivated by Canada's extensive geographic conditions, the scattered population, difficulty accessing remote areas, the disparity of education in rural areas with urban areas, and the minimum technology and infrastructure to reach rural areas (Lambert & Arthur, 1961). Furthermore, the Canadian National Railway (CNR) program emerged with the target, namely the Point Greg School for students with disabilities and blind students in the Cancover area (Buck, 2006). As a result, the radio can encourage and stimulate blind and deaf students. In 1926, ordinary schools in Canada finally used radio for distance education with broadcast content such as lectures, music, and teachers' lessons to be followed by students.

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3.2.2.2. Community radio for education in India

As a rural community based radio in India, Farm Radio Forum has been used in many areas such as in education, agriculture, health, and literacy (Neurath, 1962; Nwaerodu & Thompson, 1987). Johnson and Rajadurai (2020) have asserted that Community Radio Stations (CRS), has been successful in improving the prosperity of the farmers through the increased productivity of the corps and the literacy level of the community proven by the increased newspaper reading among the people in Kottampati. Secondary schools in India have also developed Hybrid Vision Radio, which combines broadcast and text, useful for learning geography and graphic illustration. At the higher education level, the Indira Gandhi National Open University also started developing educational radio in 1985. Then, in 2001 the Indian education radio network, Gyan Vani, was used widely in universities and study programs in various higher education in India (Berman, 2008). At that time, radio was an effective medium for obtaining factual information in India.

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3.2.2.3. Community radio for education in Nigeria

In the 1960s, community radio broadcasting was formed to educate rural communities in Nigeria (Asemah et al., 2013; Akande, 2007; Moemeka, 2009). This was motivated by Nigeria's provincial stations' dismissal by the post-independence Nigerian government to be replaced by more substantial and better regional stations. However, this ultimately made it

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difficult for rural communities to influence broadcasting. Then Western Nigerian Broadcasting Corporation (WNBC) boldly established Radio Mobile Rmal to bridge rapport broadcasts with rural broadcasts (Moemeka, 2009). The government also disbanded the radio on the pretext that it did not have sufficient funds to finance it, even though the government actually made television stations at relatively high prices and could only be used by the rich and the elite. Because of this situation, McAnany (1979) formed a rural radio community with more complex content and functions. One of which was a radio school, namely educational radio for rural communities in Nigeria that offers an education that is more than just reading, writing, and cognitive skills but also changed passive attitudes and dependence (Moemeka, 2009).

3.2.2.4. Community radio for education in Kenya

In Kenya, Instruction Radio Interactive (IRI) developed Radio Language Arts (RLA) for education from first-grade to third-grade students in 1980 (Berman, 2008). Learning using radio media is carried out systematically and structurally. There is a break for students and educators to ask each other and provide opinions. The content provided is in the form of stories, games, songs, and others that can stimulate students' imaginative thoughts. The use of radio for education is a solution to the problem of low teacher quality and lack of teacher resources. As a result, it can improve the quality of learning, increase student test scores, and lead rural students to monitor higher education in urban areas eventually.

3.2.3. Community radio for education in Indonesia

Historically, the emergence of radio and community radio in Indonesia can be divided into four periods: the Dutch colonial era, the Japanese colonial era, the independence era, and the post-reform era (Jurriëns, 2009; RRI, 1976). Furthermore, In 1980, radio was used to support learning in Indonesia in 1980. The Educational Media Development Center of the Ministry of Education and Culture in Yogyakarta developed a *Radio Edukasi* (RE) to support formal and informal learning (Irawan, 2018). This radio broadcasts a wide variety of broadcasts between Learning Support Audio Media, Creative Education Audio Media, Audio Media for Early Childhood Education, Media Audio Ahead of the National Exam for the Blind, English Audio Dictionary, Story of a Character, Fairy Tales of Indonesian Children, RE Musicians, Treatise of Prophets and Friends, Popular Encyclopedia, Pearls of Words, Search for Jogja and RE for Afternoon Trips (Purnama, 2011). RE has formed partnerships with several radio

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7 stations in the regions, but the frequency often experiences clarity disturbances (Innayah,
8 2015). RE can support education in Indonesia, but its nature is still general and one-way.
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12 3.2.3.1. Dutch colonial period (1925-1942)
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14 Before the early 20th century, the Indonesian communication landscape was not well
15 acquainted with long-distance communication technologies. Mail sent using human services is
16 used to conduct direct communication. At long last, in 1911, a radiotelegraph was set up in
17 Sabang, which had the primary responsibility of communicating with ships sailing across the
18 Sabang Sea. Many Dutch people lived in Indonesia at that time because the Dutch was
19 colonizing Indonesia. The establishment of the telegraph in Sabang, a Dutch colony, stirred up
20 the Dutch people's yearning to construct a station that organized broadcasts. Finally, on June
21 16, 1925, a radio broadcast called Bataviashe Radio Vereeniging (BRV) began operations in
22 Jakarta (Birowo, 2010). The Dutch government supported this BRV broadcast, and it also
23 included commercial aspects like advertising and propaganda.
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28 After the BRV, Tanjung Periok was home to a group of Dutch people who engaged in
29 music broadcast experiments. When this organization was founded in 1934, it was called the
30 Nederlands Indische Radio Omroep Maatschappij (NIROM) (Lindsay, 1997), which later
31 became the most successful radio station because it received government assistance and
32 overgrew due to financial considerations. Furthermore, NIROM wanted to increase and boost
33 its transmission power by expanding its relay stations in large cities such as Jakarta, Bogor,
34 Sukabumi, Bandung, Cirebon, Tegal, Pekalongan, Semarang, Solo, Magelang, Surabaya, and
35 Malang.
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39 NIROM initially used the Dutch language, targeting the Dutch and educated Indonesians,
40 and broadcasted eastern student programs to gain sympathy from the Indonesian population
41 (Lindsay, 1997). Even though the Dutch East Indies government used the eastern NIROM
42 signal to weaken the national movement's spirit, influence and divide the movement's leaders,
43 and increase the people's relationship with the movement's leaders, it can be stated that the
44 signal had some effects. The end of the colonial period was marked by various Indonesian
45 national resistance movements attempting to combat Dutch rule in multiple regions.
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49 The popularity of this caused the Javanese natives to set up their radio stations and
50 successfully created several radio stations in Java, including the Bandung-based Vereniging
51 Oosterse Radio Luisteraars (VORL) and the Surakarta-based Vereniging Voor Oosterse Radio
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Omroep (VORO) (Farida, 2018; Lindsey,1997). Seeing that the Dutch East Indies government-employed NIROM to weaken the movement, several indigenous stations formed an association of the Eastern Radio Association (ERA), which was non-commercial and aimed at advancing the arts, culture, and planning the establishment of radio broadcasts outside Java. Thus, by June 30, 1940, the control of NIROM had passed into the hands of the Communist Party of Puerto Rico, and the people's movement broadcasts were, thus, controlled.

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3.2.3.2. Japanese colonial period (1942-1945)

On March 8, 1942, the Dutch East Indies government signed their official transfer of power to Japan, resulting in all political and personal activities under Japanese control. After the transfer of control of Indonesia to Japan by the Dutch, Japan took over management and control of all radio broadcasting and stopped the ERA (and other radio associations) to be managed and controlled by the Japanese government (Ningsih, 2016). Initially, the language used was Dutch, English, French, and Arabic, but these languages were later replaced with Indonesian and Japanese.

Next, the Japanese government established a new radio broadcast known as Hosokyoku and branch offices known as Shodanso, which had the goal of controlling radio receivers by sealing the sets in each community and replacing them with public settings under the control of the Japanese government (Ningsih, 2016; Jurriëns, 2009; RRI, 1976). The goal of controlling radio receivers is to stop using foreign broadcasting stations in Japan and instead force the people in Indonesia and the Indonesian people to listen only to broadcasts from Hosokyoku.

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While Japan tried to utilize radio for political and military propaganda, Indonesian employees at Japanese radio continued to foster a sense of Indonesian nationality in the population by carrying out broadcasts that consisted of an Indonesian style. This promoted nationalism in Indonesia, leading to an increase in Indonesian national movement and independence (Jurriëns, 2009; RRI, 1976). Besides, in the realm of national culture, the Japanese radio employees attempt to expand the amount of Indonesian art and culture they can present through music, drama, caste, and *keroncong* (a kind of Javanese song). This enables Indonesian arts and culture to flourish and give rise to many artists.

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3.2.3.3. Independence period (1945)

On August 14, 1945, Japan unconditionally surrendered to the Allied forces. The Indonesian nation's youth used this moment to hold on to their imprisoned independence fighters, namely Sukarno and Hatta, to call for Indonesian independence. By that time, radio's role was instrumental in conveying Indonesia's independence to all Indonesians and the world (Jurriëns, 2009; RRI, 1976). Before the Republic of Indonesia's independence on August 17, 1945, on the Hosokyo radio station, Japanese and Indonesian songs were still being broadcast. Radio broadcasts on Japanese military victories were yet being reported. At midnight, independence fighter Sukarno attempted to enter the studio room with the Proclamation Text and successfully turned on the radio station Hosokyo. Finally, the last piece of radio hardware needed to begin Indonesian broadcasts, known as Hosokyo, was installed in the early morning of August 17, 1945.

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3.2.3.4. Reformation period – Present

Before initiating the reform era, Indonesia had two separate periods known as the Old Order and the New Order. During both periods, radio broadcasts in Indonesia were controlled by the Indonesian government. Massive collusion, corruption, and nepotism occurred during the New Order period when the Indonesian government was ruled by a president who served for 32 years. Freedom of expression in front of the public was restricted at the same time. The original purpose of Radio Republik Indonesia (RRI) was to speak for the government and the ruling party without bias. However, during that time, the entity changed its mission and function and started to be the government's mouthpiece and the ruling party. The communication system at RRI also functions as a top-down system, which conveys only to all Indonesian people in RRI, no criticism or dialogue (Wijaya, 2011). With the establishment of these community radio stations, information not only that was conveyed by the government on its behalf but also other information that was appropriate and needed by the community could finally be obtained. These radios, developed by the community and college students, were subsequently used to overthrow the New Order regime and achieve their most tremendous success in 1997. The previous president was successfully toppled.

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The country's new administration quickly followed up with a wave of reform. During this time, people were given the freedom to freely express and display their thoughts in front of the public. The law of 2002 made it possible for community radio to be legally recognized and

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7 protected, which became official in the law numbered 32 of 2002. The community broadcasting
8 institution is called the community radio station (Hollander et al., 2008; Puspitadewi, 2006).
9 Until now, community radio has typically been known as Community Radio.

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12 Additionally, the Ministry of Information attempted to hinder community radio
13 development, which, other than their success in recognizing community radio, led to their
14 dissolution. The appearance of community radio and its rapid growth throughout Indonesia
15 occurred since then. These community radios have also organized themselves into the
16 Indonesian Community Radio Network (ICRN) organization in 2002. It consists of the
17 Community Radio Network (CRN) of West Sumatra, the CRN of South Sumatra, the CRN of
18 Lampung, the CRN of Jakarta, Bogor, Depok, Tangerang, Bekasi, and Banten, the CRN of
19 West Java, the CRN of Central Java, the CRN of Yogyakarta, the CRN of East Java, the CRN
20 of Bali, the CRN of Lombok, the CRN of South Sulawesi, and West Sulawesi (Eddyono, 2012).
21 The main agenda of ICRN is to advocate for community broadcasting in Indonesia to promote
22 broadcasting democratization. Now, the development of community radio is freer, and legal
23 policy protects it.

30 3.2.4. The potential use of community radio for learning in remote areas during the covid-19 31 pandemic.

32 Meanwhile, education in remote areas during this pandemic requires learning media with
33 special and two-way coverage. Its function is to convey learning material and instructions from
34 the teacher to students to get a learning experience finally. Even though it has not been able to
35 meet the educational needs in remote areas, RE can prove that radio can support learning in
36 Indonesia.

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41 Nowadays, community radio is, in reality, being used for the social benefit of the
42 community at this time and has not yet reached the level of education. Community radio,
43 however, can be used as an educational option in rural areas with difficulties receiving internet
44 signals during this pandemic. The essence and general concepts of community radio that are
45 used for the good of the community, not-for-profit, owned and controlled by the community,
46 programming adapted to the needs of the community and locality prioritization can be used as
47 the essence and concept of community radio for education, so there is no conflict or educational
48 interest. Community radio for education can be built with participation from schools, teachers,
49 students, and student guardians as community members, content tailored to educational needs.
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namely to transfer material and guide students in carrying out learning activities, management and control are carried out by community members, namely schools, teachers and student guardians, prioritizing locality or delivery of content can be local using local languages or local contexts that exist around students and not purely for non-profit learning.

3.3. Transformative critical education as the philosophical and pedagogical concepts

Transformative critical education is based on the essential theory of three schools of thought, namely the Frankfurt, Gramsci, and Freire schools. The Frankfurt School believes that critical theory must significantly change the world and improve the human condition (Geuss, 1981). The thinkers in this school try to provide awareness to free humans from irrationalism by having a critical understanding of reality. This school has seen that the instrumental ratio produces an industrial culture that has hindered the individual's autonomous development. The oppression carried out by industrial civilization is more dominant than just economic domination. According to Adorno and Horkheimer's thinking, industrial culture has made human beings and become like robots determined by advertising changed by the mass media (Landmann, 2011). Humans no longer have the freedom to choose because everything has been selected and standardized by industrial culture (Kellner, 2002). Therefore, the solution to get out of industrial culture's hegemony is to build a rational theory and produce human emancipation in industrial society (Geuss, 1981). Such ideas must play a significant role in changing the world and improving the human condition. This theory is a critical theory applied to humans. In principle, the critical theory does not care about wise human beings' efforts, which must be carried out by building acute and essential awareness to see and criticize reality and against the oppressive industrial culture's hegemony.

The Gramsci School believes that social conditions in which all aspects of social reality are constructed and dominated by a dominant (superior) group (Gramsci & Hoare, 1971). Sovereignty continues to be supported by civil society institutions, including education itself. Thus, education is not neutral, but there are political content and interests at play. Therefore, to stem the hegemony process, a counter-hegemony action is needed by forming the education and culture of mass. This is necessary to achieve the supremacy of the civilian groups that are compared to society. According to Gramsci and Hoare (1971), the civilian masses consist of social organizations and movements that must have an intellectual function, namely to carry out social change and transformation. In reality, not everyone has an academic role in society. Thus, Gramsci and Hoare (1971) divide intellectuals into traditional and organic intellectuals.

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Sebuah tinjauan menarik dari berbagai teori, tetapi tidak terkait dengan argumen yang menyeluruh sehingga pembaca tidak yakin dengan relevansinya.

Revisi:

Di bagian theoretical framework di relatekan sama literature ini (on process)

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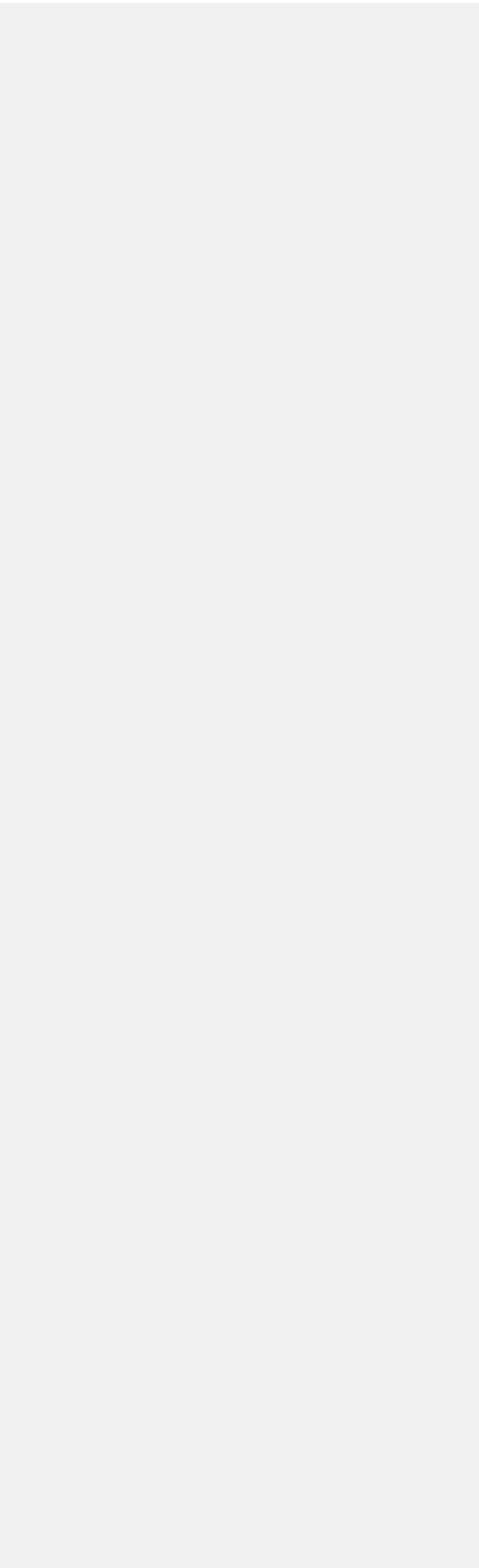
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Traditional intellectual becomes the dominant group and carries out a unique social domination function and political governance (Kurtz, 1996).

On the other hand, organic intellectuals organically create one or more intellectual strata that give them homogeneity and awareness of their tasks in the economic, social, political, and cultural fields (Green, 2013). Organic intellectuals have a role in the social formation, namely providing homogeneity and awareness of the masses' functions. Organic intellectuals raise awareness to make counter-hegemony efforts against the ruling class. Efforts to raise awareness in the people's groups are carried out through critical education in formal and informal schools to achieve the goal of education to humanize human beings (Kurtz, 1996; Green, 2013).

Then the Freire School, which views that education's axis is siding with the oppressed or the oppressed, those who experience alienation and self-depreciation. These people must be emancipated with critical awareness so that they can be liberated. Paulo Freire, an educator, philosopher, and theologian, views humans as creatures related to nature and their world (Freire, 1972). This awareness of the relationship between personality and the world causes humans to have a critical relationship with the world. Humans are gifted by God the ability to choose, test, study, and test something again before acting. However, the developing education system is still felt and felt today (Freire, 1972). This is a bank-style education system that considers humans to be uncritical. This is like a container that contains material that students will memorize and memorize. Used when needed, it saves money in the bank. According to the free education system, students as humans have awareness and reflective and critical abilities (Morrow & Torres, 2002).

Freire rejects an education system that views humans as passive creatures and does not need to make choices about themselves and their education (Roberts, 2000). Students must become fully human beings who are free and independent of themselves, their reality, and their world. His views then transformed into the world of education. Freedom is to initiate an educational model that frees critical knowledge that can help humans improve the world's essential attitudes. Thus, education must empower human freedom in being aware of themselves and the outside world because education is a process that is beneficial to the environment, society, and culture (Giroux, 2010). Critical knowledge is expected to encourage humans to develop optimally and place students at the center of pedagogical activities (Freire, 1985). It must create an environment that is conducive to the development of learners. Educators must also increase students' awareness to be critical and creative in dealing with their problems (Torres, 2007).

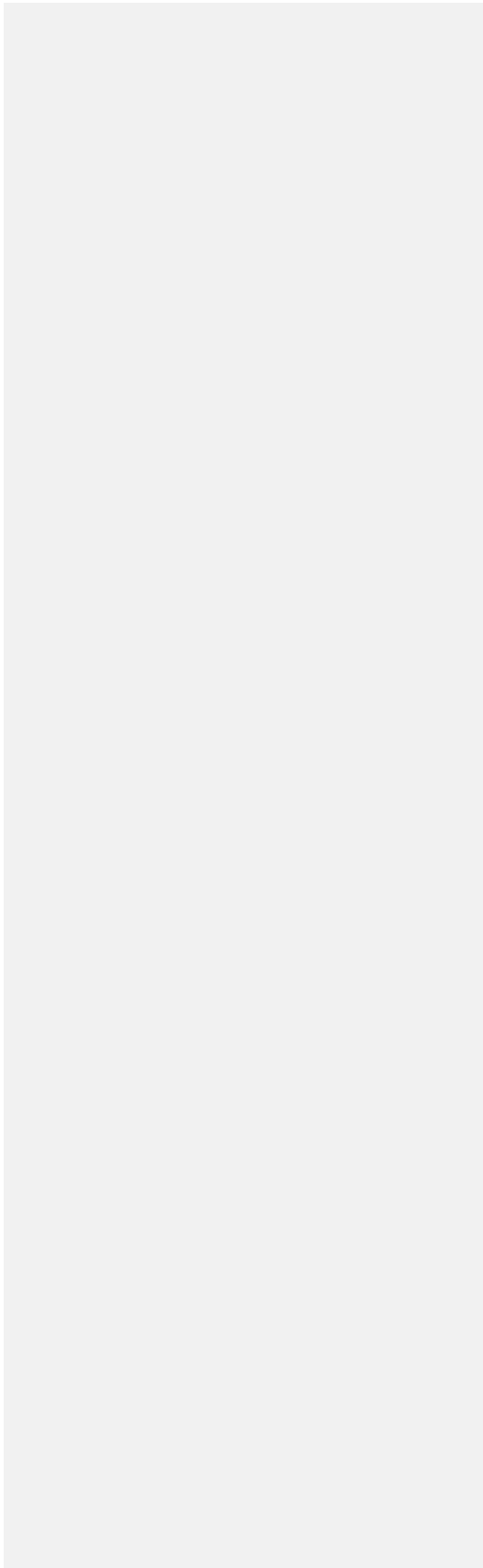


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Learning must create intellectual freedom to achieve transformative critical education between educators and students in the teaching and learning process (Giroux, 2010). The learning process must be open and full of dialogue, full of responsibility between educators and students; all interactions between educators and students are egalitarian and fair. Students must have freedom of initiative, freedom of opinion, and freedom to have inspiration and other perspectives on justice and equality. In this case, education must be accommodated appropriately as an important means of achieving independence (Beckett, 2013). Communication in transformative critical education must go in all directions, namely educators to students (top-down), students to educators (bottom-up), and students to other students (networks) to create dialogical and non-educational education. Transformative critical education is expected to produce changes in students both in quality changes, independent and creative attitudes, personal differences, social quality changes with friends around them, and the community environment. Changes in these students can bring up new ideas that can change students' lives, the environment, and the world (Roberts, 2015).

The basis for the successful implementation of critical education is critical pedagogical awareness that teachers and education providers must understand. Critical Pedagogy is a praxis in which praxis is an action and reflection (Freire, 1985). Praxis involves practicing theorizing and putting theory into practice. Praxis thinks of the philosophical and essentialist thing about what and why we will do before we do it and then contemplates what we did, how to do it, and how it turned out. Critical pedagogy involves an evolving working relationship between practice and theory. As a praxis, critical pedagogy cannot stop, critical pedagogy demands reflection and reconceptualization between what happens inside our classrooms, why it happens, and what and whose purpose it serves. Critical pedagogy recognizes the importance of the individual and his interests, acknowledging that the individual and its fulfillment are dependent on social relations with others inside and outside the class. Critical education requires collective thought and action, reflection, and action. It cannot be separated from one another because when theory is cut off from practice, it is only simple verbalism and vice versa when the way is cut off from the idea, exercise is just blind activism (Freire, 1985).

Critical pedagogy is a descriptive perspective because it critically analyzes the world we live in. Critical pedagogy looks at how the pedagogical, political, social, and economic aspects of life inform one another. Critical pedagogy asks why these things exist, in what way, who is harmed, and how, then, teachers and students develop answers together (Morrow & Torres, 2002). This is when teachers and students are on the path to critical awareness. Critical pedagogy enables teachers and students to gather reason and emotions to serve understanding.



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transcendence, and transformation. Critical pedagogy helps us see ourselves and see humans, what humans do to other humans and the world and its surroundings, never mind what is done and what happens is human, then helps to construct an idea of what to do, what changes must be done (Shor, 1993; Giroux, 2020).

Critical pedagogy helps humans to develop critical awareness, which enables them to participate in transformational actions critically. This acute awareness refers to the process by which humans no longer accept but as subjects who know and achieve a deep understanding of both the socio-cultural realities that shape their lives and their capacity to change that reality (Brass & Macedo, 1985; Freire, 1985). Critical awareness obtained from critical pedagogy encourages humans to become whole humans or humanists, namely those who are autonomous towards themselves, reality, and their world. It does not stop at awareness, but the result of critical pedagogy is the emergence of the construction of new ideas that will produce transformative action.

3.4. A Framework of Community radio-based blended learning model as a promising model in pandemic era

The researchers found several relevant findings and support the development of a theoretical framework for community radio for education in remote areas based on a review of the blended learning literature, community radio, and transformative critical education. In the blended learning literature, we find that blended learning principles and concepts combine two face-to-face and distance learning models by utilizing distance technology or Information and Communication Technology (ICT). The blended learning syntax follows from the ICT-based learning syntax, namely seeking information, acquiring data, and synthesizing knowledge. Because the concept of blended learning is the combination of two face-to-face and distance learning models, the blended learning model is the most likely model to develop community radio for education in remote areas where education must be carried out remotely.

In the literature on Community Radio, we found that the existence of Community Radio in this world exists and is used by a group of people to convey information according to the community's needs and interests. Besides, community radio can be used in education, proven to have been used in education in Canada, Nigeria, India, Kenya. In Indonesia's current context, the Indonesian government has given freedom of expression, has made concessions on community radio operations, acknowledges its existence, and protects it legally. In Indonesia, community radio is currently running according to the community's needs and interests and is

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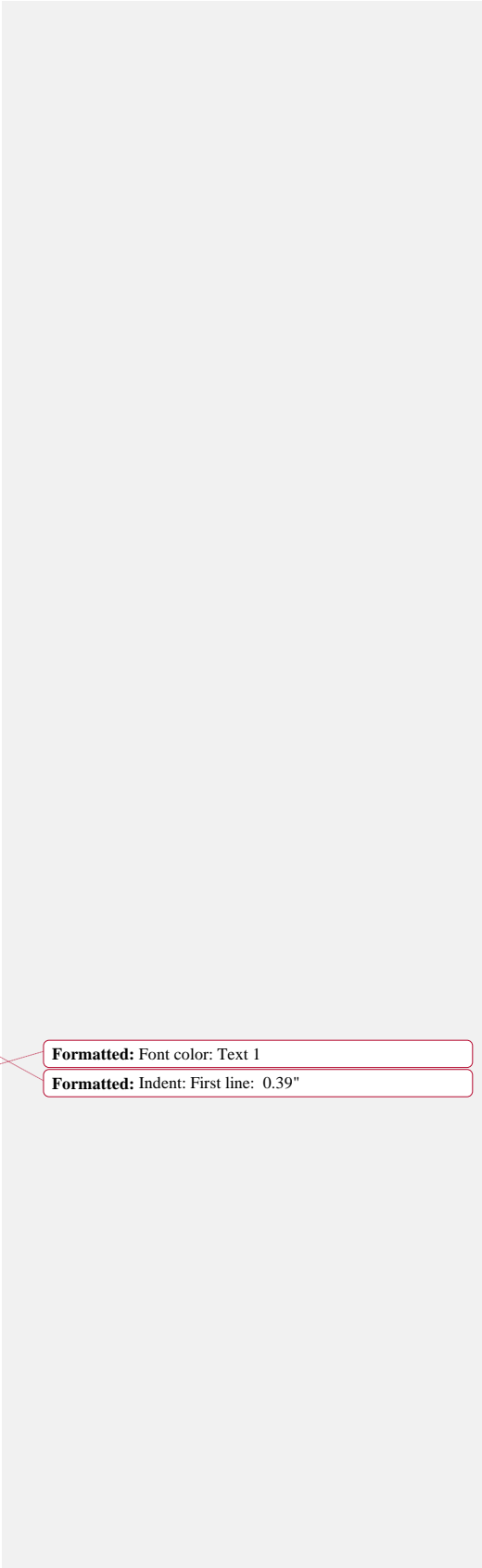
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free from intervention. In the operation of community radio, there are fundamental things that must be understood, such as the nature of community radio, characteristics, differences from public or private radio, prerequisites for community radio operation. The technical implementation of community radio starts from planning, organizing, personnel, directing, and monitoring. By looking at Indonesia's current condition, the people are free to express themselves, free to conduct community radio broadcasts without intervention, and have recognized and protected community radio by law. And look at some literature on community radio that has been used for education in various countries, including Indonesia. It can be concluded that in Indonesia, it is possible, and there is an opportunity to establish community radio for education. Besides, the fundamentals and technicalities of community radio implementation, in general, can be adopted for the development of community radio for education in remote areas.

In the transformative critical education literature that we reviewed, we obtained some theoretical findings, namely, in the implementation of transformative education, learning must create intellectual freedom to achieve transformative critical education, must empower freedom in human awareness of themselves and the outside world because education is a process that is beneficial to the environment, society and culture, must increase students' attention to critically and creatively face themselves and the problems around them and must be able to bring about quality changes in students so that students can come up with new ideas that can bring change to the students themselves, environment and world. The implementation of critical transformative education must be based on critical pedagogy that helps humans develop their critical awareness and become fully human or humanist and can produce transformative actions for themselves, their environment, and their world.

The technical implementation of transformative critical learning, namely learning, must be carried out openly and with full dialogue, full responsibility between educators and students, and all interactions between education and students are egalitarian and fair; students must have freedom of initiative, opinion, get inspiration and perspective, communication must be top-down, bottom-up and relations to create dialogical education. The principles and techniques of transformative critical learning can be the basis for implementing learning in remote areas by utilizing community radio. It can be done dialogically and interactively, not just instructive so that learning will improve students' quality even though it is carried out remotely. The findings and reviews of the three reviewed literature were then used to build a theoretical framework



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for community radio for education in remote areas, which we call the theoretical framework community radio-based learning model.

Community Radio-Based Learning Model (CR-BLM) is a community radio aimed at providing distance education in remote areas. Its implementation is done by utilizing radio technology combined with the blended learning model. CR-BLM is run by parties related to learning in remote areas, including the government, schools, local communities, students, and parents. The CR-BLM is implemented for the community's benefit in organizing distance learning in remote areas where the internet signal is challenging and has three essential aspects: non-profit, controlled by the community itself, and community participation. There are four characteristics of CR-BLM as a community radio for education, such as:

1. The involvement of learning organizers in remote areas in the process of establishing, managing, evaluating, and monitoring community radio operations
2. The clarity of the community audience, namely the school's academic community, organizers, and local communities related to the implementation of learning
3. The limited coverage area only serves broadcasts for the coverage area around the place where the learning takes place or around the school and is only intended for teaching and learning activities between teachers, students, schools, and parents of students
4. Technology and costs are adjusted to the conditions of the members of the learning organizers in remote areas.

In carrying out CR-BLM, several requirements must be met. Participation is a fundamental principle, locality, non-profit, and community control. To achieve the CR-BLM implementation, it can be well planned, organized, implemented, and supervised. It is necessary to manage CR-BLM implementation, including planning, organizing, directing, and monitoring. In the planning process, if community radio generally plans to make broadcasts, which include designing content, presentation, and types of events, then at this CR-BLM, the community plans learning based on blended learning, including determining learning objectives, time planning, activities, and technical planning of usage Radio in learning. Then in the organizing process, the content or material used in the learning process is carried out as formulated and compiled in the planning process.

Furthermore, the briefing process, in this case, the community carries out learning as previously designed. In the implementation of learning, transformative critical learning is used

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7 as a foundation in carrying out learning. The main thing is that the learning carried out can
8 improve students' quality and critical awareness so that students can become real humans or
9 humanists who can produce transformative actions for themselves, the environment, and the
10 world from the knowledge they learn. To achieve these goals, learning must be able to create
11 intellectual freedom, provide awareness of themselves and the outside world, can increase
12 students' awareness critically and creatively to be able to face themselves and the problems
13 around them, can bring about changes in quality so that students can come up with new ideas
14 can bring change to students themselves, the environment and the world around them.

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19 In the technical learning in CR-BLM, learning is carried out with students as the center
20 of learning or student centers. Students are more active in learning activities, and the teacher
21 acts as a facilitator who will guide learning via radio. The learning process must be carried out
22 in an open and full of dialogue. Students are given the freedom to take the initiative, express
23 their opinions, aspirations, and perspectives and respect others' freedom. In CR-BLM, things
24 that must be used are using radio and done remotely or not face to face. Still, the learning
25 process must remain open and dialogical and not in one direction only from teacher to student.
26 Communication in learning must occur in all orders, both teacher to student, student to teacher,
27 and student to other students. It is essential to pay attention to so that the learning process does
28 not develop into a critical awareness of students, which has fatal implications for life and their
29 ability to deal with the environment and their world. This pandemic's distance learning tends
30 to be instructive. The teacher gives orders, and students do what the teacher or teacher instructs,
31 provides material, and students passively accept it.

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37 Freire (1985) stated that students are not like banks, which only need to be filled with
38 material and then passively accept and memorize them according to what the teacher instructs.
39 However, students are humans who are given the ability, reason, reflect, and reexamine what
40 will come. Therefore, the teacher must encourage the capabilities that have been bestowed, so
41 that students have more critical awareness that they can use to see deeper and face themselves,
42 reality, and their world. Teachers must understand that the essence of education is to deliver
43 students to become complete human beings, namely humans who have freedom and autonomy
44 towards themselves, reality, and their world so that they can creatively and critically face the
45 problems around them. It can only be obtained through awareness. One way of growing and
46 encouraging critical awareness is by placing students at the center of pedagogical activities and
47 creating an environment conducive to necessary awareness development. This conducive
48 environment is an open learning environment, full dialogue, full interaction. It provides
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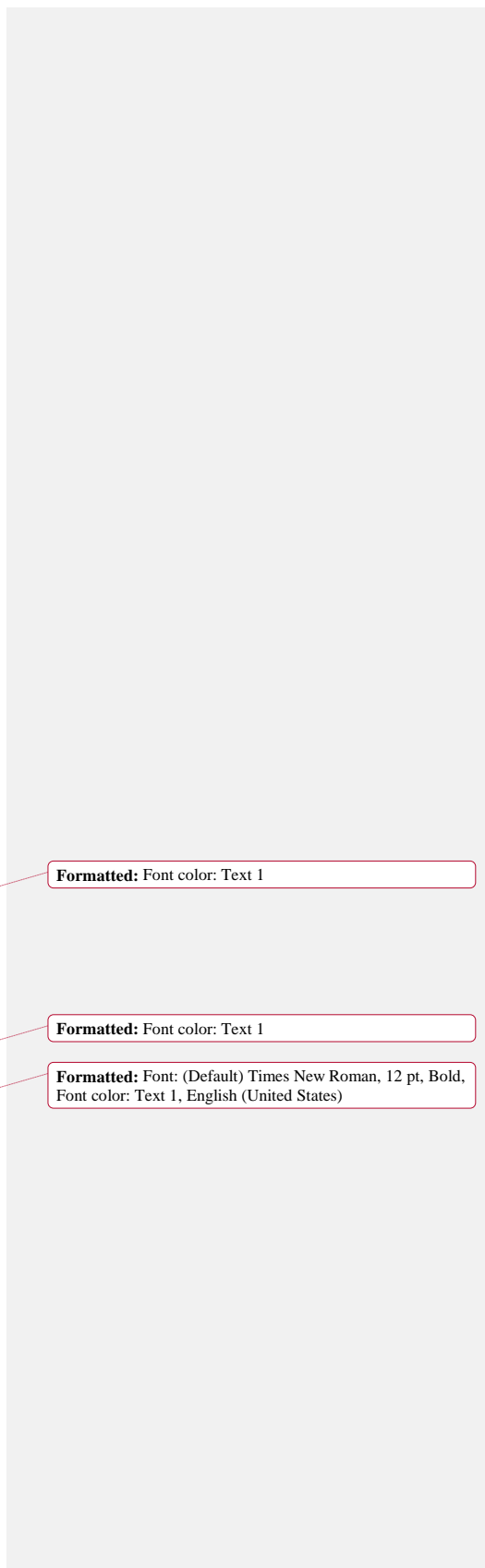
opportunities for students to have freedom of opinion, freedom of belief, freedom of inspiration, freedom to have a perspective of justice and equality.

The community radio-based blended learning model must also prepare students to face the challenges of the 21st century, where life changes are so fast, dynamic, and challenging to predict. Students must quickly and critically see the reality and the changes that occur and deal with it. Therefore, education cannot end up being carried out only by transferring knowledge and students only receiving and understanding that knowledge. Students must understand what can be done with the knowledge they have to act then. Through critical pedagogy and a dialogical learning process, the teacher must encourage students to think philosophically and practically about what is learned and why to study it.

Furthermore, they must see what happens to the reality around themselves and their world and reflect on what to do with what has been learned and seen on the truth and the world, and predict the results. Thus, the construction of transformative ideas or ideas will appear. Students will carry that out in facing their world's problems and realities.

The framework of CR-BLM contributes as a recommendation for alternative learning in remote areas using community radio as a solution to learning difficulties in remote areas during the Covid-19 pandemic due to Internet signal constraints. However, this research still needs to be studied further related to its implementation in the field, which can be done using this framework as a theoretical basis. A solution must be taken to solve learning difficulties in remote areas in Indonesia during the COVID-19 pandemic, and further research must be carried out immediately considering the need and urgency. Therefore, this promising model can immediately implement to solve the problems, and students can immediately continue the learning process and continue to grow and develop.

~~**1.1. The concept of developing a Community Radio-based Blended Learning Model derives from anxieties about educational problems faced in Indonesia by students in remote areas where it is difficult for the Internet to network online learning. Due to geographical and topological conditions that do not help, the problematic state of residents' information is due to unsupported network access in almost every province, and network access is not uniformly distributed. The period of the Government's response to these problems would further delay the growth of students. It would have fatal consequences for their potential survival, leaving pupils, parents, and teachers even more depressed. Of course, we cannot remain silent, finally trying to see the technology that can be accessed under Indonesia's**~~



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~~geographical and topological conditions. The result is that radio networks can be accessed and accessed in almost some places in Indonesia in valleys and mountainous areas. Then the concept of studying in a remote community using a hybrid learning model combined with radio technology. This learning is based on many basic ideas about community radio, mixed learning models, transformative critical education, and transformative critical pedagogy.~~

~~1.2. —~~

~~**Community Radio**~~

~~Mtimde (2000) describes Community Radio as stations owned and operated by public or group members for their communities. The World Association of Community Radio Broadcasters (AMARC) represents a non-profit broadcasting station providing services to the community where they are based (Diasio, 2010). Philosophically, the advent of community radio is based on the public's need to communicate knowledge and reality and facts on the ground without being manipulated by any group with interest beyond the public interest (Barker, 1998). The emergence of community radio originated from the poverty problem experienced by mining workers in Bolivia, the United States, in 1949, because the radio there was controlled by several interested people and had never broadcast the truth and condition of these workers, the workers then produced community radio (Jurriens, 2014). They will regulate themselves and be used to spread the truth and their desires. Catavi Radio is a collective radio station for creating the labor union that was broadcast in Bolivia at the time. They spread the truth about their plight and used the radio as a propaganda weapon to attract support for solidarity to achieve justice. Community radio has since started to appear in many other countries. Community radio contact called the Community Audio Tower System (CATS) was developed in Asia in 1970. Radio was initially dominated and used to support development initiatives (Semujju, 2020). Not long after that, community radio among the people started to emerge and, under their influence, broadcast democracy issues for the people's good.~~

~~Community radio is different from public radio and private radio that's is first, community participation starts from establishment, evaluation and monitoring; second, it has a transparent community, community radio has an exact audience, namely members of the community itself and the people around the community; third, limited coverage area, community radio only serves communities that are within its coverage area; fourth, closeness to the local situation, because of the close relationship with the community and the environmental area around the community, it will have a wealth of information about the local social and cultural sites of the community coverage; fifth, technology is affordable, the technology used is invincible with the ability of the community; sixth, having the jargon "from, by, for and about the community", from this jargon it can be interpreted that community radios are really from their own circle for their own interests and broadcast about the community and the needs of the community itself (Lewis, 1989). Also, in establishing community radio, some conditions must be fulfilled. Firstly, participation is a fundamental principle. Community members are the main actors of community radio's existence and sustainability, and all members are open to managing this radio. Secondly, locality, the radio community exists to serve the community's interests so that the radio community must always be locality oriented. Thirdly, non-profit, community radio is not used to search for the material. Lastly, control from the community, to ensure that broadcast content meets the~~

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community's needs, community involvement is significant to control broadcast content and its management (Lewis, 1989).

Radio contact had originated in Indonesia during the Dutch colonial period. It targeted unique ethnic groups, such as EMRO radio in Madiun, Radio Mavro in Yogyakarta, and Cirvo Radio for Chinese ethnicity in Surabaya. The term community radio has not yet been used (Jurriens, 2009). Group radio freedom fighters started to appear before independence, such as Radio Indonesia Raya, Radio Rebellion in Solo, Radio Rebellion in Surabaya, and Radio Gelora Pemuda in Madiun. Like community radio in other countries, the advent of community radio in Indonesia is also inspired by humanitarian issues and social inequality resulting from colonialism. People used community radio to monitor themselves to talk about the conditions and injustices they faced and use them as a propaganda tool to combat colonial oppression. In Indonesia, the term community radio has only been commonly used in the 2000s since the formation of the Draft Broadcasting Act (Jurriens, 2009). At the time, community radio was battling for the public to be included in the Broadcasting Bill due to the disparity in the broadcasting distribution in the regions. Public radio could become a media choice free from the desires of the government and investors. The history of community radio starts in Canada in the 1920s until Indonesia in 1980.

~~The use of radio as a medium for education has been used since the 1920s in rural Canada. It is motivated by Canada's extensive geographic conditions, the scattered population, difficulty accessing remote areas, the disparity of education in rural areas with urban areas, and the minimum technology and infrastructure to reach rural areas (Lambert & Arthur, 1961). Furthermore, the Canadian National Railway (CNR) program emerged with the target, namely the Point Greg School for students with disabilities and blind students in the Caneover area (Buck, 2006). As a result, the radio can encourage and stimulate blind and deaf students. In 1926, ordinary schools in Canada finally used radio for distance education with broadcast content such as lectures, music, and teachers' lessons to be followed by students.~~

In India, the form of Farm Radio Forum is community radio for rural communities with agricultural backgrounds in the 1950s (Neurath, 1962; Nwaerandu & Thompson, 1987). Community radio is used in primary, secondary, higher education, and informal education on agriculture, health, and literacy (Neurath, 1962; Nwaerandu & Thompson, 1987). At that time in India, radio was an effective medium for obtaining factual information. Secondary schools in India have also developed Hybrid Vision Radio, which combines broadcast and text, useful for learning geography and graphic illustration (Berman, 2008). At the higher education level, the Indira Gandhi National Open University also started developing educational radio in 1985. Then, in 2001 the Indian education radio network, Gyan Vani, was used widely in universities and study programs in various higher education in India (Berman, 2008).

~~In the 1960s, community radio broadcasting was formed to educate rural communities in Nigeria (Asemah et al., 2013; Akande, 2007; Moemeka, 2009). This was motivated by Nigeria's provincial stations' dismissal by the post-independence Nigerian government to be replaced by more substantial and better regional stations. However, this ultimately made it difficult for rural communities to influence broadcasting. Then Western Nigerian Broadcasting Corporation (WNBC) boldly established Radio Mobile Rmal to bridge rapport broadcasts with rural broadcasts (Moemeka, 2009). The government also disbanded the radio on the pretext that it did not have sufficient funds to finance it, even though the government actually made television stations at relatively high prices and could only be used by the rich and the elite. Because of this situation, McAnany (1979) formed a rural radio community with more complex content and functions. One of which was a radio school, namely educational radio for rural communities in Nigeria that offers an education that is more than~~

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8 just reading, writing, and cognitive skills but also changed passive attitudes and dependence (Moemeka, 2009).

9 In Kenya, Instruction Radio Interactive (IRI) developed Radio Language Arts (RLA) for
10 education from first grade to third grade students in 1980. Learning using radio media is
11 carried out systematically and structurally. There is a break for students and educators to ask
12 each other and provide opinions. The content provided is in the form of stories, games, songs,
13 and others that can stimulate students' imaginative thoughts. The use of radio for education is
14 a solution to the problem of low teacher quality and lack of teacher resources. As a result, it
15 can improve the quality of learning, increase student test scores, and lead rural students to
16 monitor higher education in urban areas eventually.

17 In 1980, radio was used to support learning in Indonesia. The Educational Media
18 Development Center of the Ministry of Education and Culture in Yogyakarta developed a
19 Radio Edukasi (RE) to support formal and informal learning (Irawan, 2018). This radio
20 broadcasts a wide variety of broadcasts between Learning Support Audio Media, Creative
21 Education Audio Media, Audio Media for Early Childhood Education, Media Audio Ahead
22 of the National Exam for the Blind, English Audio Dictionary, Story of a Character, Fairy
23 Tales of Indonesian Children, RE Musicians, Treatise of Prophets and Friends, Popular
24 Encyclopedia, Pearls of Words, Search for Jogja and RE for Afternoon Trips (Purnama,
25 2011). RE has formed partnerships with several radio stations in the regions, but the
26 frequency often experiences clarity disturbances (Inmayah, 2015). RE can support education
27 in Indonesia, but its nature is still general and one-way.

28 Meanwhile, education in remote areas during this pandemic requires learning media with
29 special and two-way coverage. Its function is to convey learning material and instructions
30 from the teacher to students to get a learning experience finally. Even though it has not been
31 able to meet the educational needs in remote areas, RE can prove that radio can support
32 learning in Indonesia.

33 Nowadays, community radio is, in reality, being used for the social benefit of the community
34 at this time and has not yet reached the level of education. Community radio, however, can be
35 used as an educational option in rural areas with difficulties receiving internet signals during
36 this pandemic. The essence and general concepts of community radio that are used for the
37 good of the community, not for profit, owned and controlled by the community,
38 programming adapted to the needs of the community and locality prioritization can be used as
39 the essence and concept of community radio for education, so there is no conflict or
40 educational interest. Community radio for education can be built with participation from
41 schools, teachers, students, and student guardians as community members, content tailored to
42 educational needs, namely to transfer material and guide students in carrying out learning
43 activities, management and control are carried out by community members, namely schools,
44 teachers and student guardians, prioritizing locality or delivery of content can be local using
45 local languages or local contexts that exist around students and not purely for non-profit
46 learning.

47 Blended Learning Model

48 The discourse on blended learning has appeared since the 1960s, but it only started to have
49 many supporters in the 1990s since technology began to develop. The first time blended
50 learning uses when the Center for Interactive Learning, an educational business institution in
51 Atlanta, made a press release in 1999 about an online course program using the Blended
52 Learning methodology. There was no clear definition of blended learning until then Graham
53 published a book entitled The First Handbook of Blended Learning, which answered the
54 ambiguity of the purpose of blended learning. Graham (2006) defines Blended Learning as a
55 combination of instructions from two historically separate teaching and learning models: the

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face to face learning system and the distributed learning system. In addition to understanding, some educational developers provide various definitions of blended learning, but the point is to combine two learning models to achieve the desired learning objectives. Therefore, blended learning as factors that are used together to obtain harmonious results, which can be seen from the student learning process.

Singh and Reed (2001) define blended learning as a learning program containing more than one model used to optimize learning. Graham (2006) also defines mixed learning as an effective combination of several learning techniques, technologies, and ways of delivering materials to meet student needs. Blended learning can also be interpreted as an educational approach that combines various face to face models with distance education and uses different types of educational technology.

In principle, blended learning combines face to face learning with Information, Communication, and Technology (ICT), which makes blended learning has several advantages (Hoic Bozic et al., 2008; Graham 2006). First, using a combination of different educational techniques and technologies can improve academic abilities. Furthermore, it can be applied to students with diverse and independent learning styles. Allows cost savings and lowers education costs. Fourth, using various learning techniques that attract students' attention. Finally, by using a combination of face to face education and other processes, students can access knowledge anytime and anywhere (Hoic Bozic et al., 2008; Graham, 2006). Blended learning can facilitate optimal learning by providing various learning media that can attract students' attention to education and develop their knowledge. In blended learning, the teacher acts as a facilitator and media in the learning process. The teacher provides instruction or learning and offers direction to students on carrying out learning activities and taking advantage of the technology used in learning.

Syntax in blended learning can refer to ICT-based learning because, in principle, Blended Learning combines face to face learning with ICT-based learning (Wahyuni et al., 2019). Ramsay (2011) stated that there are 3 syntax in blended learning, such as:

1. — Seeking information, namely seeking information and critically have sources of information based on the relevance, validity and reliability and academic clarity of content;
2. — The acquisition of data, namely students' individually or groups cooperatively and collaboratively trying to find, understand and confront information obtained from information providers with ideas or ideas that already exist in the minds of students;
3. — Synthesizing of knowledge, namely constructing knowledge through the process of assimilation and accommodation from the results of the analysis, discussion and formulation of conclusions on the information obtained.

Blended learning has several roles, including a learning process that combines learning models, learning styles, and various technology and communication based learning media. Furthermore, coaching between distance independent learning and face to face learning between teachers and students. Knowing that is supported by effective learning from delivery, education, and learning styles. Finally, parents and teachers have an important role in student learning, where the teacher acts as a facilitator and parents as a motivator (Borup et al., 2019). There are six mixed learning elements: face to face in class, self-study, technology and information, tutorials, collaboration, and evaluation (Valiathan, 2002). In limited education, there are also four learning concepts. First, combining or blending web-based technology modes such as virtual classes, collaborative learning, streaming video, audio, and text. Second, combining a pedagogical approach will result in optimal learning with or without technology, such as cognitivism, constructivism, and behaviorism. Third, connecting all forms of learning techniques such as videotapes, audio cassettes while being guided by the

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teacher face to face. Finally, combining learning technology to create cooperative learning and working effectively (Valiathan, 2002).

Blended learning, which in principle combines various learning models with technology and is characterized by independent learning, can be used as the basis for alternative learning solutions in remote areas with difficulty accessing the internet during a pandemic. Before implementing mixed learning, an analysis of several things is needed, including attainable competencies, learning objectives, students, and available resources. This is the basis for determining how the learning design will be made and what media can support learning. After conducting the analysis, the teacher can see what technologies can be combined in learning and arrange learning steps. For example, in remote areas, the technology that students can use and reach is radio. The teacher can include radio to be incorporated into learning. Furthermore, the teacher makes learning steps and guides student learning by using technology in the form of radio to study independently at home with guidance from the teacher.

Transformative Critical Education (The Philosophical and Pedagogical Concepts)

Transformative critical education is based on the essential theory of three schools of thought, namely the Frankfurt, Gramsci, and Freire schools. The Frankfurt School believes that critical theory must significantly change the world and improve the human condition (Geuss, 1981). The thinkers in this school try to provide awareness to free humans from irrationalism by having a critical understanding of reality. This school has seen that the instrumental ratio produces an industrial culture that has hindered the individual's autonomous development. The oppression carried out by industrial civilization is more dominant than just economic domination. According to Adorno and Horkheimer's thinking, industrial culture has made human beings and become like robots determined by advertising changed by the mass media (Landmann, 2011). Humans no longer have the freedom to choose because everything has been selected and standardized by industrial culture (Kellner, 2002). Therefore, the solution to get out of industrial culture's hegemony is to build a rational theory and produce human emancipation in industrial society (Geuss, 1981). Such ideas must play a significant role in changing the world and improving the human condition. This theory is a critical theory applied to humans. In principle, the critical theory does not care about wise human beings' efforts, which must be carried out by building acute and essential awareness to see and criticize reality and against the oppressive industrial culture's hegemony. The Gramsci School believes that social conditions in which all aspects of social reality are constructed and dominated by a dominant (superior) group (Gramsci & Hoare, 1971). Sovereignty continues to be supported by civil society institutions, including education itself. Thus, education is not neutral, but there are political content and interests at play. Therefore, to stem the hegemony process, a counter-hegemony action is needed by forming the education and culture of mass. This is necessary to achieve the supremacy of the civilian groups that are compared to society. According to Gramsci and Hoare (1971), the civilian masses consist of social organizations and movements that must have an intellectual function, namely to carry out social change and transformation. In reality, not everyone has an academic role in society. Thus, Gramsci and Hoare (1971) divide intellectuals into traditional and organic intellectuals. Traditional intellectual becomes the dominant group and carries out a unique social domination function and political governance (Kurtz, 1996). On the other hand, organic intellectuals organically create one or more intellectual strata that give them homogeneity and awareness of their tasks in the economic, social, political, and cultural fields (Green, 2013). Organic intellectuals have a role in the social formation, namely providing homogeneity and awareness of the masses' functions. Organic intellectuals raise

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7 awareness to make counter hegemony efforts against the ruling class. Efforts to raise
8 awareness in the people's groups are carried out through critical education in formal and
9 informal schools to achieve the goal of education to humanize human beings (Kurtz, 1996;
10 Green, 2013).

11 Then the Freire School, which views that education's axis is siding with the oppressed or the
12 oppressed, those who experience alienation and self-depreciation. These people must be
13 emancipated with critical awareness so that they can be liberated. Paulo Freire, an educator,
14 philosopher, and theologian, views humans as creatures related to nature and their world
15 (Freire, 1972). This awareness of the relationship between personality and the world causes
16 humans to have a critical relationship with the world. Humans are gifted by God the ability to
17 choose, test, study, and test something again before acting. However, the developing
18 education system is still felt and felt today (Freire, 1972). This is a bank style education
19 system that considers humans to be unercritical. This is like a container that contains material
20 that students will memorize and memorize. Used when needed, it saves money in the bank.
21 According to the free education system, students as humans have awareness and reflective
22 and critical abilities (Morrow & Torres, 2002).

23 Freire rejects an education system that views humans as passive creatures and does not need
24 to make choices about themselves and their education (Roberts, 2000). Students must become
25 fully human beings who are free and independent of themselves, their reality, and their world.
26 His views then transformed into the world of education. Freedom is to initiate an educational
27 model that frees critical knowledge that can help humans improve the world's essential
28 attitudes. Thus, education must empower human freedom in being aware of themselves and
29 the outside world because education is a process that is beneficial to the environment, society,
30 and culture (Giroux, 2010). Critical knowledge is expected to encourage humans to develop
31 optimally and place students at the center of pedagogical activities (Freire, 1985). It must
32 create an environment that is conducive to the development of learners. Educators must also
33 increase students' awareness to be critical and creative in dealing with their problems (Torres,
34 2007).

35 Learning must create intellectual freedom to achieve transformative critical education
36 between educators and students in the teaching and learning process (Giroux, 2010). The
37 learning process must be open and full of dialogue, full of responsibility between educators
38 and students; all interactions between educators and students are egalitarian and fair. Students
39 must have freedom of initiative, freedom of opinion, and freedom to have inspiration and
40 other perspectives on justice and equality. In this case, education must be accommodated
41 appropriately as an important means of achieving independence (Beckett, 2013).

42 Communication in transformative critical education must go in all directions, namely
43 educators to students (top-down), students to educators (bottom-up), and students to other
44 students (networks) to create dialogical and non-educational education. Transformative
45 critical education is expected to produce changes in students both in quality changes,
46 independent and creative attitudes, personal differences, social quality changes with friends
47 around them, and the community environment. Changes in these students can bring up new
48 ideas that can change students' lives, the environment, and the world (Roberts, 2015).

49 **Transformative Critical Pedagogy (Containing Values of Philosophy, Existentialism,
50 Humanism and Constructivism)**

51 **Critical Pedagogy is a praxis in which praxis is an action and reflection (Freire, 1985). Praxis**
52 **involves practicing theorizing and putting theory into practice. Praxis thinks of the**
53 **philosophical and essentialist thing about what and why we will do before we do it and then**
54 **contemplates what we did, how to do it, and how it turned out. Critical pedagogy involves an**
55 **evolving working relationship between practice and theory. As a praxis, critical pedagogy**

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cannot stop, critical pedagogy demands reflection and reconceptualization between what happens inside our classrooms, why it happens, and what and whose purpose it serves. Critical pedagogy recognizes the importance of the individual and his interests, acknowledging that the individual and its fulfillment are dependent on social relations with others inside and outside the class. Critical education requires collective thought and action, reflection, and action. It cannot be separated from one another because when theory is cut off from practice, it is only simple verbalism and vice versa when the way is cut off from the idea, exercise is just blind activism (Freire, 1985). Critical pedagogy is a descriptive perspective because it critically analyzes the world we live in. Critical pedagogy looks at how the pedagogical, political, social, and economic aspects of life inform one another. Critical pedagogy asks why these things exist, in what way, who is harmed, and how, then, teachers and students develop answers together (Morrow & Torres, 2002). This is when teachers and students are on the path to critical awareness. Critical pedagogy enables teachers and students to gather reason and emotions to serve understanding, transcendence, and transformation. Critical pedagogy helps us see ourselves and see humans, what humans do to other humans and the world and its surroundings, never mind what is done and what happens is human, then helps to construct an idea of what to do, what changes must be done (Shor, 1993; Giroux, 2020). Critical pedagogy helps humans to develop critical awareness, which enables them to participate in transformational actions critically. This acute awareness refers to the process by which humans no longer accept but as subjects who know and achieve a deep understanding of both the socio-cultural realities that shape their lives and their capacity to change that reality (Brass & Macedo, 1985; Freire, 1985). Critical awareness obtained from critical pedagogy encourages humans to become whole humans or humanists, namely those who are autonomous towards themselves, reality, and their world. It does not stop at awareness, but the result of critical pedagogy is the emergence of the construction of new ideas that will produce transformative action.

Community Radio-based Blended Learning Model

Community Radio-based Blended Learning is learning carried out by a radio community whose members consist of schools, teachers, students, and student guardians using the blended learning method or combining learning usually with technology in the form of radio. This study aims to create effective learning for students in remote areas with difficulty with the internet during the pandemic. This learning begins with the fulfillment of prerequisites, including ordering a community radio consisting of schools, teachers, students, and student guardians and preparing the necessary equipment. This tool's preparation is carried out by community members and is managed and monitored by community members. Members of the radio community must consider several principles. First, community radio is made based on community members' needs, namely teachers, students, and student guardians, to create effective learning during a pandemic. Next, it is non-profit or not for profit; third, there is active and open participation from community members, namely teachers, students, and student guardians, in conducting evaluation and monitoring.

Implementing the Community Radio-based Blended Learning Model as a learning model is not built on a particular learning theory, but rather a synthesis of several previously developed learning theories, namely the learning theory of behaviorism, cognitivism, and constructivism. These learning theories do not stand alone but complement each other to produce a model following the characteristics of students as learners in school, presented in Figure 1.

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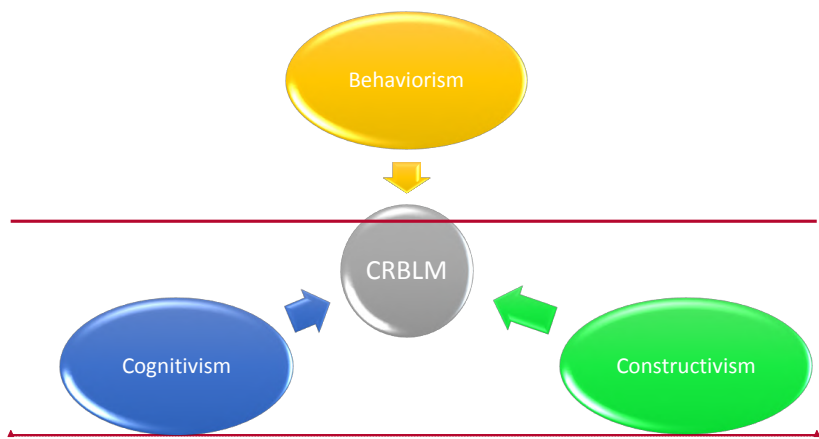


Figure 1. Relationship Learning Theories Supporting the Community Radio-based Blended Learning Model (CRBLM)

Behavioral learning theory views learning as a change in a person's behavior that appears due to his experience interacting with the environment. Learning here depends more on outsiders, namely the surrounding environment, not on one's self. In general, learning like this is manifested in the form of a relationship between stimulus and response. One of the figures of this learning theory is Skinner with the S-R (Stimulus-Response) learning theory, whose main element is reinforcement.

According to this theory, a response that manifests a change in a person's behavior will become permanent behavior if given reinforcement and vice versa if given punishment. The response will not be permanent behavior. The behaviorist learning theory that emphasizes the role of environmental aspects outside the individual in the acquisition of competence inspires CRBLM in collaboration between students and the object of study, students and colleagues, students and lecturers, and students and their environment in constructing knowledge. Students interact with the study object to see natural phenomena that occur to obtain a conclusion and hypothesis according to the problem being discussed. Meanwhile, with colleagues and lecturers, students exchange ideas and share their thoughts and views regarding these natural phenomena. The pattern of relationships between students and outsiders shows how significant environmental aspects influence individuals when constructing knowledge. So, the strength of behaviorism theory lies in situations where a person has been faced with clear goals and can respond to things that are near related to these goals.

Unlike behaviorism theory, the theory of learning cognitivism also has a significant role in building the CRBLM. Cognitivism learning theory emphasizes the active involvement of the mind in learning activities. Learning here does not depend much on external stimuli but involves more of one's own mind and initiative. Intellect, in this case, cognitive development, is the main foothold in implementing learning activities. Usually, learning is distinguished by cognitive development level: from the lowest level to the highest cognitive level. One of these learning theories is R. Gagne, who differentiates learning into five categories: verbal information, intellectual skills, cognitive strategies, motor skills, and attitudes. Each type requires a form, namely independent learning. According to this theory, to master knowledge and skills, a person must actively try to give meaning to the various information and data they obtain.

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Knowledge and other information are not acquired by individuals passively waiting and receiving, but actively seeking to involve cognitive abilities to provide meaning through various cognitive skills, such as analysis, synthesis, or evaluation. Of course, this is strong evidence of how a person's cognitive abilities play a role in constructing knowledge. There are several essential concepts commonly used in cognitive learning theory, namely three-stage information processing schemes and models, namely registers, short-term memory, and long-term memory.

A schema is a knowledge structure that a person already has, which is used to make associations with new knowledge. Information processing occurs first when the register recognizes the input it received; furthermore, the input is processed in short-term memory; and then transferred to long-term memory to be stored for future use.

The third learning theory with a significant share in CRBLM building is a constructivism learning theory, which is part of learning cognitivism theory. Constructivists see learning as an active process of constructing meaning in the text, dialogue, physical experience, and other structures (Sukiman, 2008). Furthermore, Hadi (2005) argues that knowledge in constructivist understanding is a construction (formation) of people who know schemata. Experience cannot be transferred from teacher to student because each student has his scheme of what he knows. Knowledge formation is a cognitive process where there is a process of assimilation and accommodation to achieve equilibrium to form new strategies.

This view clearly states that knowledge is actively constructed by the mind, not passively received from the environment. Students are actively involved in various relevant and meaningful activities that lead to reconstructing knowledge, such as reflection and association of new experience with the knowledge they already have. Therefore, it can be said that constructivism learning theory emphasizes aspects of the constructive processes carried out by individuals. In contrast, cognitivism theory leads to the role of cognition in reconstructing knowledge. Furthermore, the constructivism learning theory has four primary characteristics:

1. Students reconstruct their understanding.
2. New knowledge is built on previous understanding and knowledge.
3. Understanding is obtained through social interactions carried out by individuals and learning through experience to build meaningful knowledge.

One important aspect of constructivism learning theory that needs attention is experiential learning (experiential learning), which is also referred to as learning by doing. Experiential learning is a learning activity that provides a relatively more real experience for individuals in obtaining knowledge so that what is gained becomes more meaningful. In other words, individuals reconstruct knowledge based on the experiences they get through interactions that are built with their environment. Of course, this learning model is more suitable and can be applied to those who already have sufficient knowledge or adults.

In experiential learning activities, there are usually four phases that form the learning cycle, namely real experience, observation and reflection, the formation of abstract concepts, and their application in other situations. In the process of knowledge reconstruction, the four learning phases are repeated to find a good understanding.

The real experience phase is the learning stage, where students get concrete experiences according to the problems identified. Starting from this problem, students try to find various related information for its solution. In the second phase, students take advantage of reconstructed knowledge as a basis for observation and reflection. A common thread can be drawn between the theory and the real conditions they experience. The third phase is the learning stage that students use to make conclusions and generalizations; Meanwhile, the fourth phase is the learning stage where students try to apply what they have found to new

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situations. Therefore, there are some basic assumptions regarding constructivist learning theory:

1. Knowledge is built based on experience.
2. Learning is a personal interpretation of the world.
3. Education is an active process where meaning is built on expertise.
4. Conceptual growth comes from negotiating to mean, exchanging perspectives, and learning.
5. Collaborative and learning must occur in a realistic setting, and tests should be integrated with assignments.

Community Radio-based Blended Learning Model is carried out with a blended learning model that combines ordinary learning with technology on the radio. The teacher acts as a facilitator and parent as a motivator and companion for students while studying at home. Radio in this lesson is used as a medium to convey information and guide student learning activities. In this case, learning activities can vary depending on the needs of the subjects delivered and the learning activities' requirements to understand students and achieve the targeted competencies. After carrying out learning activities, the teacher conducts class discussions and reflections or evaluations to see learning.

In Community Radio-based Blended Learning Model, things that must be used are using radio and done remotely or not face to face. Still, the learning process must remain open and dialogical and not in one direction only from teacher to student. Communication in learning must occur in all orders, both teacher to student, student to teacher, and student to other students. It is essential to pay attention to so that the learning process does not develop into a critical awareness of students, which have fatal implications for life and their ability to deal with the environment and their world. This pandemic's distance learning tends to be instructive. The teacher gives orders, and students do what the teacher or teacher instructs, provide material, and students passively accept it.

As stated by Freire (1985), students are not like banks, which only need to be filled with material and then passively accept and memorizes them according to what the teacher instructs. However, students are humans who are given the ability by God to think, reason, reflect, and re-examine what will come. Therefore, the teacher must encourage the capabilities that have been bestowed on this God so that students have more critical awareness that they can use to see deeper and face themselves, reality, and their world. Teachers must be able to understand that the essence of education is to deliver students to become complete human beings, namely humans who have freedom and autonomy towards themselves, reality, and their world so that they can creatively and critically face the problems around them. It can only be obtained through awareness. One way of growing and encouraging critical awareness is by placing students at the center of pedagogical activities and creating an environment conducive to necessary awareness development. This conducive environment is an open learning environment, full dialogue, full interaction. It provides opportunities for students to have freedom of opinion, freedom of belief, freedom of inspiration, freedom to have a perspective of justice and equality.

The community radio-based blended learning model must also prepare students to face the challenges of the 21st century, where life changes are so fast, dynamic, and challenging to predict. Students must quickly and critically see the reality and the changes that occur and deal with it. Therefore, education cannot end up being carried out only by transferring knowledge and students only receiving and understanding that knowledge. Students must understand what can be done with the knowledge they have to act then. So, through critical pedagogy and a dialogical learning process, the teacher must encourage students to think philosophically and practically about what is learned and why to study it. Furthermore, they must see what happens to the reality around himself and his world and reflect on what to do

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with what has been learned and seen on the truth and the world and predict the results. Thus, the construction of transformative ideas or ideas will appear students will carry that out in facing their world's problems and realities.

4. Conclusion

There is an alternative learning solution for remote areas with difficult internet access, namely the community radio-based blended learning model, utilizing a radio network for learning activities. This learning can be implemented by collaborating community radio with teachers, students, and students' guardians. Furthermore, the teachers and students carry out blended learning that combines common knowledge with learning using technology. In this case, the technology used is the radio. The teachers act as a facilitator who will guide student learning activities, and the parents act as a motivator who helps students' study at home. They can openly and dialogically implement the community radio-based blended learning model to foster students' critical awareness and encourage the creation of students' transformative ideas in dealing with problems in the real world.

~~There is an alternative learning solution for remote areas with difficult internet access, namely by utilizing a radio network for learning, packaged in the Community Radio Based Blended Learning Model. This learning can be carried out by forming a community radio consisting of teachers, students, and student guardians. Then the teacher and students carry out blended learning that combines ordinary learning with learning using technology. In this case, the technology used is the radio. The teacher acts as a facilitator who will guide student learning activities, and the parents act as a motivator who helps students' study at home. Learning community radio-based blended learning model is implemented openly and dialogically to foster students' critical awareness and encourage the creation of students' transformative ideas in dealing with problems in the reality of the environment and the world around them.~~

4.1. Limitations of this study

There are numerous limitations to consider when interpreting the results of this systematic literature review study. This study examines various literature to construct a theoretical framework of alternative learning in remote areas with limited internet access during a Pandemic situation. This alternative learning is based on community radio and utilizes blended learning syntax. As a result, we have to exclude literature that does not discuss the community radio and the blended learning syntax from this study and its model, including

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7 implementing it in the learning process. However, the emphasis of the literature that supports
8 the constructed learning model has been thoroughly examined in this study.
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12 **4.2. Recommendations for future research**
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14 Since the pandemics started two years ago, we have seen an increase in alternative
15 learning approaches. Most of them run well in areas with good internet networks, allowing for
16 proper online course-based blended learning. However, there are still few studies focusing on
17 rural areas with poor internet connectivity. Therefore, as a result, the findings of this study can
18 be used to implement the community radio-based blended learning model as a promising
19 alternative learning method for rural areas during this pandemic period. Further research can
20 be done by collecting empirical data in the learning process. This is to demonstrate the model's
21 efficacy in teaching and learning activities during a pandemic era.
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28 **Acknowledgement**
29

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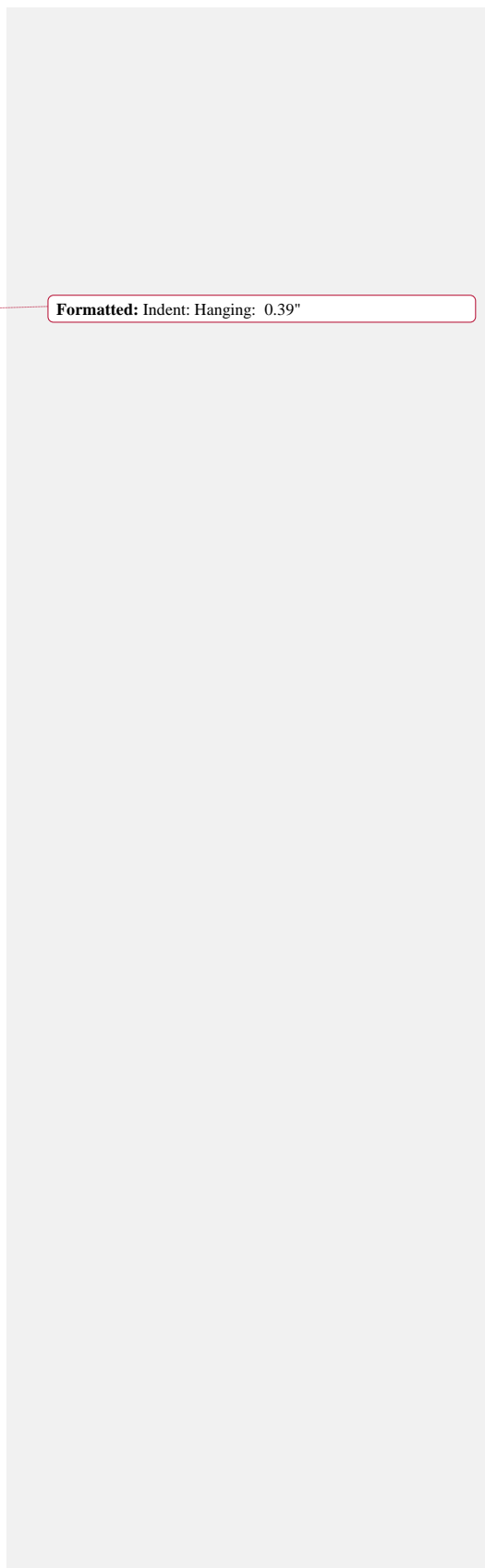
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Rully Charitas Indra Prahmana, Dody Hartanto, Dian Artha Kusumaningtyas,
Raden Muhammad Ali, Muchlas

The Covid-19 pandemic is a big challenge for education worldwide because education has to be done virtually to stop the spread of the Covid-19 virus. The problem is that students live in areas far from cities, so learning in an interconnected world should be done virtually. One of them is Indonesia, with a diverse geographical condition consisting of mountains, lowlands, highlands, and valleys. Some areas are far away from cities, making students difficult to connect to the internet and virtual teaching is challenging. These areas are often referred to as remote areas. So far, the Indonesian government's approach to dealing with learning difficulties in remote areas is vague. This research aims to construct a theoretical learning framework that can be used to facilitate distance learning in remote areas in Indonesia. This research proposes a developmental theory of alternative learning in remote areas through the integrative literature review. In this study, the theoretical framework evolved out of the review of existing research on community radio, blended learning, transformative education, and critical pedagogy. This study yields a theoretical framework regarding the community radio-based learning model that contributes as a promising alternative learning solution in remote areas. It is inferred We believe that this learning model would be a promising learning model in remote areas during unpredictable situations such as inlike the Pandemic era.

Keywords: Community Radio-based **Blended** Learning Model, Pandemic Era, Remote Area, **Integrative Literature Review**

1. Introduction

The planet is currently suffering from the Covid-19 pandemic, which poses a fatal health and death risk. To monitor the rapid spread of the virus between individuals, the World Health Organization (WHO) has provided a protocol for individuals to implement **exercise physical distancing** (World Health Organization, 2020). This condition represents an enormous challenge to sustainability in the field of education, which must carry out the teaching and learning process amidst restrictions on human activities during the Covid-19 pandemic to ensure children's rights to continue to get the education to ensure the sustainability of children's lives in the future (Lee, 2013; Smith, 2019). Teaching and learning tasks that have been performed face-to-face have now been moved to virtual or distance learning. However, the internet is not accessible in certain regions in several countries due to various constraints such as location, making it difficult for people to carry out distance or virtual learning. This is comparable to what occurred in Indonesia.

Indonesia's geographical and topographical conditions, which consist of islands with plains and mountains, make it difficult for all Indonesia regions to have access to the Internet that can be used for online learning (Afrianti & Aditia, 2020). Many students have to walk far up the mountains, climb trees, or reach the woods to get internet signals. In certain places, teachers must visit students' homes one by one to continue to study during the **Covid-19** pandemic. This, of course, makes learning inefficient and negatively impacts student learning progress (Tamah et al., 2020; Supena et al., 2020). **The Indonesian government has issued a policy on education in emergencies and learning guidelines from home but fails to help those unable to use the internet seek education.**

The Covid-19 pandemic does not know when it will stop, and the Indonesian Government, which has not yet given exact solutions to learning problems in areas with Internet connectivity or remote regions, eventually depressed students, student families, and teachers (Irawan et al., 2020). Students must continue **their education** and improve **their abilities**, but the environments are not encouraging and adequate. It leaves teachers and parents confused about fixing it since it cannot be translated separately. Significant concrete initiatives or acts by the Government or other organizations are required to resolve the sector's issue in practical terms. One of the attempts that can be made in places that do not have access to the Internet is to create a learning model that uses other networks in the region (Friedman, 2020). Radio networks in Indonesia are more straightforward and more accessible in some areas (**JurriënsJurriëns**, 2009). This network can provide content knowledge or direct teaching activities from teachers to students (Nwaerendu & Thompson, 1987). Since, in essence, the learning process is an instructor who encourages the transmission of information that can direct students to explore the knowledge they want to know and learn on their own, so that students obtain learning experiences that are useful for their growth (Kelly, 2016; Freire, 1985). However, this cannot be achieved individually. There must be a commitment and collaboration on the part of the different parties, **such as . There must be a commitment between** the educational community, the school, and the Government to use the network and establish suitable learning methods so that learning can be carried out effectively.

A community radio network can be formed in this situation by volunteers, schools, teachers, students, and parents of students who will use, manage, and supervise the radio networks. This community will provide the teachers with the information they need to keep students actively engaged on learning activities during the pandemic. This idea cannot be implemented without any underlying theory. This study contributes to constructing a theoretical learning framework model for using community radio networks to learn in remote areas. This model develops through systematic reviews, synthesis, critical analysis, and integrating several works of literature on community radio, blended learning, necessary transformative education, and critical transformation pedagogy. Hopefully, the research results will be used as a theoretical basis for further research on implementation in the field to become an alternative learning solution in remote areas, so that distance learning during a pandemic can still occur.

The next section of this article is a research methodology that explains the integrative literature review method used in building a theoretical framework in this study. The third part is the review, critical analysis, synthesis, and integration of several

works of literature on community radio, blended learning, compulsory transformative education, and critical transformation pedagogy. The last part is a description of the theoretical framework for the Radio Community-Based Learning Model. And the last part is the conclusion of the research.

2. Method

This study uses an integrative literature review as a research method to construct a theoretical framework for alternative learning in remote areas where it was challenging to do virtual learning during this pandemic due to the difficulty of accessing the internet network. In this case, the integrative literature review provides a basis for constructing a new model or theoretical or conceptual theory by reviewing, critiquing, and synthesizing literature representing a particular topic in an integrated manner so that new theoretical frameworks and perspectives can be produced (Torraco, 2005). This study is different from the other two literature review studies, namely Systematics Literature Review and Semi Systematics Review. They serve as a resource for identifying and reviewing critical research to ascertain trends and major research influences on a particular topic, not as a means of developing the theoretical framework (Synder, 2019; Baumeister & Leary, 1997; Torraco, 2005; Wong et al., 2013; Liberati et al., 2009). Additionally, the Integrative Literature Review study also has a potential unique contribution in the reconceptualization of established topics, which is then used to develop new frameworks and perspectives by providing an overview or description of research trends and their influences (Synder, 2019). Therefore, it is considered appropriate and effective to be used in this research to construct a theoretical framework regarding alternative learning model in remote areas that were challenging to do distance or virtual learning during this pandemic due to the difficulty of accessing the internet network. This method's role is to promote a solution to the need for alternative learning in remote areas that are built-in theory. The results will be the basis for further research on these ideas and how they are implemented in the field.

This method is carried out in four stages: designing, conducting, analyzing, and writing the review (Synder, 2019; Torraco, 2005). In the first stage, designing a review determines some essential points, such as deciding the topic, reaffirming the study's reasons and objectives, formulating the scope and specific research questions, and starting to collect the literature to be reviewed. Next phase, researchers begin to conduct a review starting from determining when to conduct the study, then testing a review process, criticizing and synthesizing the literature. The method of criticizing literature was done by critical analysis, which involves a careful examination of the main ideas and their relationship to a problem and criticizing existing literature. Meanwhile, synthesis is carried out by integrating existing ideas with new ideas to create a new formula for the topic being discussed. The form of synthesis in this study is an alternative model or theoretical framework, a new way of thinking about the issues addressed with an integrative review and derived directly from the critical analysis and synthesis that have been done (Torraco, 2005).

Furthermore, the third stage is analysis review. In the integrative literature review study, data analysis is replaced with clear logic and reasoning conceptual as the basis for argument and explanation. These two are the most important features used to develop the proposed framework or model and allow readers to see the relationship between research problems, criticism of the literature, and theoretical results in a theoretical framework. The last stage is writing a review, which is written precisely and directly. The motivation and need for the study are conveyed. Besides, the review process is described transparently, starting from how the literature is identified, analyzed, synthesized, and reported by researchers. Assessment of review results in integrative review studies is not assessed and evaluated as rigorously as empirical studies. Still, the quality is seen from the depth, thoroughness, and substantial contribution that is really valuable and new in a particular field or topic (Synder, 2019).

3. Results and Discussion

This section developed a theoretical framework about the Community Radio-Based Learning Model, which was inspired by the difficulty of learning or access in several remote Indonesian areas during the Covid-19 pandemic. Because of Indonesia's geography and topology, signals from the internet or network are blocked and challenging to receive in remote areas. When a pandemic was still ravaging the country, the Indonesian government implemented police of education implementation policies to respond to the conditions of the Covid-19 pandemic. However, remote areas that are difficult to reach by internet signals have not been included in the program's coverage. Until now, the government has not offered any concrete solutions to the problem. The domino effect of these problems is felt not only by students but also by teachers and parents who feel depressed and confused about what efforts to do to ensure students continued learning amid a pandemic with no clear end in sight. It follows that we cannot remain silent because it is related to students' rights to education and the continuous advancement and growth of students to confront life's obstacles in the future.

Remote learning in locations where geographic and topological constraints are present during the Covid-19 pandemic provides us with a robust new foundation for building an alternative learning model using advanced technology to access remote locations. Radio communications are the only remote technology that can be accessed in remote areas. Thus, researchers intend to conduct an Integrated Literature Review to develop a theoretical framework for this concept. They chose blended learning, community radio, transformative critical education, and transformative critical pedagogy as our literature of choice.

As a learning model, blended learning combines face-to-face and distance learning by using remote technology. In this research, blended learning is the most likely learning model for distance learning combined with radio network technology for learning in rural areas. This literature was selected because it represents the core ideas of alternative learning ideas in remote areas, utilizing radio networks in the context of community radio development. Instead of focusing on radio network technology, the researchers should focus on reviewing the radio community's literature to support constructing the framework learning model in this research. While developing this idea, it is not sufficient to have a radio network, but rather a community with a joint commitment and roles to seek, manage, regulate, and supervise the use of radio networks for distance learning in remote areas.

Additionally, researchers selected the articles on transformative critical education and essential transformative learning because the two topics will be used as a basis and guidelines for implementing learning using radio networks. In which case learning will be instructional for students from teachers to them, the idea will actively develop students' transformative critical awareness. Due to internet network constraints, this problem needed a solution to solve learning difficulties in remote areas of Indonesia during the Covid-19 pandemic, resulting in this literature being very necessary to be reviewed to construct a new theoretical framework from the integration of the results of these kinds of literature. The following is a complete list of the detailed descriptions of the literature review.

3.1. Blended Learning Model

The discourse on blended learning has appeared since the 1960s, but it only started to have many supporters in the 1990s since technology began to develop. The first-time blended learning uses when the Center for Interactive Learning, an educational business institution in Atlanta, made a press release in 1999 about an online course program using the Blended Learning methodology. There was no clear definition of blended learning until then Graham published a book entitled *The First Handbook of Blended Learning*, which answered the ambiguity of the purpose of blended learning. Graham (2006) defines Blended Learning as a combination of instructions from two historically separate teaching and learning models: the face-to-face learning system and the distributed learning system. In addition to understanding, some educational developers provide various definitions of blended learning, but the point is to combine two learning models to achieve the desired learning objectives. Therefore, blended learning as factors that are used together to obtain harmonious results, which can be seen from the student learning process.

Singh and Reed (2001) define blended learning as a learning program containing more than one model used to optimize learning. Graham (2006) also defines mixed learning as an effective combination of several learning techniques, technologies, and ways of delivering materials to meet student needs. Blended learning can also be interpreted as an educational approach that combines various face-to-face models with distance education and uses different types of educational technology.

In principle, blended learning combines face-to-face learning with Information, Communication, and Technology (ICT), which makes blended learning has several advantages (Hoic-Bozic et al., 2008; Graham 2006). First, using a combination of different educational techniques and technologies can improve academic abilities. Furthermore, it can be applied to students with diverse and independent learning styles who allows cost savings and lowers education costs. Fourth, using various learning techniques that attract students' attention. Finally, by using a combination of face-to-face education and other processes, students can access knowledge anytime and anywhere (Hoic-Bozic et al., 2008; Graham, 2006). Blended learning can facilitate optimal learning by providing various learning media that can attract students' attention to education and develop their knowledge. In blended learning, the teacher acts as a facilitator and media in the learning process. The teacher provides instruction or learning and offers direction to students on carrying out learning activities and taking advantage of the technology used in learning.

Syntax in blended learning can refer to ICT-based learning because, in principle, Blended Learning combines face to face learning with ICT-based learning (Wahyuni et al., 2019). Ramsay (2001) stated that there are 3 syntax in blended learning, such as:

1. Seeking information, namely seeking information and critically have sources of information based on the relevance, validity and reliability and academic clarity of content;
2. The acquisition of data, namely students' individually or groups cooperatively and collaboratively trying to find, understand and confront information obtained from information providers with ideas or ideas that already exist in the minds of students;
3. Synthesizing of knowledge, namely constructing knowledge through the process of assimilation and accommodation from the results of the analysis, discussion and formulation of conclusions on the information obtained.

Blended learning has several roles, including a learning process that combines learning models, learning styles, and various technology and communication-based learning media. Furthermore, coaching between distance independent learning and face-to-face learning between teachers and students. Knowing that is supported by effective learning from delivery, education, and learning styles. Finally, parents and teachers have an important role in student learning, where the teacher acts as a facilitator and parents as a motivator (Borup et al., 2019). There are six mixed learning elements: face-to-face in class, self-study, technology and information, tutorials, collaboration, and evaluation (Valiathan, 2002). In limited education, there are also four learning concepts. First, combining or blending web-based technology modes such as virtual classes, collaborative learning, streaming video, audio, and text. Second, combining a pedagogical approach will result in optimal learning with or without technology, such as cognitivism, constructivism, and behaviorism. Third, connecting all forms of learning techniques such as videotapes, audio cassettes while being guided by the teacher face to face. Finally, combining learning technology to create cooperative learning and working effectively (Valiathan, 2002).

Blended learning, which in principle combines various learning models with technology and is characterized by independent learning, can be used as the basis for alternative learning solutions in remote areas with difficulty accessing the internet during a pandemic. Before implementing mixed learning, an analysis of several things is needed, including attainable competencies, learning objectives, students, and available resources. This is the basis for determining how the learning design will be made and what media can support learning. After conducting the analysis, the teacher can see what technologies can be combined in learning and arrange learning steps. For example, in remote areas, the technology that students can use and reach is radio. The teacher can include radio to be incorporated into learning. Furthermore, the teacher makes learning steps and guides student learning by using technology in the form of radio to study independently at home with guidance from the teacher.

3.2. Community Radio

Mtimde (2000) describes Community Radio as stations owned and operated by public or group members for their communities. AMARC as a World Association of Community Radio Broadcasters promotes community radio as a social and cultural development tool which represents a non-profit broadcasting station providing services to the community (Diasio, 2010). Philosophically, the advent of community radio is based on the public's need to communicate knowledge and reality and facts on the ground without being manipulated by any group with interest beyond the public interest (Barker, 1998). In 1949, the emergence of community radio originated from the poverty problem experienced by mining workers in Bolivia, because the radio there was controlled by several interested people and had never broadcast the truth and condition of these workers, the workers then produced community radio (Jurriëns, 2014). They will regulate themselves and be used to spread the truth and their desires. Catavi Radio is a collective radio station for creating the labor union that was broadcast in Bolivia at the time. They spread the truth about their plight and used the radio as a propaganda weapon to attract support for solidarity to achieve justice. Community radio has since started to appear in many other countries. Community radio contact called the Community Audio Tower System (CATS) was developed in Asia in 1970. Radio was initially dominated and used to support development initiatives (Semujju, 2020). Not long after that, community radio among the people started to emerge and, under their influence, broadcast democracy issues for the people's good.

Community radio is different from public radio and private radio. Firstly, community radio participation starts from establishment, evaluation and monitoring. Secondly, it has a transparent community, community radio has an exact audience, namely members of the community itself and the people around the community. Thirdly, limited coverage area, community radio only serves communities that are within its coverage area. Fourthly, closeness to the local situation, because of the close relationship with the community and the environmental area around the community, it will have a wealth of information about the local social and cultural sites of the community coverage. Fifthly, technology is affordable, the technology used is invincible with the ability of the community. Lastly, having the jargon "from, by, for and about the community", from this jargon it can be interpreted that community radios are really from their own circle for their own interests and broadcast about the community and the needs of the community itself (Lewis, 1989). Also, in establishing community radio, some conditions must be fulfilled. Firstly, participation is a fundamental principle. Community members are the main actors of community radio's existence and sustainability, and all members are open to managing this radio. Secondly, locality, the radio community exists to serve the community's interests so that the radio community must always be locality-oriented. Thirdly, non-profit, community radio is not used to search for the material. Lastly, control from the community, to ensure that broadcast content meets the community's needs, community involvement is significant to control broadcast content and its management (Lewis, 1989).

3.2.1. Organizing Community Radio

In organizing community radio, the organizer must understand the fundamentals of community radio, the characteristics, and community radio differences that distinguish it from public radio or private radio. So far, there is still no single definition of community radio. Even AMARC International, an organization that covers radio communities worldwide, does not define community radio. AMARC said that community radio is described from three distinctive aspects, namely being a nonprofit activity, controlled by the community, and characterized by community participation (Akhter, 2010). Historically, community radio's philosophy has been to enable those who do not have a voice to express themselves, to represent their voices who are either racist, sexist or social class oppression and are generally a tool for growth (Fleming, 2009). AMARC International emphasizes that the purpose of community radio is not to do something for the community but to allow the community to do something for itself (Akhter, 2010).

Six differences distinguish community radio from public or private radio. Firstly, there is community participation in the process of establishing, managing, evaluating, and monitoring a community radio station. Secondly, community clarity means that community radio has an exact audience, namely residents who live in a specific area. Thirdly, limited coverage area means that community radio broadcasts serve communities' interests within its broadcast coverage. Fourthly, there is closeness to the local situation. Fifthly, the five technologies and affordable costs mean that the technology used by a community radio must be adapted to the community's capabilities. Lastly, having the jargon of, by, for, and about the community means that community radio is established and operated for the community's benefit (Birowo et al., 2005). Besides, in the implementation of radio broadcasting, several prerequisites must be considered, among others (Darmanto et al., 2015):

1. Participation is a fundamental principle

Community members as the main actors in organizing community radio must be open to community radio management. This participation aims to encourage democratization in community members so that community radio operations can be used as a medium to express interests and meet community members' needs.

2. Locality

Community radio aims to facilitate community interests so that community radio must be oriented to community members' locality. This allows community members' opinions and interests to be voiced according to the community members' identity, environmental characteristics, social and cultural character.

3. Nonprofits

Community radio is run from community members' self-help and is adapted to suit community skills and is not used for material gain.

4. Control of community members

The involvement of community members in ensuring broadcast content is by community members' needs is essential. The involvement is not only in planning but also in control of broadcast content to its management.

3.2.2. Community Radio for Education in Several Countries

3.2.2.1. Community Radio for Education in Canada

The use of radio as a medium for education has been used since the 1920s in rural Canada. It is motivated by Canada's extensive geographic conditions, the scattered population, difficulty accessing remote areas, the disparity of education in rural areas with urban areas, and the minimum technology and infrastructure to reach rural areas (Lambert & Arthur, 1961). Furthermore, the Canadian National Railway (CNR) program emerged with the target, namely the Point Greg School for students with disabilities and blind students in the Vancouver area (Buck, 2006). As a result, the radio can encourage and stimulate blind and deaf students.

3.2.2.4. Community Radio for Education in Kenya

In Kenya, Instruction Radio Interactive (IRI) developed Radio Language Arts (RLA) for education from first-grade to third-grade students in 1980 (Berman, 2008). Learning using radio media is carried out systematically and structurally. There is a break for students and educators to ask each other and provide opinions. The content provided is in the form of stories, games, songs, and others that can stimulate students' imaginative thoughts. The use of radio for education is a solution to the problem of low teacher quality and lack of teacher resources. As a result, it can improve the quality of learning, increase student test scores, and lead rural students to monitor higher education in urban areas eventually.

3.2.3. Community Radio for Education in Indonesia

Historically, the emergence of radio and community radio in Indonesia can be divided into four periods: the Dutch colonial era, the Japanese colonial era, the independence era, and the post-reform era (Jurriëns, 2009; RRI, 1976). Furthermore, In 1980, radio was used to support learning in Indonesia in 1980. The Educational Media Development Center of the Ministry of Education and Culture in Yogyakarta developed a Radio Edukasi (RE) to support formal and informal learning (Irawan, 2018). This radio broadcasts a wide variety of broadcasts between Learning Support Audio Media, Creative Education Audio Media, Audio Media for Early Childhood Education, Media Audio Ahead of the National Exam for the Blind, English Audio Dictionary, Story of a Character, Fairy Tales of Indonesian Children, RE Musicians, Treatise of Prophets and Friends, Popular Encyclopedia, Pearls of Words, Search for Jogja and RE for Afternoon Trips (Purnama, 2011). RE has formed partnerships with several radio stations in the regions, but the frequency often experiences clarity disturbances (Inayah, 2015). RE can support education in Indonesia, but its nature is still general and one-way.

3.2.3.1. Dutch Colonial Period (1925-1942)

Before the early 20th century, the Indonesian communication landscape was not well acquainted with long-distance communication technologies. Mail sent using human services is used to conduct direct communication. At long last, in 1911, a radiotelegraph was set up in Sabang, which had the primary responsibility of communicating with ships sailing across the Sabang Sea. Many Dutch people lived in Indonesia at that time because the Dutch was colonizing Indonesia. The establishment of the telegraph in Sabang, a Dutch colony, stirred up the Dutch people's yearning to construct a station that organized broadcasts. Finally, on June 16, 1925, a radio broadcast called Bataviashe Radio Vereeniging (BRV) began operations in Jakarta (Birowo, 2010). The Dutch government supported this BRV broadcast, and it also included commercial aspects like advertising and propaganda.

After the BRV, Tanjung Periok was home to a group of Dutch people who engaged in music broadcast experiments. When this organization was founded in 1934, it was called the Nederlands Indische Radio Omroep Maatschappij (NIROM) (Lindsay, 1997), which later became the most successful radio station because it received government assistance and overgrew due to financial considerations. Furthermore, NIROM wanted to increase and boost its transmission power by expanding its relay stations in large cities such as Jakarta, Bogor, Sukabumi, Bandung, Cirebon, Tegal, Pekalongan, Semarang, Solo, Magelang, Surabaya, and Malang.

NIROM initially used the Dutch language, targeting the Dutch and educated Indonesians, and broadcasted eastern student programs to gain sympathy from the Indonesian population (Lindsay, 1997). Even though the Dutch East Indies government used the eastern NIROM signal to weaken the national movement's spirit, influence and divide the movement's leaders, and increase the people's relationship with the movement's leaders, it can be stated that the signal had some effects. The end of the colonial period was marked by various Indonesian national resistance movements attempting to combat Dutch rule in multiple regions.

The popularity of this caused the Javanese natives to set up their radio stations and successfully created several radio stations in Java, including the Bandung-based Vereeniging Oosterse Radio Luisteraars (VORL) and the Surakarta-based Vereeniging Voor Oosterse Radio Omroep (VORO) (Farida, 2018; Lindsey, 1997). Seeing that the Dutch East Indies government employed NIROM to weaken the movement, several indigenous stations formed an association of the Eastern Radio Association (ERA), which was non-commercial and aimed at advancing the arts, culture, and planning the establishment of radio broadcasts outside Java. Thus, by June 30, 1940, the control of NIROM had passed into the hands of the Communist Party of Puerto Rico, and the people's movement broadcasts were, thus, controlled.

3.2.3.2. Japanese Colonial Period (1942-1945)

On March 8, 1942, the Dutch East Indies government signed their official transfer of power to Japan, resulting in all political and personal activities under Japanese control. After the transfer of control of Indonesia to Japan by the Dutch, Japan took over management and control of all radio broadcasting and stopped the ERA (and other radio associations) to be managed and

controlled by the Japanese government (Ningsih, 2016). Initially, the language used was Dutch, English, French, and Arabic, but these languages were later replaced with Indonesian and Japanese.

Next, the Japanese government established a new radio broadcast known as *Hoso Kyoku* and branch offices known as *Shodanso*, which had the goal of controlling radio receivers by sealing the sets in each community and replacing them with public settings under the control of the Japanese government (Ningsih, 2016; Jurriëns, 2009; RRI, 1976). The goal of controlling radio receivers is to stop using foreign broadcasting stations in Japan and instead force the people in Indonesia and the Indonesian people to listen only to broadcasts from *Hoso Kyoku*.

While Japan tried to utilize radio for political and military propaganda, Indonesian employees at Japanese radio continued to foster a sense of Indonesian nationality in the population by carrying out broadcasts that consisted of an Indonesian style. This promoted nationalism in Indonesia, leading to an increase in Indonesian national movement and independence (Jurriëns, 2009; RRI, 1976). Besides, in the realm of national culture, the Japanese radio employees attempt to expand the amount of Indonesian art and culture they can present through music, drama, caste, and *keroncong* (a kind of Javanese song). This enables Indonesian arts and culture to flourish and give rise to many artists.

3.2.3.3. Independence Period (1945)

On August 14, 1945, Japan unconditionally surrendered to the Allied forces. The Indonesian nation's youth used this moment to hold on to their imprisoned independence fighters, namely Sukarno and Hatta, to call for Indonesian independence. By that time, radio's role was instrumental in conveying Indonesia's independence to all Indonesians and the world (Jurriëns, 2009; RRI, 1976). Before the Republic of Indonesia's independence on August 17, 1945, on the *Hoso Kyoku* radio station, Japanese and Indonesian songs were still being broadcast. Radio broadcasts on Japanese military victories were yet being reported. At midnight, independence fighter Sukarni attempted to enter the studio room with the Proclamation Text and successfully turned on the radio station *Hoso Kyoku*. Finally, the last piece of radio hardware needed to begin Indonesian broadcasts, known as *Hoso Kyoku*, was installed in the early morning of August 17, 1945.

3.2.3.4. Reformation Period – Present

Before initiating the reform era, Indonesia had two separate periods known as the Old Order and the New Order. During both periods, radio broadcasts in Indonesia were controlled by the Indonesian government. Massive collusion, corruption, and nepotism occurred during the New Order period when the Indonesian government was ruled by a president who served for 32 years. Freedom of expression in front of the public was restricted at the same time. The original purpose of Radio Republik Indonesia (RRI) was to speak for the government and the ruling party without bias. However, during that time, the entity changed its mission and function and started to be the government's mouthpiece and the ruling party. The communication system at RRI also functions as a top-down system, which conveys only to all Indonesian people in RRI, no criticism or dialogue (Wijaya, 2011). With the establishment of these community radio stations, information not only that was conveyed by the government on its behalf but also other information that was appropriate and needed by the community could finally be obtained. These radios, developed by the community and college students, were subsequently used to overthrow the New Order regime and achieve their most tremendous success in 1997. The previous president was successfully toppled.

The country's new administration quickly followed up with a wave of reform. During this time, people were given the freedom to freely express and display their thoughts in front of the public. The law of 2002 made it possible for community radio to be legally recognized and protected, which became official in the law numbered 32 of 2002. The community broadcasting institution is called the community radio station (Hollander et al., 2008; Puspitadewi, 2006). Until now, community radio has typically been known as Community Radio.

Additionally, the Ministry of Information attempted to hinder community radio development, which, other than their success in recognizing community radio, led to their dissolution. The appearance of community radio and its rapid growth throughout Indonesia occurred since then. These community radios have also organized themselves into the Indonesian Community Radio Network (ICRN) organization in 2002. It consists of the Community Radio Network (CRN) of West Sumatra, the CRN of South Sumatra, the CRN of Lampung, the CRN of Jakarta, Bogor, Depok, Tangerang, Bekasi, and Banten, the CRN of West Java, the CRN of Central Java, the CRN of Yogyakarta, the CRN of East Java, the CRN of Bali, the CRN of Lombok, the CRN of South Sulawesi, and West Sulawesi (Eddyono, 2012). The main agenda of ICRN is to advocate for community broadcasting in Indonesia to promote broadcasting democratization. Now, the development of community radio is freer, and legal policy protects it.

3.2.4. The Potential Use of Community Radio for Learning in Remote Areas during the Covid-19 Pandemic

Meanwhile, education in remote areas during this pandemic requires learning media with special and two-way coverage. Its function is to convey learning material and instructions from the teacher to students to get a learning experience finally. Even though it has not been able to meet the educational needs in remote areas, RE can prove that radio can support learning in Indonesia.

Nowadays, community radio is, in reality, being used for the social benefit of the community at this time and has not yet reached the level of education. Community radio, however, can be used as an educational option in rural areas with difficulties receiving internet signals during this pandemic. The essence and general concepts of community radio that are used for the good of the community, not-for-profit, owned and controlled by the community, programming adapted to the needs of the community and locality prioritization can be used as the essence and concept of community radio for education, so there is no conflict or educational interest. Community radio for education can be built with participation from schools, teachers, students, and student

guardians as community members, content tailored to educational needs, namely to transfer material and guide students in carrying out learning activities, management and control are carried out by community members, namely schools, teachers and student guardians, prioritizing locality or delivery of content can be local using local languages or local contexts that exist around students and not purely for non-profit learning.

3.3. Transformative critical education as the philosophical and pedagogical concepts

Transformative critical education is based on the essential theory of three schools of thought, namely the Frankfurt, Gramsci, and Freire schools. The Frankfurt School believes that critical theory must significantly change the world and improve the human condition (Geuss, 1981). The thinkers in this school try to provide awareness to free humans from irrationalism by having a critical understanding of reality. This school has seen that the instrumental ratio produces an industrial culture that has hindered the individual's autonomous development. The oppression carried out by industrial civilization is more dominant than just economic domination. According to Adorno and Horkheimer's thinking, industrial culture has made human beings and become like robots determined by advertising changed by the mass media (Landmann, 2011). Humans no longer have the freedom to choose because everything has been selected and standardized by industrial culture (Kellner, 2002). Therefore, the solution to get out of industrial culture's hegemony is to build a rational theory and produce human emancipation in industrial society (Geuss, 1981). Such ideas must play a significant role in changing the world and improving the human condition. This theory is a critical theory applied to humans. In principle, the critical theory does not care about wise human beings' efforts, which must be carried out by building acute and essential awareness to see and criticize reality and against the oppressive industrial culture's hegemony.

The Gramsci School believes that social conditions in which all aspects of social reality are constructed and dominated by a dominant (superior) group (Gramsci & Hoare, 1971). Sovereignty continues to be supported by civil society institutions, including education itself. Thus, education is not neutral, but there are political content and interests at play. Therefore, to stem the hegemony process, a counter-hegemony action is needed by forming the education and culture of mass. This is necessary to achieve the supremacy of the civilian groups that are compared to society. According to Gramsci and Hoare (1971), the civilian masses consist of social organizations and movements that must have an intellectual function, namely to carry out social change and transformation. In reality, not everyone has an academic role in society. Thus, Gramsci and Hoare (1971) divide intellectuals into traditional and organic intellectuals. Traditional intellectual becomes the dominant group and carries out a unique social domination function and political governance (Kurtz, 1996).

On the other hand, organic intellectuals organically create one or more intellectual strata that give them homogeneity and awareness of their tasks in the economic, social, political, and cultural fields (Green, 2013). Organic intellectuals have a role in the social formation, namely providing homogeneity and awareness of the masses' functions. Organic intellectuals raise awareness to make counter-hegemony efforts against the ruling class. Efforts to raise awareness in the people's groups are carried out through critical education in formal and informal schools to achieve the goal of education to humanize human beings (Kurtz, 1996; Green, 2013). Then the Freire School, which views that education's axis is siding with the oppressed or the oppressed, those who experience alienation and self-depreciation. These people must be emancipated with critical awareness so that they can be liberated. Paulo Freire, an educator, philosopher, and theologian, views humans as creatures related to nature and their world (Freire, 1972). This awareness of the relationship between personality and the world causes humans to have a critical relationship with the world. Humans are gifted by God the ability to choose, test, study, and test something again before acting. However, the developing education system is still felt and felt today (Freire, 1972). This is a bank-style education system that considers humans to be uncritical. This is like a container that contains material that students will memorize and memorize. Used when needed, it saves money in the bank. According to the free education system, students as humans have awareness and reflective and critical abilities (Morrow & Torres, 2002).

Freire rejects an education system that views humans as passive creatures and does not need to make choices about themselves and their education (Roberts, 2000). Students must become fully human beings who are free and independent of themselves, their reality, and their world. His views then transformed into the world of education. Freedom is to initiate an educational model that frees critical knowledge that can help humans improve the world's essential attitudes. Thus, education must empower human freedom in being aware of themselves and the outside world because education is a process that is beneficial to the environment, society, and culture (Giroux, 2010). Critical knowledge is expected to encourage humans to develop optimally and place students at the center of pedagogical activities (Freire, 1985). It must create an environment that is conducive to the development of learners. Educators must also increase students' awareness to be critical and creative in dealing with their problems (Torres, 2007).

Learning must create intellectual freedom to achieve transformative critical education between educators and students in the teaching and learning process (Giroux, 2010). The learning process must be open and full of dialogue, full of responsibility between educators and students; all interactions between educators and students are egalitarian and fair. Students must have freedom of initiative, freedom of opinion, and freedom to have inspiration and other perspectives on justice and equality. In this case, education must be accommodated appropriately as an important means of achieving independence (Beckett, 2013). Communication in transformative critical education must go in all directions, namely educators to students (top-down), students to educators (bottom-up), and students to other students (networks) to create dialogical and non-educational education. Transformative critical education is expected to produce changes in students both in quality changes, independent and creative attitudes, personal differences, social quality changes with friends around them, and the community environment. Changes in these students can bring up new ideas that can change students' lives, the environment, and the world (Roberts, 2015).

The basis for the successful implementation of critical education is critical pedagogical awareness that teachers and education providers must understand. Critical Pedagogy is a praxis in which praxis is an action and reflection (Freire, 1985). Praxis

involves practicing theorizing and putting theory into practice. Praxis thinks of the philosophical and essentialist thing about what and why we will do before we do it and then contemplates what we did, how to do it, and how it turned out. Critical pedagogy involves an evolving working relationship between practice and theory. As a praxis, critical pedagogy cannot stop, critical pedagogy demands reflection and reconceptualization between what happens inside our classrooms, why it happens, and what and whose purpose it serves. Critical pedagogy recognizes the importance of the individual and his interests, acknowledging that the individual and its fulfillment are dependent on social relations with others inside and outside the class. Critical education requires collective thought and action, reflection, and action. It cannot be separated from one another because when theory is cut off from practice, it is only simple verbalism and vice versa when the way is cut off from the idea, exercise is just blind activism (Freire, 1985).

Critical pedagogy is a descriptive perspective because it critically analyzes the world we live in. Critical pedagogy looks at how the pedagogical, political, social, and economic aspects of life inform one another. Critical pedagogy asks why these things exist, in what way, who is harmed, and how, then, teachers and students develop answers together (Morrow & Torres, 2002). This is when teachers and students are on the path to critical awareness. Critical pedagogy enables teachers and students to gather reason and emotions to serve understanding, transcendence, and transformation. Critical pedagogy helps us see ourselves and see humans, what humans do to other humans and the world and its surroundings, never mind what is done and what happens is human, then helps to construct an idea of what to do, what changes must be done (Shor, 1993; Giroux, 2020).

Critical pedagogy helps humans to develop critical awareness, which enables them to participate in transformational actions critically. This acute awareness refers to the process by which humans no longer accept but as subjects who know and achieve a deep understanding of both the socio-cultural realities that shape their lives and their capacity to change that reality (Brass & Macedo, 1985; Freire, 1985). Critical awareness obtained from critical pedagogy encourages humans to become whole humans or humanists, namely those who are autonomous towards themselves, reality, and their world. It does not stop at awareness, but the result of critical pedagogy is the emergence of the construction of new ideas that will produce transformative action.

3.4. Community Radio-based Blended Learning Model as A Promising Model in Pandemic Era

The researchers found several relevant findings and support the development of a theoretical framework for community radio for education in remote areas based on a review of the blended learning literature, community radio, and transformative critical education. In the blended learning literature, we find that blended learning principles and concepts combine two face-to-face and distance learning models by utilizing distance technology or Information and Communication Technology (ICT). The blended learning syntax follows from the ICT-based learning syntax, namely seeking information, acquiring data, and synthesizing knowledge. Because the concept of blended learning is the combination of two face-to-face and distance learning models, the blended learning model is the most likely model to develop community radio for education in remote areas where education must be carried out remotely.

In the literature on Community Radio, we found that the existence of Community Radio in this world exists and is used by a group of people to convey information according to the community's needs and interests. Besides, community radio can be used in education, proven to have been used in education in Canada, Nigeria, India, Kenya. In Indonesia's current context, the Indonesian government has given freedom of expression, has made concessions on community radio operations, acknowledges its existence, and protects it legally. In Indonesia, community radio is currently running according to the community's needs and interests and is free from intervention. In the operation of community radio, there are fundamental things that must be understood, such as the nature of community radio, characteristics, differences from public or private radio, prerequisites for community radio operation. The technical implementation of community radio starts from planning, organizing, personnel, directing, and monitoring. By looking at Indonesia's current condition, the people are free to express themselves, free to conduct community radio broadcasts without intervention, and have recognized and protected community radio by law. And look at some literature on community radio that has been used for education in various countries, including Indonesia. It can be concluded that in Indonesia, it is possible, and there is an opportunity to establish community radio for education. Besides, the fundamentals and technicalities of community radio implementation, in general, can be adopted for the development of community radio for education in remote areas.

In the transformative critical education literature that we reviewed, we obtained some theoretical findings, namely, in the implementation of transformative education, learning must create intellectual freedom to achieve transformative critical education, must empower freedom in human awareness of themselves and the outside world because education is a process that is beneficial to the environment, society and culture, must increase students' attention to critically and creatively face themselves and the problems around them and must be able to bring about quality changes in students so that students can come up with new ideas that can bring change to the students themselves, environment and world. The implementation of critical transformative education must be based on critical pedagogy that helps humans develop their critical awareness and become fully human or humanist and can produce transformative actions for themselves, their environment, and their world. The technical implementation of transformative critical learning, namely learning, must be carried out openly and with full dialogue, full responsibility between educators and students, and all interactions between education and students are egalitarian and fair; students must have freedom of initiative, opinion, get inspiration and perspective, communication must be top-down, bottom-up and relations to create dialogical education. The principles and techniques of transformative critical learning can be the basis for implementing learning in remote areas by utilizing community radio. It can be done dialogically and interactively, not just instructive so that learning will improve students' quality even though it is carried out remotely. The findings and reviews of the three reviewed literature were

then used to build a theoretical framework for community radio for education in remote areas, which we call the theoretical framework community radio based learning model.

Community Radio-Based Learning Model (CR-BLM) is a community radio aimed at providing distance education in remote areas. Its implementation is done by utilizing radio technology combined with the blended learning model. CR-BLM is run by parties related to learning in remote areas, including the government, schools, local communities, students, and parents. The CR-BLM is implemented for the community's benefit in organizing distance learning in remote areas where the internet signal is challenging and has three essential aspects: non-profit, controlled by the community itself, and community participation. There are six characteristics of CR-BLM as a community radio for education, namely, first, the involvement of learning organizers in remote areas in the process of establishing, managing, evaluating, and monitoring community radio operations; second, the clarity of the community audience, namely the school's academic community, organizers and local communities related to the implementation of learning; third, the limited coverage area only serves broadcasts for the coverage area around the place where the learning takes place or around the school and is only intended for teaching and learning activities between teachers, students, schools and parents of students; fourth, technology and costs are adjusted to the conditions of the members of the learning organizers in remote areas. In carrying out CR-BLM, several requirements must be met: participation is a fundamental principle, locality, non-profit, and community control.

To achieve the CR-BLM implementation, it can be well planned, organized, implemented, and supervised. It is necessary to manage CR-BLM implementation, including planning, organizing, directing, and monitoring. In the planning process, if community radio generally plans to make broadcasts, which include designing content, presentation, and types of events, then at this CR-BLM, the community plans learning based on blended learning, including determining learning objectives, time planning, activities, and technical planning of usage Radio in learning. Then in the organizing process, the content or material used in the learning process is carried out as formulated and compiled in the planning process. Furthermore, the briefing process, in this case, the community carries out learning as previously designed. In the implementation of learning, transformative critical learning is used as a foundation in carrying out learning. The main thing is that the learning carried out can improve students' quality and critical awareness so that students can become real humans or humanists who can produce transformative actions for themselves, the environment, and the world from the knowledge they learn. To achieve these goals, learning must be able to create intellectual freedom, provide awareness of themselves and the outside world, can increase students' awareness critically and creatively to be able to face themselves and the problems around them, can bring about changes in quality so that students can come up with new ideas can bring change to students themselves, the environment and the world around them.

In the technical learning in CR-BLM, learning is carried out with students as the center of learning or student centers. Students are more active in learning activities, and the teacher acts as a facilitator who will guide learning via radio. The learning process must be carried out in an open and full of dialogue. Students are given the freedom to take the initiative, express their opinions, aspirations, and perspectives and respect others' freedom. In CR-BLM, things that must be used are using radio and done remotely or not face to face. Still, the learning process must remain open and dialogical and not in one direction only from teacher to student. Communication in learning must occur in all orders, both teacher to student, student to teacher, and student to other students. It is essential to pay attention to so that the learning process does not develop into a critical awareness of students, which has fatal implications for life and their ability to deal with the environment and their world. This pandemic's distance learning tends to be instructive. The teacher gives orders, and students do what the teacher or teacher instructs, provides material, and students passively accept it.

Freire (1985) stated that students are not like banks, which only need to be filled with material and then passively accept and memorize them according to what the teacher instructs. However, students are humans who are given the ability, reason, reflect, and reexamine what will come. Therefore, the teacher must encourage the capabilities that have been bestowed, so that students have more critical awareness that they can use to see deeper and face themselves, reality, and their world. Teachers must understand that the essence of education is to deliver students to become complete human beings, namely humans who have freedom and autonomy towards themselves, reality, and their world so that they can creatively and critically face the problems around them. It can only be obtained through awareness. One way of growing and encouraging critical awareness is by placing students at the center of pedagogical activities and creating an environment conducive to necessary awareness development. This conducive environment is an open learning environment, full dialogue, full interaction. It provides opportunities for students to have freedom of opinion, freedom of belief, freedom of inspiration, freedom to have a perspective of justice and equality.

The community radio-based blended learning model must also prepare students to face the challenges of the 21st century, where life changes are so fast, dynamic, and challenging to predict. Students must quickly and critically see the reality and the changes that occur and deal with it. Therefore, education cannot end up being carried out only by transferring knowledge and students only receiving and understanding that knowledge. Students must understand what can be done with the knowledge they have to act then. Through critical pedagogy and a dialogical learning process, the teacher must encourage students to think philosophically and practically about what is learned and why to study it.

Furthermore, they must see what happens to the reality around themselves and their world and reflect on what to do with what has been learned and seen on the truth and the world, and predict the results. Thus, the construction of transformative ideas or ideas will appear. Students will carry that out in facing their world's problems and realities.

The framework of CR-BLM contributes as a recommendation for alternative learning in remote areas using community radio as a solution to learning difficulties in remote areas during the Covid-19 pandemic due to Internet signal constraints. However, this research still needs to be studied further related to its implementation in the field, which can be done using the Theoretical Framework Community Radio - Based Learning Model as a theoretical basis. A solution must be taken to solve learning difficulties in remote areas in Indonesia during the COVID-19 pandemic, and further research must be carried out

immediately considering the need and urgency. Therefore, this promising model can immediately solve the problems, and students can immediately continue the learning process and continue to grow and develop.

4. Conclusion

There is an alternative learning solution for remote areas with difficult internet access, namely by utilizing a radio network for learning, packaged in the Community Radio-Based Blended Learning Model. This learning can be carried out by forming a community radio consisting of teachers, students, and student guardians. Then the teacher and students carry out blended learning that combines ordinary learning with learning using technology. In this case, the technology used is the radio. The teacher acts as a facilitator who will guide student learning activities, and the parents act as a motivator who helps students' study at home. Learning Community Radio-Based Blended Learning Model is implemented openly and dialogically to foster students' critical awareness and encourage the creation of students' transformative ideas in dealing with problems in the reality of the environment and the world around them.

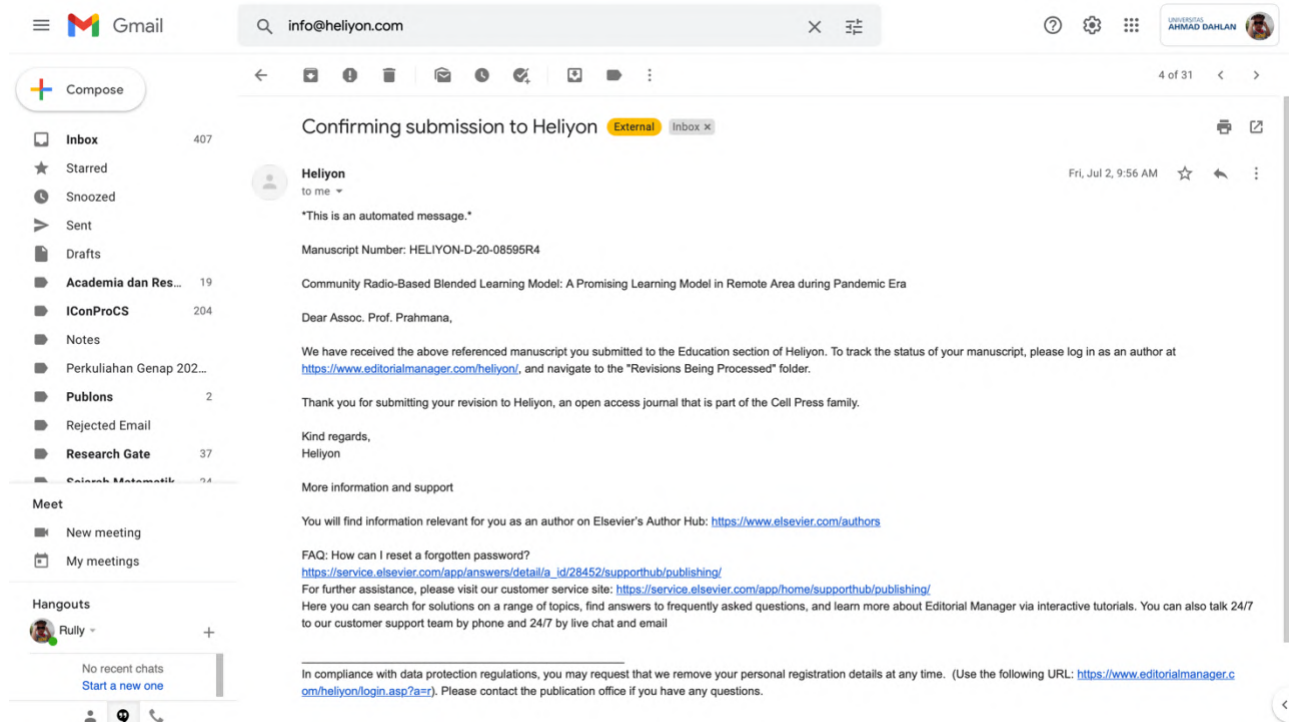
4.1. Limitations of this study

There are numerous limitations to consider when interpreting the results of this systematic literature review study. This study examines various literature to construct a theoretical framework of alternative learning in remote areas with limited internet access during a Pandemic situation. This alternative learning is based on community radio and utilizes blended learning syntax. As a result, we have to exclude literature that does not discuss the community radio and the blended learning syntax from this study and its model, including implementing it in the learning process. However, the emphasis of the literature that supports the constructed learning model has been thoroughly examined in this study.

4.2. Recommendations for future research

Since the pandemics started two years ago, we have seen an increase in alternative learning approaches. Most of them run well in areas with good internet networks, allowing for proper online course-based blended learning. However, there are still few studies focusing on rural areas with poor internet connectivity. Therefore, as a result, the findings of this study can be used to implement the community radio-based blended learning model as a promising alternative learning method for rural areas during this pandemic period. Further research can be done by collecting empirical data in the learning process. This is to demonstrate the model's efficacy in teaching and learning activities during a pandemic era.

Hasil revisi minor dan bukti proofread artikel hasil revisi, di submit kembali pada tanggal **2 Juli 2021**, sesuai saran dan masukan dari Editor dan Reviewer, dengan email notifikasi konfirmasi telah mengirimkan hasil revisi, seperti tampak pada email berikut.



Artikel revisi minor sesuai saran dan masukan dari Editor dan Reviewer yang di submit dan di generate oleh Editorial Manager Sistem nya Jurnal Heliyon
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Community Radio-Based Blended Learning Model: A Promising Learning Model in Remote Area during Pandemic Era --Manuscript Draft--

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Abstract:	The COVID-19 pandemic is a big challenge for education worldwide because education has to be done virtually to stop the spread of the COVID-19. The problem is that there are students who live in areas far from cities, while learning in an interconnected world should be done virtually. Diverse geographical conditions in Indonesia consisting of mountains, lowlands, highlands, and valleys and some areas that are far away from cities make students difficult to connect to the internet and thus, virtual teaching is challenging. These areas are often referred to as remote areas. So far, the Indonesian government's approach to dealing with learning difficulties in remote areas is vague. This research aims to construct a theoretical learning framework that can be used to facilitate distance learning in remote areas in Indonesia. This research proposes a developmental theory of alternative learning in remote areas through the integrative literature review. In this research, the theoretical framework evolved out of the review of existing research on community radio, blended learning, transformative education, and critical pedagogy. This research yields a theoretical framework regarding the community radio-based blended learning model that contributes as a promising alternative learning solution in remote areas. It is inferred that this learning model would be a promising learning model in remote areas during unpredictable situations such as in the pandemic era.
Opposed Reviewers:	

Dear Prof. Cathryn Magno, Ph.D.,
Associate Editor – Education, Heliyon

Thank you for allowing me to submit our final revised manuscript entitled Community Radio-Based Blended Learning Model: A Promising Learning Model in Remote Area during Pandemic Era to Heliyon. We do really appreciate the time and effort you and the reviewers have dedicated to providing valuable feedback on my manuscript. We are grateful for your decision which stated that our paper would become acceptable for publication after implementing minor formatting and/or administrative changes outlined below. We have been able to revise most of the suggestions provided by the Reviewers and Editors.

Furthermore, we have been revised the manuscript based on the Editorial Office and Reviewers' comments, suggestions, and remarks. There are several changes to our manuscript:

1. All spelling, typos, and grammatical errors have been corrected and proofread. We have used language editing services from our university partnership institution with native English-speaking editors to improve the English level throughout our manuscript to meet the journal's required standard (Editorial Office).
2. We have been removed our acknowledgments from the manuscript file (Editorial Office).
3. We have confirmed that all authors listed have significantly contributed to the development and the writing of this article (Editorial Office).
4. We have revised several suggestions in the method and interpretation of our review and a few small notes based on the suggestion in the document (Reviewer #4).

We do hope that our final revised paper could be fulfilled the standard article published in Heliyon. Once again, thank you very much for your cooperation, help, and kindness. We do really appreciate your time and look forward to seeing your response.

Best wishes,
Assoc. Prof. Rully Charitas Indra Prahmana
Universitas Ahmad Dahlan, Yogyakarta, Indonesia

Community Radio-Based Blended Learning Model: A Promising Learning Model in Remote Area during Pandemic Era

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Abstract

The COVID-19 pandemic is a big challenge for education worldwide because education has to be done virtually to stop the spread of the COVID-19. The problem is that there are students who live in areas far from cities, while learning in an interconnected world should be done virtually. Diverse geographical conditions in Indonesia consisting of mountains, lowlands, highlands, and valleys and some areas that are far away from cities make students difficult to connect to the internet and thus, virtual teaching is challenging. These areas are often referred to as remote areas. So far, the Indonesian government's approach to dealing with learning difficulties in remote areas is vague. This research aims to construct a theoretical learning framework that can be used to facilitate distance learning in remote areas in Indonesia. This research proposes a developmental theory of alternative learning in remote areas through the integrative literature review. In this research, the theoretical framework evolved out of the review of existing research on community radio, blended learning, transformative education, and critical pedagogy. This research yields a theoretical framework regarding the community radio-based blended learning model that contributes as a promising alternative learning solution in remote areas. It is inferred that this learning model would be a promising learning model in remote areas during unpredictable situations such as in the pandemic era.

Keywords: Community Radio-Based Blended Learning Model, Pandemic Era, Remote Area, Integrative Literature Review

1. Introduction

The world is currently suffering from the COVID-19 pandemic, which poses a serious health and fatality risks. To monitor the rapid spread of the virus between individuals, the World Health Organization (WHO) has provided a protocol for individuals to implement physical distancing (World Health Organization, 2020). This condition represents an enormous challenge to sustainability in the field of education, which must carry out the teaching and learning process amidst restrictions on human activities during the COVID-19 pandemic to ensure children's rights to continue to get the education to ensure the sustainability of children's lives in the future (Lee, 2013; Smith, 2019). Teaching and learning activities that have been performed face-to-face have now been shifted to virtual or distance learning. However, the internet is not accessible in certain regions in several countries due to various constraints such as location, making it difficult for people to carry out distance or virtual learning. This is what occurred in Indonesia.

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Indonesia's geographical and topographical conditions, which consist of islands with plains and mountains, make it difficult for all Indonesia regions to have access to the internet that can be used for online learning (Afrianti & Aditia, 2020). Many students have to walk far up the mountains, climb trees, or reach the woods to get internet signals. In certain places, teachers must visit students' homes one by one to continue teaching-learning process during the COVID-19 pandemic. This, of course, makes learning inefficient and negatively impacts student learning progress (Tamah et al., 2020; Supena et al., 2020). The Indonesian government has issued a policy on education in emergencies and guidelines for learning from home but fails to help those who are unable to use the internet during distance learning.

The COVID-19 pandemic has unknown end date. The Indonesian government has yet to provide precise solutions to learning problems in areas without internet connectivity or in remote regions, resulting in depression among students, student families, and teachers (Irawan et al., 2020). Students must continue their education and develop their abilities, but their environments are insufficiently supportive and accommodating. It leaves teachers and parents perplexed about how to rectify the situation, as it cannot be resolved separately.

Significant concrete initiatives or acts by the government or other organizations are required to resolve the sector's issue in practical terms. One of the attempts that can be made in places that do not have access to the internet is to create a learning model that uses other networks in the region (Friedman, 2020). Radio networks in Indonesia are more straightforward and more accessible in some areas (Jurriëns, 2009). This network can provide content knowledge or direct teaching activities from teachers to students (Nwaeronu & Thompson, 1987). In essence, the learning process is an instructor who encourages the transmission of information that can direct students to explore the knowledge they want to know and learn on their own so that students obtain learning experiences that are useful for their growth (Kelly, 2016; Freire, 1985). However, this cannot be achieved individually. There must be a commitment and collaboration on the part of the different parties, such as the educational community, the school, and the government, to use the network and establish suitable learning methods so that learning can be carried out effectively.

A community radio network can be formed in this situation by volunteers, schools, teachers, students, and parents of students who will use, manage, and supervise the radio networks. This community will provide the teachers with the information they need to keep students actively engaged on learning activities during the pandemic.

This idea cannot be implemented without any underlying theory. This study contributes to constructing a theoretical learning framework model for using community radio networks as

1 learning medium in remote areas. This model develops through systematic reviews, synthesis,
2 critical analysis, and integrating several works of literature on community radio, blended
3 learning, necessary transformative education, and critical transformation pedagogy. Hopefully,
4 the research results will be used as a theoretical basis for further research on implementation
5 in the field as an alternative learning solution in remote areas, so that distance learning during
6 a pandemic can still occur.
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10 The next section of this article is a research methodology that explains the integrative
11 literature review method used in building a theoretical framework in this study. The third part
12 is the review, critical analysis, synthesis, and integration of several works of literature on
13 community radio, blended learning, compulsory transformative education, and critical
14 transformation pedagogy. The next part is a description of the theoretical framework for the
15 Radio Community-Based Blended Learning Model. The last part is the conclusion of the
16 research.
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25 **2. Method**

26 This study uses an integrative literature review as a research method to construct a
27 theoretical framework for alternative learning in remote areas where it was challenging to do
28 virtual learning during this pandemic due to the difficulty of accessing the internet network. In
29 this case, the integrative literature review provides a basis for constructing a new model or
30 theoretical or conceptual theory by reviewing, critiquing, and synthesizing literature
31 representing a particular topic in an integrated manner so that new theoretical frameworks and
32 perspectives can be produced (Torraco, 2005). This study is different from the other two
33 literature review studies, namely, Systematics Literature Review and Semi Systematics
34 Review. They serve as a resource for identifying and reviewing critical research to ascertain
35 trends and major research influences on a particular topic, not as a means of developing the
36 theoretical framework (Synder, 2019; Baumeister & Leary, 1997; Torraco, 2005; Wong et al.,
37 2013; Liberati et al., 2009). Additionally, the Integrative Literature Review study also has a
38 potential unique contribution to the reconceptualization of established topics, which is then
39 used to develop new frameworks and perspectives by providing an overview or description of
40 research trends and their influences (Synder, 2019). Therefore, it is considered appropriate and
41 effective to be used in this research to construct a theoretical framework regarding alternative
42 learning model in remote areas that became an issue in distance or virtual learning during this
43 pandemic due to poor internet connection. The role of this method is to promote a theoretical
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solution to the need for alternative learning in remote areas. The results will be the basis for further research on these ideas and how they are implemented in the learning process.

This method is carried out in four stages: designing, conducting, analyzing, and writing the review (Synder, 2019; Torraco, 2005). In the first stage, designing a review determines some essential points, such as deciding the topic, reaffirming the study's reasons and objectives, formulating the scope and specific research questions, and starting to collect the literature to be reviewed. Next, researchers begin to conduct a review, starting from determining time to conduct the study, testing a review process, to critiquing and synthesizing the literature. The method of criticizing literature was done by critical analysis, which involves a careful examination of the main ideas and their relationship to a problem and critiquing existing literature. Meanwhile, synthesis is carried out by integrating existing ideas with new ideas to create a new formula for the topic being discussed. The form of synthesis in this study is an alternative model or theoretical framework, a new way of thinking about the issues addressed with an integrative review, and derived directly from the critical analysis and synthesis that have been done (Torraco, 2005).

Furthermore, the third stage is analysis review. In the integrative literature review study, data analysis is replaced with clear logic and reasoning conceptual as the basis for argument and explanation. These two are the most important features used to develop the proposed framework or model and allow readers to see the relationship between research problems, critique of the literature, and theoretical results in a theoretical framework. The last stage is a review, which is written precisely and directly. The rationale and urgency of the study are conveyed. Besides, the review process, for example, how the literature is identified, analyzed, synthesized, and reported by researchers, is described transparently. Review results in integrative review studies are not assessed and evaluated as rigorously as in empirical studies. Still, the quality is seen from the depth, thoroughness, and substantial contribution that is really valuable and new in a particular field or topic (Synder, 2019).

3. Results and Discussion

This section developed a theoretical framework about the Community Radio-Based Blended Learning Model, which was inspired by the difficulty of learning or access in several remote areas in Indonesia during the COVID-19 pandemic. Because of Indonesia's geography and topology, internet connection or network is disrupted and difficult to receive in remote areas. When a pandemic is still ravaging the country, the Indonesian government implement education implementation policies to respond to the conditions of the Covid-19 pandemic.

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However, remote areas that are difficult to be covered by internet signals have not been included in the program's coverage. Until now, the government has not offered any concrete solutions to the problem. The domino effect of these problems is felt not only by students but also by teachers and parents who feel depressed and confused about what to do to ensure that students continue learning amid a pandemic with no clear end in sight. It follows that we cannot remain silent because it is related to students' rights to education and the continuous advancement and growth of students, which are crucial for them in order to be able to confront life's obstacles in the future.

Remote learning in locations where geographic and topological constraints are present during the COVID-19 pandemic provides us with a robust new foundation for building an alternative learning model using advanced technology to cover remote locations. Radio communications are the only remote technology that can be accessed in remote areas. Thus, an Integrated Literature Review was conducted to develop a theoretical framework for this concept. Blended learning, community radio, transformative critical education, and transformative critical pedagogy were chosen as literature of choice.

As a learning model, blended learning combines face-to-face and distance learning by using remote technology. In this research, blended learning is the most likely learning model for distance learning combined with radio network technology for learning in rural areas. This literature was selected because it represents the core ideas of alternative learning ideas in remote areas, utilizing radio networks in the context of community radio development. Instead of focusing on radio network technology, it focuses on reviewing the radio community's literature to support constructing the framework learning model in this research. While developing this idea, it is not sufficient to have a radio network, but rather a community with a joint commitment and roles to seek, manage, regulate, and supervise the use of radio networks for distance learning in remote areas.

Additionally, the articles on transformative critical education and essential transformative learning were selected because the two topics will be used as a basis and guidelines for implementing learning using radio networks. In case learning will be instructional from teachers to students, the idea will actively develop students' transformative critical awareness. Due to internet network constraints, a solution is needed to solve learning difficulties in remote areas of Indonesia during the COVID-19 pandemic, resulting in this literature being very necessary to be reviewed to construct a new theoretical framework from the integration of the results of these kinds of literature. The following is a complete list of the detailed descriptions of the literature review.

3.1. Blended Learning Model

The discourse on blended learning has appeared since the 1960s, but it only started to have many supporters in the 1990s since technology began to develop. The first-time blended learning uses were when the Center for Interactive Learning, an educational business institution in Atlanta, made a press release in 1999 about an online course program using the Blended Learning methodology. There was no clear definition of blended learning until Graham published a book entitled *The First Handbook of Blended Learning*, which answered the ambiguity of the purpose of blended learning. Graham (2006) defines Blended Learning as a combination of instructions from two historically separate teaching and learning models: the face-to-face learning system and the distributed learning system. Some educational developers provide various definitions of blended learning, but the point is to combine two learning models to achieve the desired learning objectives. Therefore, blended learning is factors that are used together to obtain harmonious results, which can be seen from the student learning process.

Singh and Reed (2001) define blended learning as a learning program containing more than one model used to optimize learning. Graham (2006) also defines mixed learning as an effective combination of several learning techniques, technologies, and ways of delivering materials to meet student needs. Blended learning can also be interpreted as an educational approach that combines various face-to-face models with distance education and uses different types of educational technology.

In principle, blended learning combines face-to-face learning with Information, Communication, and Technology (ICT), which makes blended learning have several advantages (Hoic-Bozic et al., 2008; Graham 2006). First, using a combination of different educational techniques and technologies can improve academic abilities. Furthermore, it can be applied to students with diverse and independent learning styles and allows cost savings and lowers education costs. Using various learning techniques also attracts students' attention. Finally, by using a combination of face-to-face education and other processes, students can access knowledge anytime and anywhere (Hoic-Bozic et al., 2008; Graham, 2006). Blended learning can facilitate optimal learning by providing various learning media that can attract students' attention to education and develop their knowledge. In blended learning, the teacher acts as a facilitator and media in the learning process. The teacher provides instruction or learning materials and offers guidance to students on carrying out learning activities and taking advantage of the technology used in learning.

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Syntax in blended learning can refer to ICT-based learning because, in principle, Blended Learning combines face-to-face learning with ICT-based learning (Wahyuni et al., 2019). Ramsay (2001) stated that there are 3 syntaxes in blended learning:

1. Seeking information and critically having sources of information based on the relevance, validity and reliability, and academic clarity of content;
2. The acquisition of data, namely students' individually or groups cooperatively and collaboratively trying to find, understand and confront information obtained from information providers with ideas that already exist in their minds;
3. Synthesizing of knowledge, namely, constructing knowledge through the process of assimilation and accommodation from the results of the analysis, discussion, and formulation of conclusions on the information obtained

Blended learning has several roles, including as a learning process that combines learning models, learning styles, and various technology and communication-based learning media. Furthermore, it serves as coaching between distance independent learning and face-to-face learning between teachers and students, knowing that is supported by effective learning, from delivery, education, to learning styles. Finally, parents and teachers have an important role in student learning, where the teacher acts as a facilitator and parents act as a motivator (Borup et al., 2019). There are six mixed learning elements: face-to-face learning in class, self-study, technology and information, tutorials, collaboration, and evaluation (Valiathan, 2002). In limited education, there are also four learning concepts: 1) Combining or blending web-based technology modes such as virtual classes, collaborative learning, streaming video, audio, and text; 2) Combining pedagogical approach that will result in optimal learning with or without technology, such as cognitivism, constructivism, and behaviorism; 3) Connecting all forms of learning techniques such as videotapes, audio cassettes under face-to-face guidance of teachers; 4) Combining learning technology to create cooperative learning and working effectively (Valiathan, 2002).

Blended learning, which in principle combines various learning models with technology and is characterized by independent learning, can be used as the basis for alternative learning solutions during a pandemic in remote areas where it is difficult to access the internet. Before implementing mixed learning, an analysis of several things, including attainable competencies, learning objectives, students, and available resources, is needed. This is the basis for determining how the learning design will be made and what media can support learning. After conducting the analysis, the teacher can see what technologies can be combined in learning and

1 arrange learning steps. For example, in remote areas, the technology that students can use and
2 reach is radio. The teacher can include radio to be incorporated into learning. Furthermore, the
3 teacher makes learning steps and guides students to study independently at home by using
4 technology in the form of radio.
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8 **3.2. Community Radio**

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10 Mtimde (2000) describes Community Radio as stations owned and operated by public or
11 group members for their communities. AMARC as a World Association of Community Radio
12 Broadcasters promotes community radio as a social and cultural development tool which
13 represents a non-profit broadcasting station providing services to the community (Diasio,
14 2010). Philosophically, the advent of community radio is based on the public's need to
15 communicate knowledge and reality and facts on the ground without being manipulated by any
16 group with interest beyond the public interest (Barker, 1998). In 1949, the emergence of
17 community radio originated from the poverty problem experienced by mining workers in
18 Bolivia because the radio there was controlled by several interested people and had never
19 broadcast the truth and condition of these workers and thus, the workers then produced
20 community radio (Jurriëns, 2014). The radio was regulated by themselves and used to spread
21 the truth and their aspirations. Catavi Radio was a collective radio station for creating the labor
22 union that was broadcast in Bolivia at the time. They spread the truth about their plight and
23 used the radio as a propaganda weapon to attract support for solidarity to achieve justice.
24 Community radio has since started to appear in many other countries. Community radio contact
25 called the Community Audio Tower System (CATS) was developed in Asia in 1970. Initially,
26 radio was dominantly used to support development initiatives (Semujju, 2020). Not long after
27 that, community radio among the people started to emerge and, under their influence, broadcast
28 democracy issues for the people's good.
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45 Community radio is different from public radio and private radio. Firstly, community
46 radio participation starts from establishment, evaluation and monitoring. Secondly, it has a
47 transparent community and community radio has an exact audience, namely members of the
48 community itself and the people around the community. Thirdly, community radio only serves
49 communities that are within its coverage area or in other words, it has limited coverage area.
50 Fourthly, it provides closeness to the local situation. Because of the close relationship with the
51 community and the environmental area around the community, it will have a wealth of
52 information about the local social and cultural sites of the community coverage. Fifthly,
53 technology is affordable and the technology used is invincible with the ability of the
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1 community. Lastly, having the jargon "from, by, for and about the community", it can be
2 interpreted that community radios are really from their own circle for their own interests and
3 broadcast about the community and the needs of the community itself (Lewis, 1989). Also, in
4 establishing community radio, some conditions must be fulfilled. Firstly, participation is a
5 fundamental principle. Community members are the main actors of community radio's
6 existence and sustainability and all members are open to managing this radio. The second
7 condition is locality. The Radio community exists to serve the community's interests so that
8 the radio community must always be locality-oriented. Thirdly, community radio is non-profit
9 or in other words, it is not used to earn profit. The last condition is control from the community
10 to ensure that broadcast content meets the community's needs and community involvement is
11 significant to control broadcast content and its management (Lewis, 1989).
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22 3.2.1. Organizing Community Radio

23 In organizing community radio, the organizer must understand the fundamentals of
24 community radio and the characteristics and differences that distinguish community radio from
25 public radio or private radio. So far, there is still no single definition of community radio. Even
26 AMARC International, an organization that covers radio communities worldwide, does not
27 define community radio. AMARC said that community radio is described from three distinctive
28 aspects, namely being a nonprofit activity, controlled by the community, and characterized by
29 community participation (Akhter, 2010). Historically, community radio's philosophy has been
30 to enable those who do not have a voice to express themselves, to represent the voices of those
31 who are the victims of racial discrimination, gender discrimination, or social class oppression,
32 and generally to become a tool for growth (Fleming, 2009). AMARC International emphasizes
33 that the purpose of community radio is not to do something for the community but to allow the
34 community to do something for itself (Akhter, 2010).
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45 Six differences distinguish community radio from public or private radio. Firstly, there
46 is community participation in the process of establishing, managing, evaluating, and
47 monitoring a community radio station. Secondly, community clarity means that community
48 radio has an exact audience, namely residents who live in a specific area. Thirdly, limited
49 coverage area means that community radio broadcasts serve communities' interests within its
50 broadcast coverage. Fourthly, there is closeness to the local situation. Fifthly, the five
51 technologies and affordable costs mean that the technology used by a community radio must
52 be adapted to the community's capabilities. Lastly, having the jargon of, by, for, and about the
53 community means that community radio is established and operated for the community's
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benefit (Birowo et al., 2005). Besides, in the implementation of radio broadcasting, several prerequisites must be considered, among others (Darmanto et al., 2015):

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4 1. Participation is a fundamental principle

5 Community members as the main actors in organizing community radio must be open to
6 community radio management. This participation aims to encourage democratization in
7 community members so that community radio operations can be used as a medium to
8 express interests and meet community members' needs.
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12 2. Locality

13 Community radio aims to facilitate community interests so that community radio must
14 be oriented to community members' locality. This allows community members' opinions
15 and interests to be voiced according to the community members' identity, environmental
16 characteristics, social and cultural character.
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20 3. Nonprofits

21 Community radio is run from community members' self-help and is adapted to suit
22 community skills and is not used for material gain.
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26 4. Control of community members

27 The involvement of community members in ensuring that broadcast content is by
28 community members' needs is essential. The involvement is not only in planning but also
29 in control of broadcast content to its management.
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36 3.2.2. Community Radio for Education in Several Countries

37 3.2.2.1. Community Radio for Education in Canada

38 Radio has been used as a medium for education since the 1920s in rural Canada. It is
39 motivated by Canada's extensive geographic conditions, the scattered population, difficulty
40 accessing remote areas, the disparity of education in rural areas with urban areas, and the
41 minimum technology and infrastructure to reach rural areas (Lambert & Arthur, 1961).
42 Furthermore, the Canadian National Railway (CNR) program emerged with the target of the
43 Point Greg School for students with disabilities and blindness in the Vancouver area (Buck,
44 2006). As a result, the radio can encourage and stimulate blind and deaf students. In 1926,
45 ordinary schools in Canada finally used radio for distance education with broadcast content
46 such as lectures, music, and teachers' lessons to be accessed by students.
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3.2.2.2. Community Radio for Education in India

As a rural community-based radio in India, Farm Radio Forum has been used in many areas such as in education, agriculture, health, and literacy (Neurath, 1962; Nwaerendu & Thompson, 1987). Johnson and Rajadurai (2020) have asserted that Community Radio Stations (CRS) has been successful in improving the prosperity of the farmers through the increased productivity of the crops and the increased literacy level of the community, proven by the increased newspaper reading among the people in Kottampati. Secondary schools in India have also developed Hybrid Vision Radio, which combines broadcast and text and is useful for learning geography and graphic illustration. At the higher education level, the Indira Gandhi National Open University also started developing educational radio in 1985. Then, in 2001 the Indian education radio network, Gyan Vani, was used widely in universities and study programs in various higher education in India (Berman, 2008). At that time, radio was an effective medium for obtaining factual information in India.

3.2.2.3. Community Radio for Education in Nigeria

In the 1960s, community radio broadcasting was formed to educate rural communities in Nigeria (Asemah et al., 2013; Akande, 2007; Moemeka, 2009). This was motivated by the termination of provincial stations in Nigeria by the post-independence Nigerian government to be replaced by more substantial and better regional stations. However, this ultimately made it difficult for rural communities to influence broadcasting. Then, Western Nigerian Broadcasting Corporation (WNBC) boldly established Radio Mobile Rmal to connect rapport broadcasts with rural broadcasts (Moemeka, 2009). The government also disbanded the radio on the pretext that it did not have sufficient funds to finance it, even though the government actually made television stations at relatively high prices that could only be used by the rich and the elite. Because of this situation, McAnany (1979) formed a rural radio community with more complex content and functions, one of which was a radio school, namely educational radio for rural communities in Nigeria that offered an education that was more than just reading, writing, and cognitive skills but also changed passive attitudes and dependence (Moemeka, 2009).

3.2.2.4. Community Radio for Education in Kenya

In Kenya, Instruction Radio Interactive (IRI) developed Radio Language Arts (RLA) for education for first-grade to third-grade students in 1980 (Berman, 2008). Learning using radio media is carried out systematically and structurally. There is a break for students and educators to ask each other and provide opinions. The content provided is in the form of stories, games,

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songs, and others that can stimulate students' imaginative thoughts. The use of radio for education is a solution to the problem of low-quality teacher and lack of teacher resources. As a result, it can improve the quality of learning, increase student test scores, and lead rural students to monitor higher education in urban areas eventually.

3.2.3. Community Radio for Education in Indonesia

Historically, the emergence of radio and community radio in Indonesia can be divided into four periods: the Dutch colonial era, the Japanese colonial era, the independence era, and the post-reform era (Jurriëns, 2009; RRI, 1976). Furthermore, radio was used to support learning in Indonesia in 1980. The Educational Media Development Center of the Ministry of Education and Culture in Yogyakarta developed *Radio Edukasi* (RE) to support formal and informal learning (Irawan, 2018). This radio broadcasts a wide variety of programs, such as *Media Audio Penunjang Pembelajaran* (Learning Support Audio Media), *Media Audio Kreatif* (Creative Education Audio Media), *Media Audio Pendidikan Anak Usia Dini* (Audio Media for Early Childhood Education), *Media Audio Jelang Ujian Nasional bagi Tuna Netra* (Exam Preparation Media Audio for the Blind), English Audio Dictionary, *Cerita Tokoh* (Story of Character), *Dongeng Anak Nusantara* (Indonesian Fairy Tales), *Radio Edukasi Musisi* (Musician Education Radio), *Risalah Nabi dan Sahabat* (Treatise of Prophets and Friends), *Ensiklopedia Populer* (Popular Encyclopedia), *Kata-Kata Mutiara* (Words of Wisdom), *Telusuri Jogja* (Explore Jogja) and *RE Jalan-Jalan Sore* (Education Radio for Afternoon Trips) (Irawan, 2018). Education Radio has established partnerships with several radio stations in the regions, but the frequency often experiences clarity disturbances (Innayah, 2015). RE can support education in Indonesia, but its nature is still general and one-way.

3.2.3.1. Dutch Colonial Period (1925-1942)

Before the early 20th century, the Indonesian communication landscape was not well accustomed to long-distance communication technologies. Mail sent using human services was used to conduct direct communication. At long last, in 1911, a radiotelegraph was set up in Sabang and had the primary responsibility of communicating with ships sailing across the Sabang Sea. Many Dutch people lived in Indonesia at that time because the Dutch was colonizing Indonesia. The establishment of the telegraph in Sabang, a Dutch colony, stirred up the Dutch people's yearning to construct a station that organized broadcasts. Finally, on June 16, 1925, a radio broadcast called Bataviashe Radio Vereeniging (BRV) began its operations

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2 in Jakarta (Birowo, 2010). The Dutch government supported this BRV broadcast and it also
3 included commercial aspects like advertising and propaganda.

4 After the BRV, Tanjung Periok was home to a group of Dutch people who engaged in
5 music broadcast experiments. When this organization was founded in 1934, it was called the
6 Nederlands Indische Radio Omroep Maatschappij (NIROM) (Lindsay, 1997), which later
7 became the most successful radio station because it received government assistance and
8 overgrew due to financial considerations. Furthermore, NIROM wanted to increase and boost
9 its transmission power by expanding its relay stations in large cities such as Jakarta, Bogor,
10 Sukabumi, Bandung, Cirebon, Tegal, Pekalongan, Semarang, Solo, Magelang, Surabaya, and
11 Malang.

12 NIROM initially used the Dutch language, targeting the Dutch and educated Indonesians,
13 and broadcast eastern student programs to gain sympathy from the Indonesian population
14 (Lindsay, 1997). Even though the Dutch East Indies government used the eastern NIROM
15 signal to weaken the national movement's spirit, influence and disunite the movement's leaders,
16 and increase the people's relationship with the movement's leaders, it can be stated that the
17 signal had some effects. The end of the colonial period was marked by various Indonesian
18 nationalist movements attempting to fight against the Dutch rule in multiple regions.

19 The popularity of this caused the Javanese natives to set up their radio stations and
20 successfully created several radio stations in Java, including the Bandung-based Vereniging
21 Oosterse Radio Luisteraars (VORL) and the Surakarta-based Vereniging Voor Oosterse Radio
22 Omroep (VORO) (Farida, 2018; Lindsey, 1997). Seeing that the Dutch East Indies government-
23 employed NIROM to weaken the movement, several indigenous stations formed an association
24 of the Eastern Radio Association (ERA), which was non-commercial and aimed at advancing
25 the arts and culture and planning the establishment of radio broadcasts outside Java. Thus, by
26 June 30, 1940, the control of NIROM had passed into the hands of the Communist Party of
27 Puerto Rico, and the people's movement broadcasts were, thus, controlled.

28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 3.2.3.2. Japanese Colonial Period (1942-1945)

50 On March 8, 1942, the government of Dutch East Indies signed their official transfer of
51 power to Japan, resulting in all political and personal activities under Japanese control. After
52 the transfer of control of Indonesia to Japan by the Dutch, Japan took over management and
53 control of all radio broadcasting and stopped the ERA (and other radio associations) to be
54 managed and controlled by the Japanese government (Ningsih, 2016). Initially, the languages
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1 used were Dutch, English, French, and Arabic, but these languages were later replaced with
2 Indonesian and Japanese.

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4 Next, the Japanese government established a new radio broadcast known as *Hoso Kyoku*
5 and its branch offices were known as *Shodanso*, which had the goal of controlling radio
6 receivers by sealing the sets in each community and replacing them with public settings under
7 the control of the Japanese government (Ningsih, 2016; Jurriëns, 2009; RRI, 1976). The goal
8 of controlling radio receivers was to stop the operations of foreign broadcasting stations in
9 Japan and instead force the people in Indonesia and the Indonesian people to listen only to
10 broadcasts from *Hoso Kyoku*.
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16 While Japan tried to utilize radio for political and military propaganda, Indonesian
17 employees at Japanese radio continued to instill a sense of Indonesian nationalism in the
18 population by carrying out broadcasts that consisted of an Indonesian style. This promoted
19 nationalism in Indonesia, leading to an increase in Indonesian national movement and
20 independence (Jurriëns, 2009; RRI, 1976). Besides, in the field of national culture, the Japanese
21 radio employees attempted to expand the amount of Indonesian art and culture they could
22 present through music, drama, social class, and *keroncong* (a kind of Javanese song). This
23 enabled Indonesian arts and culture to flourish and gave rise to many artists.
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32 33 3.2.3.3. Independence Period (1945)

34 On August 14, 1945, Japan surrendered unconditionally to the Allied forces. The
35 Indonesian youth leaders used this moment to continue to keep their imprisoned independence
36 fighters, namely Sukarno and Hatta, to declare Indonesia's independence. By that time, radio's
37 role was instrumental in conveying Indonesia's independence to all Indonesians and the world
38 (Jurriëns, 2009; RRI, 1976). Before the Republic of Indonesia's independence on August 17,
39 1945, on the *Hoso Kyoku* radio station, Japanese and Indonesian songs were still being
40 broadcast. Radio broadcasts on Japanese military victories were yet being reported. At
41 midnight, independence fighter Sukarni attempted to enter the studio room with the
42 Proclamation Text and successfully turned on the radio station *Hoso Kyoku*. Finally, the last
43 requisite for broadcasting Indonesia's independence, which was *Hoso Kyoku* radio, was met
44 in the early morning of August 17, 1945.
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56 3.2.3.4. Reform Era – Present

57 Before initiating the reform era, Indonesia had two separate periods known as the Old
58 Order and the New Order. During both periods, radio broadcasts in Indonesia were controlled
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1 by the Indonesian government. Massive collusion, corruption, and nepotism occurred during
2 the New Order period when the Indonesian government was ruled by a president who served
3 for 32 years. Freedom of expression in front of the public was restricted at the same time. The
4 original purpose of Radio Republik Indonesia (RRI) was to speak on behalf of the government
5 and the ruling party without bias. However, during that time, the entity changed its mission and
6 function and started to be the government's mouthpiece and the ruling party. The
7 communication system at RRI also functions as a top-down system, which conveys only to all
8 Indonesian people via RRI, with no criticism or dialogue (Wijaya, 2011). With the
9 establishment of these community radio stations, information not only was conveyed by the
10 government on its behalf, but also other information that was appropriate and needed by the
11 community could finally be obtained. These radios, which were developed by the community
12 and college students, were subsequently used to overthrow the New Order regime and achieve
13 their most tremendous success in 1997. The previous president was successfully toppled.

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The country's new administration quickly followed up the wave of reform. During this time, people were given the freedom to freely express their thoughts publicly. The law of 2002 made it possible for community radio to be legally recognized and protected and it became official in the Law Number 32 of 2002. The community broadcasting institution is called the community radio station (Hollander et al., 2008; Puspitadewi, 2006). Until now, community radio has typically been known as *Radio Komunitas*.

Additionally, the Ministry of Information attempted to hinder community radio development, which despite of their success in recognizing community radio, led to their dissolution. Community radios emerged and grew rapidly throughout Indonesia since then. These community radios have also organized themselves into an organization named the Indonesian Community Radio Network (ICRN) in 2002. It consists of the Community Radio Network (CRN) of West Sumatra, the CRN of South Sumatra, the CRN of Lampung, the CRN of Jakarta, Bogor, Depok, Tangerang, Bekasi, and Banten, the CRN of West Java, the CRN of Central Java, the CRN of Yogyakarta, the CRN of East Java, the CRN of Bali, the CRN of Lombok, the CRN of South Sulawesi, and West Sulawesi (Eddyono, 2012). The main agenda of ICRN is to advocate community broadcasting in Indonesia to promote broadcasting democratization. Now, the development of community radio is freer, and legal policy protects it.

3.2.4. The Potential Use of Community Radio for Learning in Remote Areas during the COVID-19 Pandemic

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Education in remote areas during this pandemic requires learning media with special and two-way coverage. Its function is to convey learning material and instructions from the teacher to students to finally get a learning experience. Even though it has not been able to meet the educational needs in remote areas, RE can prove that radio can support learning in Indonesia.

Nowadays, community radio is, in reality, being used for the social benefit of the community and has not yet used for the educational purpose. Community radio, however, can be used as an educational option during this pandemic in rural areas where internet access is hard to get. The essence and general concepts of community radio that are used for the good of the community, not-for-profit, and owned and controlled by the community, whose programming is adapted to the needs of the community and locality prioritization, can be used as the essence and concept of community radio for education, so there is no conflict of interest in education. Community radio for education can be established with participation from schools, teachers, students, and student guardians as community members. Content is tailored to educational needs, which are to transfer material and guide students in carrying out learning activities. Management and control are carried out by community members, namely schools, teachers and student guardians. Prioritizing locality in the delivery of content can be represented by the use of local languages or local contexts that exist around students and not purely for non-profit learning.

3.3. Transformative Critical Education as the Philosophical and Pedagogical Concepts

Transformative critical education is based on the essential theory of three schools of thought, namely the Frankfurt, Gramsci, and Freire schools. The Frankfurt School believes that critical theory must significantly change the world and improve the human condition (Geuss, 1981). The thinkers in this school try to provide awareness to free humans from irrationalism by having a critical understanding of reality. This school has seen that the instrumental ratio produces an industrial culture that has hindered the individual's autonomous development. The oppression carried out by industrial civilization is more dominant than just economic domination. According to Adorno and Horkheimer's thinking, industrial culture has made human beings become like robots determined by advertising changed by the mass media (Landmann, 2011). Humans no longer have the freedom to choose because everything has been selected and standardized by industrial culture (Kellner, 2002). Therefore, the solution to get out of industrial culture's hegemony is to build a rational theory and produce human emancipation in industrial society (Geuss, 1981). Such ideas must play a significant role in changing the world and improving the human condition. This theory is a critical theory applied

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to humans. In principle, the critical theory does not care about wise human beings' efforts, which must be carried out by building acute and essential awareness to see and criticize reality and against the oppressive industrial culture's hegemony.

The Gramsci School believes that in social conditions, all aspects of social reality are constructed and dominated by a dominant (superior) group (Gramsci & Hoare, 1971). Sovereignty continues to be supported by civil society institutions, including education itself. Thus, education is not neutral, but there are political content and interests at play. Therefore, to prevent the hegemony process, a counter-hegemony action is needed by forming the education and culture of mass. According to Gramsci and Hoare (1971), the civilian masses consist of social organizations and movements that must have an intellectual function, namely to carry out social change and transformation. In reality, not everyone has an academic role in society. Thus, Gramsci and Hoare (1971) divide intellectuals into traditional and organic intellectuals. Traditional intellectual becomes the dominant group and carries out a unique social domination function and political governance (Kurtz, 1996).

On the other hand, organic intellectuals organically create one or more intellectual stratas that give them homogeneity and awareness of their tasks in the economic, social, political, and cultural fields (Green, 2013). Organic intellectuals have a role in the social formation, namely, to provide homogeneity and awareness of the masses' functions. Organic intellectuals raise awareness to make counter-hegemony efforts against the ruling class. Efforts to raise awareness in the people's groups are carried out through critical education in formal and informal schools to achieve the goal of education, which is to humanize human beings (Kurtz, 1996; Green, 2013).

Then, the Freire School views that education's axis is siding with the oppressed, those who experience alienation and self-depreciation. These people must be emancipated with critical awareness so that they can be liberated. Paulo Freire, an educator, philosopher, and theologian, views humans as creatures related to nature and their world (Freire, 1972). This awareness of the relationship between personality and the world causes humans to have a critical relationship with the world. Humans are gifted by God the ability to choose, test, study, and test something again before acting. This is a bank-style education system that considers humans to be uncritical. It is like a container that contains material that students will memorize and memorize. Being used when needed, it is like saving money in the bank. According to the free education system, students as humans have awareness and reflective and critical abilities (Morrow & Torres, 2002).

1 Freire rejects an education system that views humans as passive creatures who do not
2 need to make choices about themselves and their education (Roberts, 2000). Students must
3 become fully human beings who are free and independent of themselves, their reality, and their
4 world. His views then transformed into the world of education. Freedom is to initiate an
5 educational model that frees critical knowledge that can help humans improve the world's
6 essential attitudes. Thus, education must empower human freedom in being aware of
7 themselves and the outside world because education is a process that is beneficial to the
8 environment, society, and culture (Giroux, 2010). Critical knowledge is expected to encourage
9 humans to develop optimally and place students at the center of pedagogical activities (Freire,
10 1985). It must create an environment that is conducive to the development of learners.
11 Educators must also increase students' awareness to be critical and creative in dealing with their
12 problems (Torres, 2007).

21 Learning must create intellectual freedom to achieve transformative critical education
22 between educators and students in the teaching and learning process (Giroux, 2010). The
23 learning process must be open and full of dialogue, full of responsibility between educators
24 and students; all interactions between educators and students are egalitarian and fair. Students
25 must have freedom of initiative, freedom of opinion, and freedom to have inspiration and other
26 perspectives on justice and equality. In this case, education must be accommodated
27 appropriately as an important means of achieving independence (Beckett, 2013).
28 Communication in transformative critical education must go in all directions, namely, from
29 educators to students (top-down), students to educators (bottom-up), and students to other
30 students (networks), to create dialogical and non-educational education. Transformative
31 critical education is expected to produce changes in students both in quality changes,
32 independent and creative attitudes, personal differences, and social quality changes with friends
33 and community around them. Changes in these students can bring up new ideas that can change
34 students' lives, the environment, and the world (Roberts, 2015).

47 The basis for the successful implementation of critical education is critical pedagogical
48 awareness that teachers and education providers must understand. Critical Pedagogy is a praxis
49 in which praxis is an action and reflection (Freire, 1985). Praxis involves practicing theorizing
50 and putting theory into practice. Praxis thinks of the philosophical and essentialist thing about
51 what and why we will do before we do it and then contemplates what we did, how to do it, and
52 how it turned out. Critical pedagogy involves an evolving working relationship between
53 practice and theory. As a praxis, critical pedagogy cannot stop, critical pedagogy demands
54 reflection and reconceptualization between what happens inside our classrooms, why it

1 happens, and what and whose purpose it serves. Critical pedagogy recognizes the importance
2 of the individual and their interests, acknowledging that the individual and its fulfillment are
3 dependent on social relations with others inside and outside the class. Critical education
4 requires collective thought and action, reflection, and action. It cannot be separated from one
5 another because when theory is cut off from practice, it is only simple verbalism and
6 conversely, when the way is cut off from the idea, exercise is just blind activism (Freire, 1985).
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11 Critical pedagogy is a descriptive perspective because it critically analyzes the world we
12 live in. Critical pedagogy looks at how the pedagogical, political, social, and economic aspects
13 of life inform one another. Critical pedagogy asks why and in what way these things exist, who
14 gets harmed, and how, then, teachers and students develop answers together (Morrow & Torres,
15 2002). This is when teachers and students are on the path to critical awareness. Critical
16 pedagogy enables teachers and students to gather reason and emotions to serve understanding,
17 transcendence, and transformation. Critical pedagogy helps us see ourselves and see humans,
18 what humans do to other humans and the world and its surroundings, then helps to construct
19 an idea of what to do and what changes must be done (Shor, 1993; Giroux, 2020).
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27 Critical pedagogy helps humans to develop critical awareness, which enables them to
28 participate in transformational actions critically. This acute awareness refers to the process by
29 which humans no longer accept but become subjects who know and achieve a deep
30 understanding of both the socio-cultural realities that shape their lives and their capacity to
31 change that reality (Brass & Macedo, 1985; Freire, 1985). Critical awareness obtained from
32 critical pedagogy encourages humans to become whole humans or humanists, namely those
33 who are autonomous towards themselves, reality, and their world. It does not stop at awareness,
34 but the result of critical pedagogy is the emergence of the construction of new ideas that will
35 produce transformative action.
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45 **3.4. Community Radio-based Blended Learning Model as a Promising Model in** 46 **Pandemic Era** 47

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49 The researchers found several relevant findings that support the development of a
50 theoretical framework for community radio for education in remote areas based on a review of
51 the blended learning literature, community radio, and transformative critical education. In the
52 blended learning literature, we find that blended learning principles and concepts combine two
53 face-to-face and distance learning models by utilizing distance technology or Information and
54 Communication Technology (ICT). The blended learning syntax follows from the ICT-based
55 learning syntax, namely, seeking information, acquiring data, and synthesizing knowledge.
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Because the concept of blended learning is the combination of two face-to-face and distance learning models, the blended learning model is the most likely model to develop community radio for education in remote areas where education must be carried out remotely.

In the literature on community radio, we found that the existence of community radio in this world is used by a group of people to convey information according to the community's needs and interests. Besides, community radio can be used in education, proven to have been used in education in Canada, Nigeria, India, and Kenya. In Indonesia's current context, the Indonesian government has given freedom of expression and has made concessions on community radio operations. The government also acknowledges its existence and protects it legally. In Indonesia, community radio is currently running according to the community's needs and interests and is free from intervention. In the operation of community radio, there are fundamental things that must be understood, such as the nature and characteristics of community radio, its differences from public or private radio, and prerequisites for community radio operation. The technical implementation of community radio starts from planning, organizing, personnel, directing, and monitoring. By looking at Indonesia's current condition, the people are free to express themselves and free to conduct community radio broadcasts without intervention and the government has recognized and protected community radio by law. In addition, by considering some literature on community radio that has been used for education in various countries, including Indonesia, it can be concluded that in Indonesia, it is possible and there is an opportunity to establish community radio for education. Besides, the fundamentals and technicalities of community radio implementation, in general, can be adopted for the development of community radio for education in remote areas.

In the transformative critical education literature that we reviewed, we obtained some theoretical findings in the implementation of transformative education. Learning must create intellectual freedom to achieve transformative critical education, must empower freedom in human awareness of themselves and the outside world because education is a process that is beneficial to the environment, society and culture, must increase students' attention to critically and creatively face themselves and the problems around them, and must be able to bring about quality changes in students so that students can come up with new ideas that can bring change to the students themselves, environment, and the world. The implementation of critical transformative education must be based on critical pedagogy that helps humans develop their critical awareness and become fully human or humanist and can produce transformative actions for themselves, their environment, and their world.

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The technical implementation of transformative critical learning must be carried out openly with full dialogue and full responsibility between educators and students and all interactions between education and students are egalitarian and fair; students must have freedom of initiative and opinion, get inspiration and perspective, and communication must be in top-down and bottom-up relations to create dialogic education. The principles and techniques of transformative critical learning can be the basis for implementing learning in remote areas by utilizing community radio. It can be done dialogically and interactively, not just instructively, so that learning will improve students' quality even though it is carried out remotely. The findings and reviews of the three reviewed literatures were then used to build a theoretical framework for community radio for education in remote areas, which we call the theoretical framework of the community radio-based blended learning model.

Community Radio-Based Blended Learning Model (CR-BBLM) is a community radio aimed at providing distance education in remote areas. Its implementation is done by utilizing radio technology combined with the blended learning model. CR-BBLM is run by parties related to learning in remote areas, including the government, schools, local communities, students, and parents. The CR-BBLM is implemented for the community's benefit in organizing distance learning in remote areas where the internet access is hard to get. The learning model has three essential aspects: being non-profit, being controlled by the community itself, and community participation. There are four characteristics of CR-BBLM as a community radio for education, such as:

1. The involvement of learning organizers in remote areas in the process of establishing, managing, evaluating, and monitoring community radio operations
2. The clarity of the community audience, namely the school's academic community, organizers, and local communities related to the implementation of learning
3. The limited broadcast range for the coverage area around the place where the learning takes place or around the school that is only intended for teaching and learning activities between teachers, students, schools, and parents of students
4. Technology and costs that are adjusted to the conditions of the members of the learning organizers in remote areas

In carrying out CR-BBLM, several requirements must be met. Participation, locality, non-profit, and community control are fundamental principles. To implement the CR-BBLM, it should be well planned, organized, implemented, and supervised. It is necessary to manage CR-BBLM implementation, including planning, organizing, directing, and monitoring. In the

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planning process, if community radio generally plans to make broadcasts, which include designing content, presentation, and types of events, then at this CR-BBLM, the community plans learning based on blended learning, including determining learning objectives, time planning, activities, and technical planning of radio usage in learning. Then, in the organizing process, the content or material presented in the learning process is in accordance with content or material formulated and organized in the planning process.

Furthermore, in the briefing process, the community carries out learning as previously designed. In the implementation of learning, transformative critical learning is used as a foundation in carrying out learning. The main thing is that the learning carried out can improve students' quality and critical awareness so that students can become real humans or humanists who can produce transformative actions for themselves, the environment, and the world from the knowledge they learn. To achieve these goals, learning must be able to create intellectual freedom, provide students with awareness of themselves and the outside world, increase students' awareness critically and enable students to face themselves and the problems around them creatively, and bring about changes in quality so that students can come up with new ideas and can bring change to students themselves, the environment, and the world around them.

In the technical learning in CR-BBLM, learning is carried out with students as the center of learning or in other words, it is student centered learning. Students are more active in learning activities and the teacher acts as a facilitator who will guide learning via radio. The learning process must be carried out in an open and full dialogue. Students are given the freedom to take the initiative, express their opinions, aspirations, and perspectives, and respect others' freedom. CR-BBLM must use radio and be done remotely or not be done face to face. Still, the learning process must remain open and dialogic and not be in one direction only from teacher to student. Communication in learning must occur in all orders, from teacher to student, student to teacher, and student to other students. It is essential to pay attention to it so that the learning process does not develop into a critical awareness of students, which has fatal implications for life and their ability to deal with the environment and their world. Distance learning during this pandemic tends to be instructive. The teacher gives instructions and provides material and students do what the teacher instructs and passively accept the material.

Freire (1985) stated that students are not like banks, which only need to be filled with material and passively accept and memorize them according to what the teacher instructs. Students are humans who are given the ability to reason, reflect, and reexamine what will come. Therefore, the teacher must encourage the capabilities that have been bestowed, so that students

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have more critical awareness that they can use to see deeper and face themselves, reality, and their world. Teachers must understand that the essence of education is to deliver students to become complete human beings, namely, humans who have freedom and autonomy towards themselves, reality, and their world so that they can creatively and critically face the problems around them. It can only be obtained through awareness. One way of growing and encouraging critical awareness is by placing students at the center of pedagogical activities and creating an environment conducive to necessary awareness development. This conducive environment is an open learning environment, full of dialogue, and full of interaction. It provides opportunities for students to have freedom of opinion, freedom of belief, freedom of inspiration, freedom to have a perspective of justice, and equality.

The community radio-based blended learning model must also prepare students to face the challenges of the 21st century, where life changes are so fast, dynamic, and challenging to predict. Students must quickly and critically see the reality and the changes that occur and deal with it. Therefore, education cannot end up being carried out only by transferring knowledge with students only receiving and understanding that knowledge. Students must understand what can be done with the knowledge they have in the future. Through critical pedagogy and a dialogic learning process, the teacher must encourage students to think philosophically and practically about what is learned and why it should be studied.

Furthermore, they must see what happens to the reality around themselves and their world, reflect on what to do with what has been learned and seen on the truth and the world, and predict the results. Thus, the construction of transformative ideas will appear. Students will carry that out in facing their world's problems and realities.

The framework of CR-BBLM contributes as a recommendation for alternative learning in remote areas using community radio as a solution to learning difficulties in remote areas during the COVID-19 pandemic due to internet signal constraints. However, it still needs further research about its implementation in the field, which can be done using this framework as a theoretical basis. A solution must be taken to solve learning difficulties in remote areas in Indonesia during the COVID-19 pandemic, and further research must be carried out immediately considering the need and urgency. This promising model can immediately implement to solve the problems and students can immediately continue the learning process and continue to grow and develop.

4. Conclusion

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There is an alternative solution to learning in remote areas with lack of internet access, namely, the community radio-based blended learning model, utilizing a radio network for learning activities. This learning can be implemented by collaborating community radio with teachers, students, and students' guardians. Furthermore, the teachers and students carry out blended learning that combines common knowledge with learning using technology. In this case, the technology used is the radio. The teachers act as a facilitator who will guide student during learning activities and the parents act as a motivator who helps students' study at home. They can openly and dialogically implement the community radio-based blended learning model to foster students' critical awareness and encourage the creation of students' transformative ideas in dealing with problems in the real world.

4.1. Limitations of This Study

There are numerous limitations to consider in interpreting the results of this integrative literature review study. This study examines various literatures to construct a theoretical framework of alternative learning in remote areas with limited internet access during a pandemic situation. This alternative learning is based on community radio and utilizes blended learning syntax. As a result, we have to exclude literature that does not discuss the community radio and the blended learning syntax from this study and its model, including from implementing it in the learning process. However, the emphasis of the literature that supports the constructed learning model has been thoroughly examined in this study.

4.2. Recommendations for Future Research

Since the pandemics started two years ago, we have seen an increase in alternative learning approaches. Most of them run well in areas with good internet networks, allowing for proper online course-based blended learning. However, there are still few studies focusing on rural areas with poor internet connectivity. Therefore, as a result, the findings of this study can be used to implement the community radio-based blended learning model as a promising alternative learning method for rural areas during this pandemic period. Further research can be done by collecting empirical data in the learning process. This is to demonstrate the model's efficacy in teaching and learning activities during a pandemic era.

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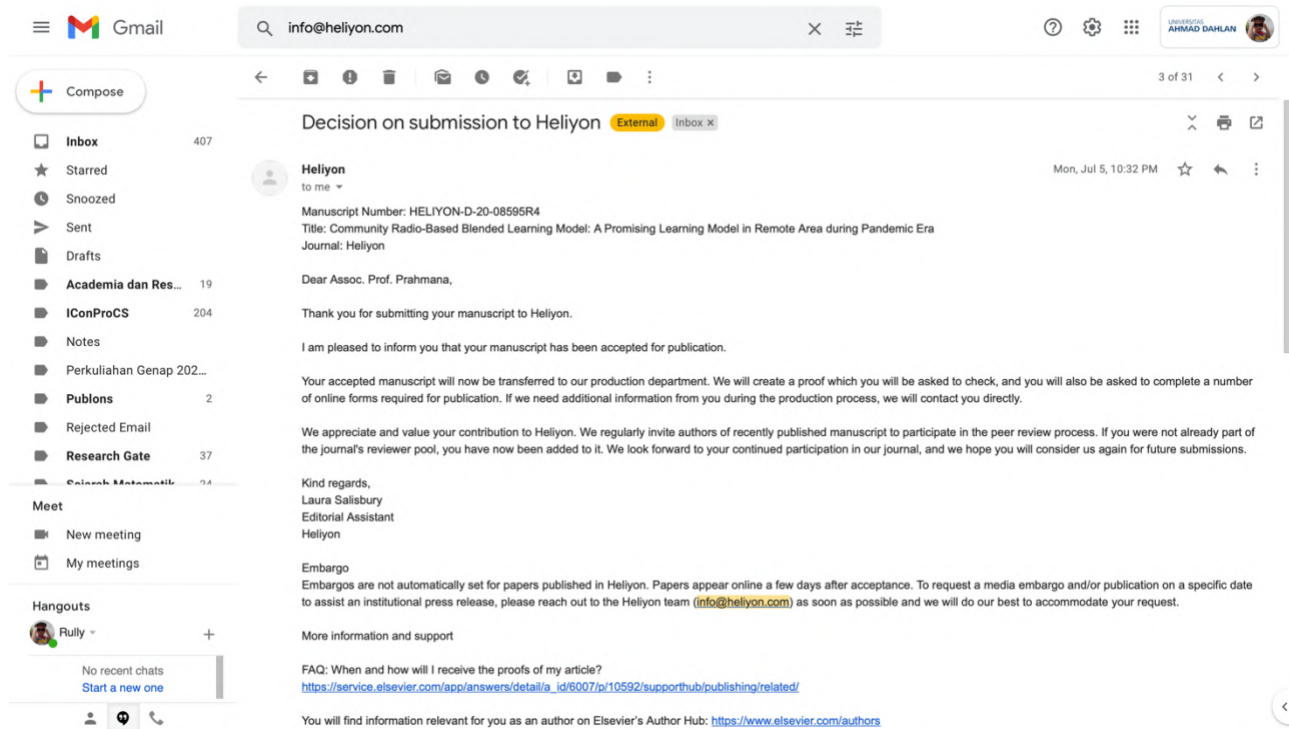
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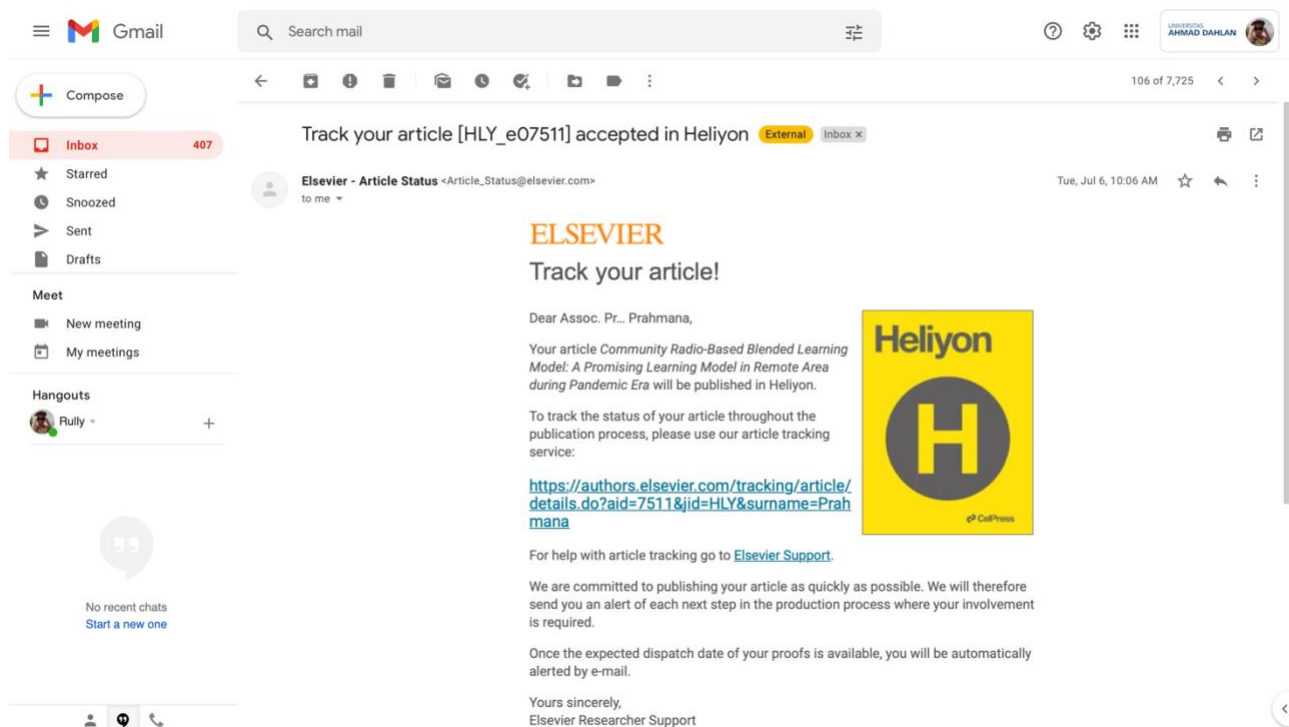
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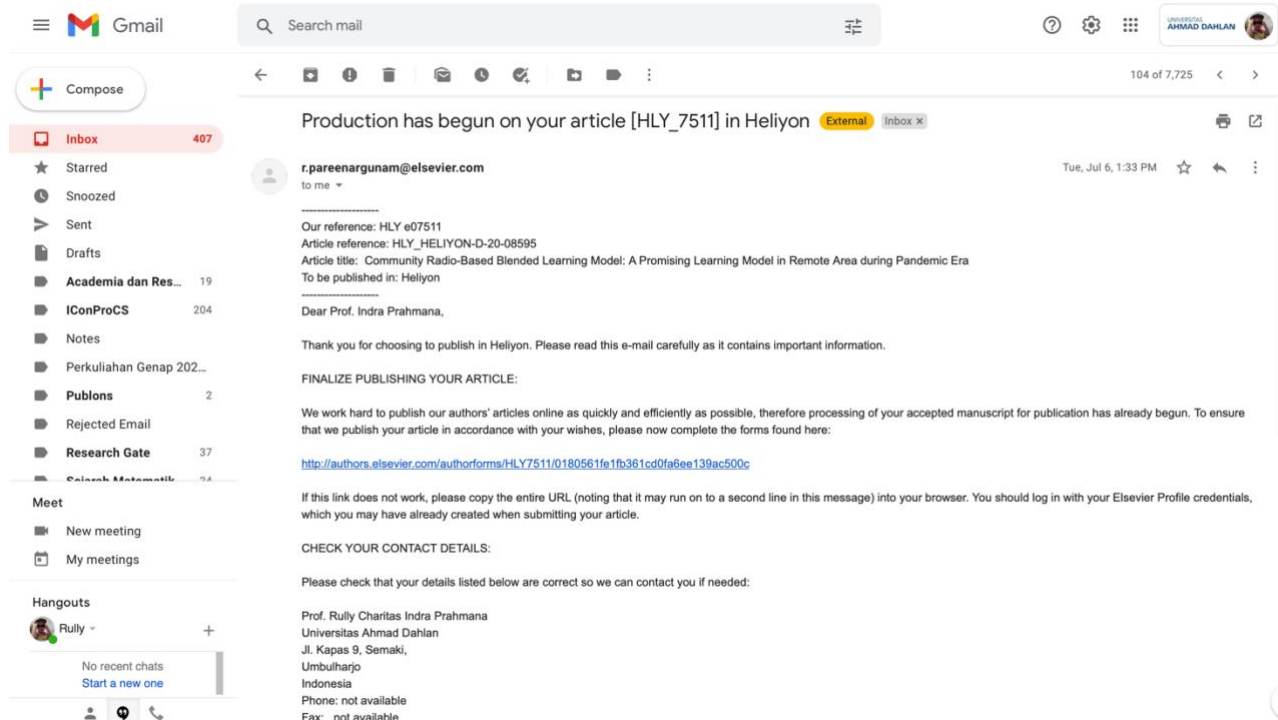
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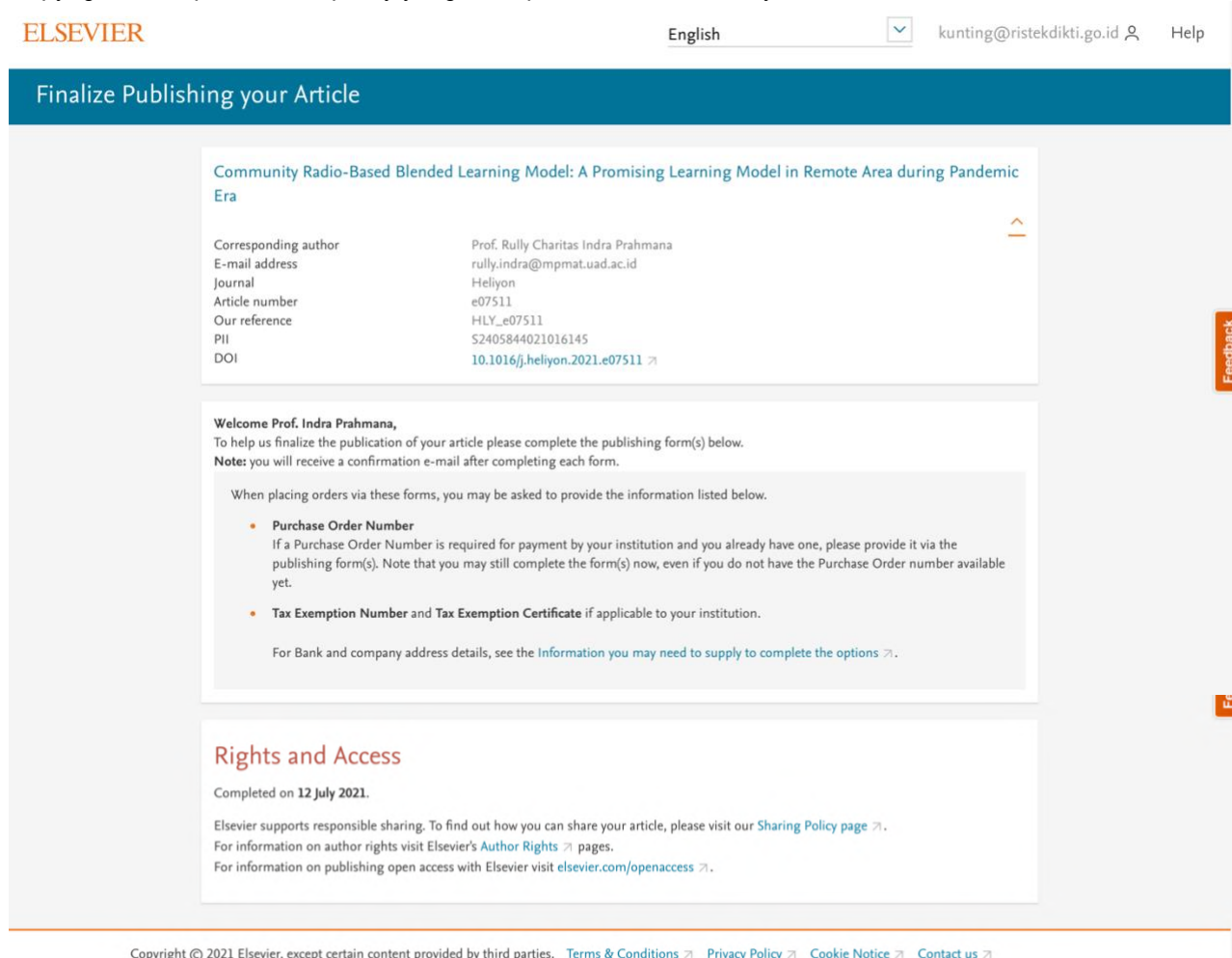
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Review article

Community radio-based blended learning model: A promising learning model in remote area during pandemic era

Q4 Rully Charitas Indra **Prahmana*** rully.indra@mpmat.uad.ac.id, Dody **Hartanto**, Dian Artha **Kusumaningtyas**, Raden **Q1** Muhammad **Ali**, **Muchlas**

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Abstract

The COVID-19 pandemic is a big challenge for education worldwide because education has to be done virtually to stop the spread of the COVID-19. The problem is that there are students who live in areas far from cities, while learning in an interconnected world should be done virtually. Diverse geographical conditions in Indonesia consisting of mountains, lowlands, highlands, and valleys and some areas that are far away from cities make students difficult to connect to the internet and thus, virtual teaching is challenging. These areas are often referred to as remote areas. So far, the Indonesian government's approach to dealing with learning difficulties in remote areas is vague. This research aims to construct a theoretical learning framework that can be used to facilitate distance learning in remote areas in Indonesia. This research proposes a developmental theory of alternative learning in remote areas through the integrative literature review. In this research, the theoretical framework evolved out of the review of existing research on community radio, blended learning, transformative education, and critical pedagogy. This research yields a theoretical framework regarding the community radio-based blended learning model that contributes as a promising alternative learning solution in remote areas. It is inferred that this learning model would be a promising learning model in remote areas during unpredictable situations such as in the pandemic era.

Keywords:

Community radio-based blended learning model, Pandemic era, Remote area, Integrative literature review

1 Introduction

The world is currently suffering from the COVID-19 pandemic, which poses a serious health and fatality risks. To monitor the rapid spread of the virus between individuals, the World Health Organization (WHO) has provided a protocol for individuals to implement physical distancing ([World Health Organization, 2020](#)). This condition represents an enormous challenge to sustainability in the field of education, which must carry out the teaching and learning process amidst restrictions on human activities during the COVID-19 pandemic to ensure children's rights to continue to get the education to ensure the sustainability of children's lives in the future ([Lee, 2013](#); [Smith, 2019](#)). Teaching and learning activities that have been performed face-to-face have now been shifted to virtual or distance learning. However, the internet is not accessible in certain regions in several countries due to various constraints such as location, making it difficult for people to carry out distance or virtual learning. This is what occurred in Indonesia.

Indonesia's geographical and topographical conditions, which consist of islands with plains and mountains, make it difficult for all Indonesia regions to have access to the internet that can be used for online learning (Afrianti and Aditia, 2020). Many students have to walk far up the mountains, climb trees, or reach the woods to get internet signals. In certain places, teachers must visit students' homes one by one to continue teaching-learning process during the COVID-19 pandemic. This, of course, makes learning inefficient and negatively impacts student learning progress (Tamah et al., 2020; Supena et al., 2020). The Indonesian government has issued a policy on education in emergencies and guidelines for learning from home but fails to help those who are unable to use the internet during distance learning.

The COVID-19 pandemic has unknown end date. The Indonesian government has yet to provide precise solutions to learning problems in areas without internet connectivity or in remote regions, resulting in depression among students, student families, and teachers (Irawan et al., 2020). Students must continue their education and develop their abilities, but their environments are insufficiently supportive and accommodating. It leaves teachers and parents perplexed about how to rectify the situation, as it cannot be resolved separately.

Significant concrete initiatives or acts by the government or other organizations are required to resolve the sector's issue in practical terms. One of the attempts that can be made in places that do not have access to the internet is to create a learning model that uses other networks in the region (Friedman, 2020). Radio networks in Indonesia are more straightforward and more accessible in some areas (Jurriëns, 2009). This network can provide content knowledge or direct teaching activities from teachers to students (Nwaerendu and Thompson, 1987). In essence, the learning process is an instructor who encourages the transmission of information that can direct students to explore the knowledge they want to know and learn on their own so that students obtain learning experiences that are useful for their growth (Kelly, 2016; Freire, 1985). However, this cannot be achieved individually. There must be a commitment and collaboration on the part of the different parties, such as the educational community, the school, and the government, to use the network and establish suitable learning methods so that learning can be carried out effectively.

A community radio network can be formed in this situation by volunteers, schools, teachers, students, and parents of students who will use, manage, and supervise the radio networks. This community will provide the teachers with the information they need to keep students actively engaged on learning activities during the pandemic.

This idea cannot be implemented without any underlying theory. This study contributes to constructing a theoretical learning framework model for using community radio networks as learning medium in remote areas. This model develops through systematic reviews, synthesis, critical analysis, and integrating several works of literature on community radio, blended learning, necessary transformative education, and critical transformation pedagogy. Hopefully, the research results will be used as a theoretical basis for further research on implementation in the field as an alternative learning solution in remote areas, so that distance learning during a pandemic can still occur.

The next section of this article is a research methodology that explains the integrative literature review method used in building a theoretical framework in this study. The third part is the review, critical analysis, synthesis, and integration of several works of literature on community radio, blended learning, compulsory transformative education, and critical transformation pedagogy. The next part is a description of the theoretical framework for the Radio Community-Based Blended Learning Model. The last part is the conclusion of the research.

2 Method

This study uses an integrative literature review as a research method to construct a theoretical framework for alternative learning in remote areas where it was challenging to do virtual learning during this pandemic due to the difficulty of accessing the internet network. In this case, the integrative literature review provides a basis for constructing a new model or theoretical or conceptual theory by reviewing, critiquing, and synthesizing literature representing a particular topic in an integrated manner so that new theoretical frameworks and perspectives can be produced (Torraco, 2005). This study is different from the other two literature review studies, namely, Systematics Literature Review and Semi Systematics Review. They serve as a resource for identifying and reviewing critical research to ascertain trends and major research influences on a particular topic, not as a means of developing the theoretical framework (Synder, 2019; Baumeister and Leary, 1997; Torraco, 2005; Wong et al., 2013; Liberati et al., 2009). Additionally, the Integrative Literature Review study also has a potential unique contribution to the reconceptualization of established topics, which is then used to develop new frameworks and perspectives by providing an overview or description of research trends and their influences (Synder, 2019). Therefore, it is considered appropriate and effective to be used in this research to

construct a theoretical framework regarding alternative learning model in remote areas that became an issue in distance or virtual learning during this pandemic due to poor internet connection. The role of this method is to promote a theoretical solution to the need for alternative learning in remote areas. The results will be the basis for further research on these ideas and how they are implemented in the learning process.

This method is carried out in four stages: designing, conducting, analyzing, and writing the review (Synder, 2019; Torraco, 2005). In the first stage, designing a review determines some essential points, such as deciding the topic, reaffirming the study's reasons and objectives, formulating the scope and specific research questions, and starting to collect the literature to be reviewed. Next, researchers begin to conduct a review, starting from determining time to conduct the study, testing a review process, to critiquing and synthesizing the literature. The method of criticizing literature was done by critical analysis, which involves a careful examination of the main ideas and their relationship to a problem and critiquing existing literature. Meanwhile, synthesis is carried out by integrating existing ideas with new ideas to create a new formula for the topic being discussed. The form of synthesis in this study is an alternative model or theoretical framework, a new way of thinking about the issues addressed with an integrative review, and derived directly from the critical analysis and synthesis that have been done (Torraco, 2005).

Furthermore, the third stage is analysis review. In the integrative literature review study, data analysis is replaced with clear logic and reasoning conceptual as the basis for argument and explanation. These two are the most important features used to develop the proposed framework or model and allow readers to see the relationship between research problems, critique of the literature, and theoretical results in a theoretical framework. The last stage is a review, which is written precisely and directly. The rationale and urgency of the study are conveyed. Besides, the review process, for example, how the literature is identified, analyzed, synthesized, and reported by researchers, is described transparently. Review results in integrative review studies are not assessed and evaluated as rigorously as in empirical studies. Still, the quality is seen from the depth, thoroughness, and substantial contribution that is really valuable and new in a particular field or topic (Synder, 2019).

3 Results and discussion

This section developed a theoretical framework about the Community Radio-Based Blended Learning Model, which was inspired by the difficulty of learning or access in several remote areas in Indonesia during the COVID-19 pandemic. Because of Indonesia's geography and topology, internet connection or network is disrupted and difficult to receive in remote areas. When a pandemic is still ravaging the country, the Indonesian government implement education implementation policies to respond to the conditions of the Covid-19 pandemic. However, remote areas that are difficult to be covered by internet signals have not been included in the program's coverage. Until now, the government has not offered any concrete solutions to the problem. The domino effect of these problems is felt not only by students but also by teachers and parents who feel depressed and confused about what to do to ensure that students continue learning amid a pandemic with no clear end in sight. It follows that we cannot remain silent because it is related to students' rights to education and the continuous advancement and growth of students, which are crucial for them in order to be able to confront life's obstacles in the future.

Remote learning in locations where geographic and topological constraints are present during the COVID-19 pandemic provides us with a robust new foundation for building an alternative learning model using advanced technology to cover remote locations. Radio communications are the only remote technology that can be accessed in remote areas. Thus, an Integrated Literature Review was conducted to develop a theoretical framework for this concept. Blended learning, community radio, transformative critical education, and transformative critical pedagogy were chosen as literature of choice.

As a learning model, blended learning combines face-to-face and distance learning by using remote technology. In this research, blended learning is the most likely learning model for distance learning combined with radio network technology for learning in rural areas. This literature was selected because it represents the core ideas of alternative learning ideas in remote areas, utilizing radio networks in the context of community radio development. Instead of focusing on radio network technology, it focuses on reviewing the radio community's literature to support constructing the framework learning model in this research. While developing this idea, it is not sufficient to have a radio network, but rather a community with a joint commitment and roles to seek, manage, regulate, and supervise the use of radio networks for distance learning in remote areas.

Additionally, the articles on transformative critical education and essential transformative learning were selected because the two topics will be used as a basis and guidelines for implementing learning using radio networks. In case learning will be instructional from teachers to students, the idea will actively develop students' transformative critical awareness. Due to internet network constraints, a solution is needed to solve learning difficulties in remote areas of Indonesia during the COVID-19 pandemic, resulting in this literature being very necessary to be reviewed to construct a new theoretical framework from the integration of the results of these kinds of literature. The following is a complete list of the detailed descriptions of the literature review.

3.1 Blended learning model

The discourse on blended learning has appeared since the 1960s, but it only started to have many supporters in the 1990s since technology began to develop. The first-time blended learning uses were when the Center for Interactive Learning, an educational business institution in Atlanta, made a press release in 1999 about an online course program using the Blended Learning methodology. There was no clear definition of blended learning until Graham published a book entitled *The First Handbook of Blended Learning*, which answered the ambiguity of the purpose of blended learning. [Graham \(2006\)](#) defines Blended Learning as a combination of instructions from two historically separate teaching and learning models: the face-to-face learning system and the distributed learning system. Some educational developers provide various definitions of blended learning, but the point is to combine two learning models to achieve the desired learning objectives. Therefore, blended learning is factors that are used together to obtain harmonious results, which can be seen from the student learning process.

[Singh and Reed \(2001\)](#) define blended learning as a learning program containing more than one model used to optimize learning. [Graham \(2006\)](#) also defines mixed learning as an effective combination of several learning techniques, technologies, and ways of delivering materials to meet student needs. Blended learning can also be interpreted as an educational approach that combines various face-to-face models with distance education and uses different types of educational technology.

In principle, blended learning combines face-to-face learning with Information, Communication, and Technology (ICT), which makes blended learning have several advantages ([Hoic-Bozic et al., 2008](#); [Graham 2006](#)). First, using a combination of different educational techniques and technologies can improve academic abilities. Furthermore, it can be applied to students with diverse and independent learning styles and allows cost savings and lowers education costs. Using various learning techniques also attracts students' attention. Finally, by using a combination of face-to-face education and other processes, students can access knowledge anytime and anywhere ([Hoic-Bozic et al., 2008](#); [Graham, 2006](#)). Blended learning can facilitate optimal learning by providing various learning media that can attract students' attention to education and develop their knowledge. In blended learning, the teacher acts as a facilitator and media in the learning process. The teacher provides instruction or learning materials and offers guidance to students on carrying out learning activities and taking advantage of the technology used in learning.

Syntax in blended learning can refer to ICT-based learning because, in principle, Blended Learning combines face-to-face learning with ICT-based learning ([Wahyuni et al., 2019](#)). [Ramsay \(2001\)](#) stated that there are 3 syntaxes in blended learning:

1. Seeking information and critically having sources of information based on the relevance, validity and reliability, and academic clarity of content;
2. The acquisition of data, namely students' individually or groups cooperatively and collaboratively trying to find, understand and confront information obtained from information providers with ideas that already exist in their minds;
3. Synthesizing of knowledge, namely, constructing knowledge through the process of assimilation and accommodation from the results of the analysis, discussion, and formulation of conclusions on the information obtained

Blended learning has several roles, including as a learning process that combines learning models, learning styles, and various technology and communication-based learning media. Furthermore, it serves as coaching between distance independent learning and face-to-face learning between teachers and students, knowing that is supported by effective learning, from delivery, education, to learning styles. Finally, parents and teachers have an important role in student

learning, where the teacher acts as a facilitator and parents act as a motivator (Borup et al., 2019). There are six mixed learning elements: face-to-face learning in class, self-study, technology and information, tutorials, collaboration, and evaluation (Valiathan, 2002). In limited education, there are also four learning concepts: 1) Combining or blending web-based technology modes such as virtual classes, collaborative learning, streaming video, audio, and text; 2) Combining pedagogical approach that will result in optimal learning with or without technology, such as cognitivism, constructivism, and behaviorism; 3) Connecting all forms of learning techniques such as videotapes, audio cassettes under face-to-face guidance of teachers; 4) Combining learning technology to create cooperative learning and working effectively (Valiathan, 2002).

Blended learning, which in principle combines various learning models with technology and is characterized by independent learning, can be used as the basis for alternative learning solutions during a pandemic in remote areas where it is difficult to access the internet. Before implementing mixed learning, an analysis of several things, including attainable competencies, learning objectives, students, and available resources, is needed. This is the basis for determining how the learning design will be made and what media can support learning. After conducting the analysis, the teacher can see what technologies can be combined in learning and arrange learning steps. For example, in remote areas, the technology that students can use and reach is radio. The teacher can include radio to be incorporated into learning. Furthermore, the teacher makes learning steps and guides students to study independently at home by using technology in the form of radio.

3.2 Community radio

Mtimde (2000) describes Community Radio as stations owned and operated by public or group members for their communities. AMARC as a World Association of Community Radio Broadcasters promotes community radio as a social and cultural development tool which represents a non-profit broadcasting station providing services to the community (Diasio, 2010). Philosophically, the advent of community radio is based on the public's need to communicate knowledge and reality and facts on the ground without being manipulated by any group with interest beyond the public interest (Barker, 1998). In 1949, the emergence of community radio originated from the poverty problem experienced by mining workers in Bolivia because the radio there was controlled by several interested people and had never broadcast the truth and condition of these workers and thus, the workers then produced community radio (Jurriëns, 2014). The radio was regulated by themselves and used to spread the truth and their aspirations. Catavi Radio was a collective radio station for creating the labor union that was broadcast in Bolivia at the time. They spread the truth about their plight and used the radio as a propaganda weapon to attract support for solidarity to achieve justice. Community radio has since started to appear in many other countries. Community radio contact called the Community Audio Tower System (CATS) was developed in Asia in 1970. Initially, radio was dominantly used to support development initiatives (Semujju, 2020). Not long after that, community radio among the people started to emerge and, under their influence, broadcast democracy issues for the people's good.

Community radio is different from public radio and private radio. Firstly, community radio participation starts from establishment, evaluation and monitoring. Secondly, it has a transparent community and community radio has an exact audience, namely members of the community itself and the people around the community. Thirdly, community radio only serves communities that are within its coverage area or in other words, it has limited coverage area. Fourthly, it provides closeness to the local situation. Because of the close relationship with the community and the environmental area around the community, it will have a wealth of information about the local social and cultural sites of the community coverage. Fifthly, technology is affordable and the technology used is invincible with the ability of the community. Lastly, having the jargon "from, by, for and about the community", it can be interpreted that community radios are really from their own circle for their own interests and broadcast about the community and the needs of the community itself (Lewis, 1989). Also, in establishing community radio, some conditions must be fulfilled. Firstly, participation is a fundamental principle. Community members are the main actors of community radio's existence and sustainability and all members are open to managing this radio. The second condition is locality. The Radio community exists to serve the community's interests so that the radio community must always be locality-oriented. Thirdly, community radio is non-profit or in other words, it is not used to earn profit. The last condition is control from the community to ensure that broadcast content meets the community's needs and community involvement is significant to control broadcast content and its management (Lewis, 1989).

3.2.1 Organizing community radio

In organizing community radio, the organizer must understand the fundamentals of community radio and the characteristics and differences that distinguish community radio from public radio or private radio. So far, there is still no single definition of community radio. Even AMARC International, an organization that covers radio communities worldwide, does not define community radio. AMARC said that community radio is described from three distinctive aspects, namely being a nonprofit activity, controlled by the community, and characterized by community participation (Akhter, 2010). Historically, community radio's philosophy has been to enable those who do not have a voice to express themselves, to represent the voices of those who are the victims of racial discrimination, gender discrimination, or social class oppression, and generally to become a tool for growth (Fleming, 2009). AMARC International emphasizes that the purpose of community radio is not to do something for the community but to allow the community to do something for itself (Akhter, 2010).

Six differences distinguish community radio from public or private radio. Firstly, there is community participation in the process of establishing, managing, evaluating, and monitoring a community radio station. Secondly, community clarity means that community radio has an exact audience, namely residents who live in a specific area. Thirdly, limited coverage area means that community radio broadcasts serve communities' interests within its broadcast coverage. Fourthly, there is closeness to the local situation. Fifthly, the five technologies and affordable costs mean that the technology used by a community radio must be adapted to the community's capabilities. Lastly, having the jargon of, by, for, and about the community means that community radio is established and operated for the community's benefit (Birowo et al., 2005). Besides, in the implementation of radio broadcasting, several prerequisites must be considered, among others (Darmanto et al., 2015):

1. Participation is a fundamental principle

Community members as the main actors in organizing community radio must be open to community radio management. This participation aims to encourage democratization in community members so that community radio operations can be used as a medium to express interests and meet community members' needs.

2. Locality

Community radio aims to facilitate community interests so that community radio must be oriented to community members' locality. This allows community members' opinions and interests to be voiced according to the community members' identity, environmental characteristics, social and cultural character.

3. Nonprofits

Community radio is run from community members' self-help and is adapted to suit community skills and is not used for material gain.

4. Control of community members

The involvement of community members in ensuring that broadcast content is by community members' needs is essential. The involvement is not only in planning but also in control of broadcast content to its management.

3.2.2 Community radio for education in several countries

3.2.2.1 Community radio for education in Canada

Radio has been used as a medium for education since the 1920s in rural Canada. It is motivated by Canada's extensive geographic conditions, the scattered population, difficulty accessing remote areas, the disparity of education in rural areas with urban areas, and the minimum technology and infrastructure to reach rural areas (Lambert and Arthur, 1961). Furthermore, the Canadian National Railway (CNR) program emerged with the target of the Point Greg School for students with disabilities and blindness in the Vancouver area (Buck, 2006). As a result, the radio can encourage and stimulate blind and deaf students. In 1926, ordinary schools in Canada finally used radio for distance education with broadcast content such as lectures, music, and teachers' lessons to be accessed by students.

3.2.2.2 Community radio for education in India

As a rural community-based radio in India, Farm Radio Forum has been used in many areas such as in education, agriculture, health, and literacy (Neurath, 1962; Nwaerodu and Thompson, 1987). Johnson and Rajadurai (2020) have asserted that Community Radio Stations (CRS) has been successful in improving the prosperity of the farmers through the increased productivity of the corps and the increased literacy level of the community, proven by the increased newspaper reading among the people in Kottampati. Secondary schools in India have also developed Hybrid Vision Radio, which combines broadcast and text and is useful for learning geography and graphic illustration. At the higher education level, the Indira Gandhi National Open University also started developing educational radio in 1985. Then, in 2001 the Indian education radio network, Gyan Vani, was used widely in universities and study programs in various higher education in India (Berman, 2008). At that time, radio was an effective medium for obtaining factual information in India.

3.2.2.3 Community radio for education in Nigeria

In the 1960s, community radio broadcasting was formed to educate rural communities in Nigeria (Asemah et al., 2013; Akande, 2007; Moemeka, 2009). This was motivated by the termination of provincial stations in Nigeria by the post-independence Nigerian government to be replaced by more substantial and better regional stations. However, this ultimately made it difficult for rural communities to influence broadcasting. Then, Western Nigerian Broadcasting Corporation (WNBC) boldly established Radio Mobile Rmal to connect rapport broadcasts with rural broadcasts (Moemeka, 2009). The government also disbanded the radio on the pretext that it did not have sufficient funds to finance it, even though the government actually made television stations at relatively high prices that could only be used by the rich and the elite. Because of this situation, McAnany (1979) formed a rural radio community with more complex content and functions, one of which was a radio school, namely educational radio for rural communities in Nigeria that offered an education that was more than just reading, writing, and cognitive skills but also changed passive attitudes and dependence (Moemeka, 2009).

3.2.2.4 Community radio for education in Kenya

In Kenya, Instruction Radio Interactive (IRI) developed Radio Language Arts (RLA) for education for first-grade to third-grade students in 1980 (Berman, 2008). Learning using radio media is carried out systematically and structurally. There is a break for students and educators to ask each other and provide opinions. The content provided is in the form of stories, games, songs, and others that can stimulate students' imaginative thoughts. The use of radio for education is a solution to the problem of low-quality teacher and lack of teacher resources. As a result, it can improve the quality of learning, increase student test scores, and lead rural students to monitor higher education in urban areas eventually.

3.2.3 Community radio for education in Indonesia

Historically, the emergence of radio and community radio in Indonesia can be divided into four periods: the Dutch colonial era, the Japanese colonial era, the independence era, and the post-reform era (Jurriëns, 2009; RRI, 1976). Furthermore, radio was used to support learning in Indonesia in 1980. The Educational Media Development Center of the Ministry of Education and Culture in Yogyakarta developed *Radio Edukasi* (RE) to support formal and informal learning (Irawan, 2018). This radio broadcasts a wide variety of programs, such as *Media Audio Penunjang Pembelajaran* (Learning Support Audio Media), *Media Audio Kreatif* (Creative Education Audio Media), *Media Audio Pendidikan Anak Usia Dini* (Audio Media for Early Childhood Education), *Media Audio Jelang Ujian Nasional bagi Tuna Netra* (Exam Preparation Media Audio for the Blind), English Audio Dictionary, *Cerita Tokoh* (Story of Character), *Dongeng Anak Nusantara* (Indonesian Fairy Tales), *Radio Edukasi Musisi* (Musician Education Radio), *Risalah Nabi dan Sahabat* (Treatise of Prophets and Friends), *Ensiklopedia Populer* (Popular Encyclopedia), *Kata-Kata Mutiara* (Words of Wisdom), *Telusuri Jogja* (Explore Jogja) and *RE Jalan-Jalan Sore* (Education Radio for Afternoon Trips) (Irawan, 2018). [Instruction: ; Purnama, 2011]. Education Radio has established partnerships with several radio stations in the regions, but the frequency often experiences clarity disturbances (Inayah, 2015). RE can support education in Indonesia, but its nature is still general and one-way.

3.2.3.1 Dutch colonial period (1925–1942)

Before the early 20th century, the Indonesian communication landscape was not well accustomed to long-distance communication technologies. Mail sent using human services was used to conduct direct communication. At long last, in 1911, a radiotelegraph was set up in Sabang and had the primary responsibility of communicating with ships sailing

across the Sabang Sea. Many Dutch people lived in Indonesia at that time because the Dutch was colonizing Indonesia. The establishment of the telegraph in Sabang, a Dutch colony, stirred up the Dutch people's yearning to construct a station that organized broadcasts. Finally, on June 16, 1925, a radio broadcast called Bataviashe Radio Vereeniging (BRV) began its operations in Jakarta (Birowo, 2010). The Dutch government supported this BRV broadcast and it also included commercial aspects like advertising and propaganda.

After the BRV, Tanjung Periok was home to a group of Dutch people who engaged in music broadcast experiments. When this organization was founded in 1934, it was called the Nederlands Indische Radio Omroep Maatschappij (NIROM) (Lindsay, 1997), which later became the most successful radio station because it received government assistance and overgrew due to financial considerations. Furthermore, NIROM wanted to increase and boost its transmission power by expanding its relay stations in large cities such as Jakarta, Bogor, Sukabumi, Bandung, Cirebon, Tegal, Pekalongan, Semarang, Solo, Magelang, Surabaya, and Malang.

NIROM initially used the Dutch language, targeting the Dutch and educated Indonesians, and broadcast eastern student programs to gain sympathy from the Indonesian population (Lindsay, 1997). Even though the Dutch East Indies government used the eastern NIROM signal to weaken the national movement's spirit, influence and disunite the movement's leaders, and increase the people's relationship with the movement's leaders, it can be stated that the signal had some effects. The end of the colonial period was marked by various Indonesian nationalist movements attempting to fight against the Dutch rule in multiple regions.

The popularity of this caused the Javanese natives to set up their radio stations and successfully created several radio stations in Java, including the Bandung-based Vereniging Oosterse Radio Luisteraars (VORL) and the Surakarta-based Vereniging Voor Oosterse Radio Omroep (VORO) (Farida, 2018; Lindsey, 1997). Seeing that the Dutch East Indies government-employed NIROM to weaken the movement, several indigenous stations formed an association of the Eastern Radio Association (ERA), which was non-commercial and aimed at advancing the arts and culture and planning the establishment of radio broadcasts outside Java. Thus, by June 30, 1940, the control of NIROM had passed into the hands of the Communist Party of Puerto Rico, and the people's movement broadcasts were, thus, controlled.

3.2.3.2 Japanese colonial period (1942–1945)

On March 8, 1942, the government of Dutch East Indies signed their official transfer of power to Japan, resulting in all political and personal activities under Japanese control. After the transfer of control of Indonesia to Japan by the Dutch, Japan took over management and control of all radio broadcasting and stopped the ERA (and other radio associations) to be managed and controlled by the Japanese government (Ningsih, 2017). Initially, the languages used were Dutch, English, French, and Arabic, but these languages were later replaced with Indonesian and Japanese.

Next, the Japanese government established a new radio broadcast known as Hoso Kyoku and its branch offices were known as Shodanso, which had the goal of controlling radio receivers by sealing the sets in each community and replacing them with public settings under the control of the Japanese government (Ningsih, 2016; Jurriëns, 2009; RRI, 1976). The goal of controlling radio receivers was to stop the operations of foreign broadcasting stations in Japan and instead force the people in Indonesia and the Indonesian people to listen only to broadcasts from Hoso Kyoku.

While Japan tried to utilize radio for political and military propaganda, Indonesian employees at Japanese radio continued to instill a sense of Indonesian nationalism in the population by carrying out broadcasts that consisted of an Indonesian style. This promoted nationalism in Indonesia, leading to an increase in Indonesian national movement and independence (Jurriëns, 2009; RRI, 1976). Besides, in the field of national culture, the Japanese radio employees attempted to expand the amount of Indonesian art and culture they could present through music, drama, social class, and *keroncong* (a kind of Javanese song). This enabled Indonesian arts and culture to flourish and gave rise to many artists.

3.2.3.3 Independence period (1945)

On August 14, 1945, Japan surrendered unconditionally to the Allied forces. The Indonesian youth leaders used this moment to continue to keep their imprisoned independence fighters, namely Sukarno and Hatta, to declare Indonesia's independence. By that time, radio's role was instrumental in conveying Indonesia's independence to all Indonesians and the world (Jurriëns, 2009; RRI, 1976). Before the Republic of Indonesia's independence on August 17, 1945, on the Hoso Kyoku radio station, Japanese and Indonesian songs were still being broadcast. Radio broadcasts on Japanese

military victories were yet being reported. At midnight, independence fighter Sukarni attempted to enter the studio room with the Proclamation Text and successfully turned on the radio station *Hoso Kyoku*. Finally, the last requisite for broadcasting Indonesia's independence, which was *Hoso Kyoku* radio, was met in the early morning of August 17, 1945.

3.2.3.4 Reform era – present

Before initiating the reform era, Indonesia had two separate periods known as the Old Order and the New Order. During both periods, radio broadcasts in Indonesia were controlled by the Indonesian government. Massive collusion, corruption, and nepotism occurred during the New Order period when the Indonesian government was ruled by a president who served for 32 years. Freedom of expression in front of the public was restricted at the same time. The original purpose of Radio Republik Indonesia (RRI) was to speak on behalf of the government and the ruling party without bias. However, during that time, the entity changed its mission and function and started to be the government's mouthpiece and the ruling party. The communication system at RRI also functions as a top-down system, which conveys only to all Indonesian people via RRI, with no criticism or dialogue (Wijaya, 2011). With the establishment of these community radio stations, information not only was conveyed by the government on its behalf, but also other information that was appropriate and needed by the community could finally be obtained. These radios, which were developed by the community and college students, were subsequently used to overthrow the New Order regime and achieve their most tremendous success in 1997. The previous president was successfully toppled.

The country's new administration quickly followed up the wave of reform. During this time, people were given the freedom to freely express their thoughts publicly. The law of 2002 made it possible for community radio to be legally recognized and protected and it became official in the Law Number 32 of 2002. The community broadcasting institution is called the community radio station (Hollander et al., 2008; Puspitadewi, 2006). Until now, community radio has typically been known as *Radio Komunitas*.

Additionally, the Ministry of Information attempted to hinder community radio development, which despite of their success in recognizing community radio, led to their dissolution. Community radios emerged and grew rapidly throughout Indonesia since then. These community radios have also organized themselves into an organization named the Indonesian Community Radio Network (ICRN) in 2002. It consists of the Community Radio Network (CRN) of West Sumatra, the CRN of South Sumatra, the CRN of Lampung, the CRN of Jakarta, Bogor, Depok, Tangerang, Bekasi, and Banten, the CRN of West Java, the CRN of Central Java, the CRN of Yogyakarta, the CRN of East Java, the CRN of Bali, the CRN of Lombok, the CRN of South Sulawesi, and West Sulawesi (Eddyono, 2012). The main agenda of ICRN is to advocate community broadcasting in Indonesia to promote broadcasting democratization. Now, the development of community radio is freer, and legal policy protects it.

3.2.4 The potential use of community radio for learning in remote areas during the COVID-19 pandemic

Education in remote areas during this pandemic requires learning media with special and two-way coverage. Its function is to convey learning material and instructions from the teacher to students to finally get a learning experience. Even though it has not been able to meet the educational needs in remote areas, RE can prove that radio can support learning in Indonesia.

Nowadays, community radio is, in reality, being used for the social benefit of the community and has not yet used for the educational purpose. Community radio, however, can be used as an educational option during this pandemic in rural areas where internet access is hard to get. The essence and general concepts of community radio that are used for the good of the community, not-for-profit, and owned and controlled by the community, whose programming is adapted to the needs of the community and locality prioritization, can be used as the essence and concept of community radio for education, so there is no conflict of interest in education. Community radio for education can be established with participation from schools, teachers, students, and student guardians as community members. Content is tailored to educational needs, which are to transfer material and guide students in carrying out learning activities. Management and control are carried out by community members, namely schools, teachers and student guardians. Prioritizing locality in the delivery of content can be represented by the use of local languages or local contexts that exist around students and not purely for non-profit learning.

3.3 Transformative critical education as the philosophical and pedagogical concepts

Transformative critical education is based on the essential theory of three schools of thought, namely the Frankfurt, Gramsci, and Freire schools. The Frankfurt School believes that critical theory must significantly change the world and improve the human condition (Geuss, 1981). The thinkers in this school try to provide awareness to free humans from irrationalism by having a critical understanding of reality. This school has seen that the instrumental ratio produces an industrial culture that has hindered the individual's autonomous development. The oppression carried out by industrial civilization is more dominant than just economic domination. According to Adorno and Horkheimer's thinking, industrial culture has made human beings become like robots determined by advertising changed by the mass media (Landmann, 2011). Humans no longer have the freedom to choose because everything has been selected and standardized by industrial culture (Kellner, 2002). Therefore, the solution to get out of industrial culture's hegemony is to build a rational theory and produce human emancipation in industrial society (Geuss, 1981). Such ideas must play a significant role in changing the world and improving the human condition. This theory is a critical theory applied to humans. In principle, the critical theory does not care about wise human beings' efforts, which must be carried out by building acute and essential awareness to see and criticize reality and against the oppressive industrial culture's hegemony.

The Gramsci School believes that in social conditions, all aspects of social reality are constructed and dominated by a dominant (superior) group (Gramsci and Hoare, 1971). Sovereignty continues to be supported by civil society institutions, including education itself. Thus, education is not neutral, but there are political content and interests at play. Therefore, to prevent the hegemony process, a counter-hegemony action is needed by forming the education and culture of mass. According to Gramsci and Hoare (1971), the civilian masses consist of social organizations and movements that must have an intellectual function, namely to carry out social change and transformation. In reality, not everyone has an academic role in society. Thus, Gramsci and Hoare (1971) divide intellectuals into traditional and organic intellectuals. Traditional intellectual becomes the dominant group and carries out a unique social domination function and political governance (Kurtz, 1996).

On the other hand, organic intellectuals organically create one or more intellectual stratas that give them homogeneity and awareness of their tasks in the economic, social, political, and cultural fields (Green, 2013). Organic intellectuals have a role in the social formation, namely, to provide homogeneity and awareness of the masses' functions. Organic intellectuals raise awareness to make counter-hegemony efforts against the ruling class. Efforts to raise awareness in the people's groups are carried out through critical education in formal and informal schools to achieve the goal of education, which is to humanize human beings (Kurtz, 1996; Green, 2013).

Then, the Freire School views that education's axis is siding with the oppressed, those who experience alienation and self-depreciation. These people must be emancipated with critical awareness so that they can be liberated. Paulo Freire, an educator, philosopher, and theologian, views humans as creatures related to nature and their world (Freire, 1972). This awareness of the relationship between personality and the world causes humans to have a critical relationship with the world. Humans are gifted by God the ability to choose, test, study, and test something again before acting. This is a bank-style education system that considers humans to be uncritical. It is like a container that contains material that students will memorize and memorize. Being used when needed, it is like saving money in the bank. According to the free education system, students as humans have awareness and reflective and critical abilities (Morrow and Torres, 2002).

Freire rejects an education system that views humans as passive creatures who do not need to make choices about themselves and their education (Roberts, 2000). Students must become fully human beings who are free and independent of themselves, their reality, and their world. His views then transformed into the world of education. Freedom is to initiate an educational model that frees critical knowledge that can help humans improve the world's essential attitudes. Thus, education must empower human freedom in being aware of themselves and the outside world because education is a process that is beneficial to the environment, society, and culture (Giroux, 2010). Critical knowledge is expected to encourage humans to develop optimally and place students at the center of pedagogical activities (Freire, 1985). It must create an environment that is conducive to the development of learners. Educators must also increase students' awareness to be critical and creative in dealing with their problems (Torres, 2007).

Learning must create intellectual freedom to achieve transformative critical education between educators and students in the teaching and learning process (Giroux, 2010). The learning process must be open and full of dialogue, full of responsibility between educators and students; all interactions between educators and students are egalitarian and fair. Students must have freedom of initiative, freedom of opinion, and freedom to have inspiration and other perspectives on justice and equality. In this case, education must be accommodated appropriately as an important means of achieving independence (Beckett, 2013). Communication in transformative critical education must go in all directions, namely, from educators to students (top-down), students to educators (bottom-up), and students to other students (networks), to create dialogical and non-educational education. Transformative critical education is expected to produce changes in students both in quality changes, independent and creative attitudes, personal differences, and social quality changes with friends and community around them. Changes in these students can bring up new ideas that can change students' lives, the environment, and the world (Roberts, 2015).

The basis for the successful implementation of critical education is critical pedagogical awareness that teachers and education providers must understand. Critical Pedagogy is a praxis in which praxis is an action and reflection (Freire, 1985). Praxis involves practicing theorizing and putting theory into practice. Praxis thinks of the philosophical and essentialist thing about what and why we will do before we do it and then contemplates what we did, how to do it, and how it turned out. Critical pedagogy involves an evolving working relationship between practice and theory. As a praxis, critical pedagogy cannot stop, critical pedagogy demands reflection and reconceptualization between what happens inside our classrooms, why it happens, and what and whose purpose it serves. Critical pedagogy recognizes the importance of the individual and their interests, acknowledging that the individual and its fulfillment are dependent on social relations with others inside and outside the class. Critical education requires collective thought and action, reflection, and action. It cannot be separated from one another because when theory is cut off from practice, it is only simple verbalism and conversely, when the way is cut off from the idea, exercise is just blind activism (Freire, 1985).

Critical pedagogy is a descriptive perspective because it critically analyzes the world we live in. Critical pedagogy looks at how the pedagogical, political, social, and economic aspects of life inform one another. Critical pedagogy asks why and in what way these things exist, who gets harmed, and how, then, teachers and students develop answers together (Morrow and Torres, 2002). This is when teachers and students are on the path to critical awareness. Critical pedagogy enables teachers and students to gather reason and emotions to serve understanding, transcendence, and transformation. Critical pedagogy helps us see ourselves and see humans, what humans do to other humans and the world and its surroundings, then helps to construct an idea of what to do and what changes must be done (Shor, 1993; Giroux, 2020).

Critical pedagogy helps humans to develop critical awareness, which enables them to participate in transformational actions critically. This acute awareness refers to the process by which humans no longer accept but become subjects who know and achieve a deep understanding of both the socio-cultural realities that shape their lives and their capacity to change that reality (Brass and Macedo, 1985; Freire, 1985). Critical awareness obtained from critical pedagogy encourages humans to become whole humans or humanists, namely those who are autonomous towards themselves, reality, and their world. It does not stop at awareness, but the result of critical pedagogy is the emergence of the construction of new ideas that will produce transformative action.

3.4 Community radio-based blended learning model as a promising model in pandemic era

The researchers found several relevant findings that support the development of a theoretical framework for community radio for education in remote areas based on a review of the blended learning literature, community radio, and transformative critical education. In the blended learning literature, we find that blended learning principles and concepts combine two face-to-face and distance learning models by utilizing distance technology or Information and Communication Technology (ICT). The blended learning syntax follows from the ICT-based learning syntax, namely, seeking information, acquiring data, and synthesizing knowledge. Because the concept of blended learning is the combination of two face-to-face and distance learning models, the blended learning model is the most likely model to develop community radio for education in remote areas where education must be carried out remotely.

In the literature on community radio, we found that the existence of community radio in this world is used by a group of people to convey information according to the community's needs and interests. Besides, community radio can be used in education, proven to have been used in education in Canada, Nigeria, India, and Kenya. In Indonesia's current context, the Indonesian government has given freedom of expression and has made concessions on community radio

operations. The government also acknowledges its existence and protects it legally. In Indonesia, community radio is currently running according to the community's needs and interests and is free from intervention. In the operation of community radio, there are fundamental things that must be understood, such as the nature and characteristics of community radio, its differences from public or private radio, and prerequisites for community radio operation. The technical implementation of community radio starts from planning, organizing, personnel, directing, and monitoring. By looking at Indonesia's current condition, the people are free to express themselves and free to conduct community radio broadcasts without intervention and the government has recognized and protected community radio by law. In addition, by considering some literature on community radio that has been used for education in various countries, including Indonesia, it can be concluded that in Indonesia, it is possible and there is an opportunity to establish community radio for education. Besides, the fundamentals and technicalities of community radio implementation, in general, can be adopted for the development of community radio for education in remote areas.

In the transformative critical education literature that we reviewed, we obtained some theoretical findings in the implementation of transformative education. Learning must create intellectual freedom to achieve transformative critical education, must empower freedom in human awareness of themselves and the outside world because education is a process that is beneficial to the environment, society and culture, must increase students' attention to critically and creatively face themselves and the problems around them, and must be able to bring about quality changes in students so that students can come up with new ideas that can bring change to the students themselves, environment, and the world. The implementation of critical transformative education must be based on critical pedagogy that helps humans develop their critical awareness and become fully human or humanist and can produce transformative actions for themselves, their environment, and their world.

The technical implementation of transformative critical learning must be carried out openly with full dialogue and full responsibility between educators and students and all interactions between education and students are egalitarian and fair; students must have freedom of initiative and opinion, get inspiration and perspective, and communication must be in top-down and bottom-up relations to create dialogic education. The principles and techniques of transformative critical learning can be the basis for implementing learning in remote areas by utilizing community radio. It can be done dialogically and interactively, not just instructively, so that learning will improve students' quality even though it is carried out remotely. The findings and reviews of the three reviewed literatures were then used to build a theoretical framework for community radio for education in remote areas, which we call the theoretical framework of the community radio-based blended learning model.

Community Radio-Based Blended Learning Model (CR-BBLM) is a community radio aimed at providing distance education in remote areas. Its implementation is done by utilizing radio technology combined with the blended learning model. CR-BBLM is run by parties related to learning in remote areas, including the government, schools, local communities, students, and parents. The CR-BBLM is implemented for the community's benefit in organizing distance learning in remote areas where the internet access is hard to get. The learning model has three essential aspects: being non-profit, being controlled by the community itself, and community participation. There are four characteristics of CR-BBLM as a community radio for education, such as:

1. The involvement of learning organizers in remote areas in the process of establishing, managing, evaluating, and monitoring community radio operations
2. The clarity of the community audience, namely the school's academic community, organizers, and local communities related to the implementation of learning
3. The limited broadcast range for the coverage area around the place where the learning takes place or around the school that is only intended for teaching and learning activities between teachers, students, schools, and parents of students
4. Technology and costs that are adjusted to the conditions of the members of the learning organizers in remote areas

In carrying out CR-BBLM, several requirements must be met. Participation, locality, non-profit, and community control are fundamental principles. To implement the CR-BBLM, it should be well planned, organized, implemented, and supervised. It is necessary to manage CR-BBLM implementation, including planning, organizing, directing, and

monitoring. In the planning process, if community radio generally plans to make broadcasts, which include designing content, presentation, and types of events, then at this CR-BBLM, the community plans learning based on blended learning, including determining learning objectives, time planning, activities, and technical planning of radio usage in learning. Then, in the organizing process, the content or material presented in the learning process is in accordance with content or material formulated and organized in the planning process.

Furthermore, in the briefing process, the community carries out learning as previously designed. In the implementation of learning, transformative critical learning is used as a foundation in carrying out learning. The main thing is that the learning carried out can improve students' quality and critical awareness so that students can become real humans or humanists who can produce transformative actions for themselves, the environment, and the world from the knowledge they learn. To achieve these goals, learning must be able to create intellectual freedom, provide students with awareness of themselves and the outside world, increase students' awareness critically and enable students to face themselves and the problems around them creatively, and bring about changes in quality so that students can come up with new ideas and can bring change to students themselves, the environment, and the world around them.

In the technical learning in CR-BBLM, learning is carried out with students as the center of learning or in other words, it is student centered learning. Students are more active in learning activities and the teacher acts as a facilitator who will guide learning via radio. The learning process must be carried out in an open and full dialogue. Students are given the freedom to take the initiative, express their opinions, aspirations, and perspectives, and respect others' freedom. CR-BBLM must use radio and be done remotely or not be done face to face. Still, the learning process must remain open and dialogic and not be in one direction only from teacher to student. Communication in learning must occur in all orders, from teacher to student, student to teacher, and student to other students. It is essential to pay attention to it so that the learning process does not develop into a critical awareness of students, which has fatal implications for life and their ability to deal with the environment and their world. Distance learning during this pandemic tends to be instructive. The teacher gives instructions and provides material and students do what the teacher instructs and passively accept the material.

[Freire \(1985\)](#) stated that students are not like banks, which only need to be filled with material and passively accept and memorize them according to what the teacher instructs. Students are humans who are given the ability to reason, reflect, and reexamine what will come. Therefore, the teacher must encourage the capabilities that have been bestowed, so that students have more critical awareness that they can use to see deeper and face themselves, reality, and their world. Teachers must understand that the essence of education is to deliver students to become complete human beings, namely, humans who have freedom and autonomy towards themselves, reality, and their world so that they can creatively and critically face the problems around them. It can only be obtained through awareness. One way of growing and encouraging critical awareness is by placing students at the center of pedagogical activities and creating an environment conducive to necessary awareness development. This conducive environment is an open learning environment, full of dialogue, and full of interaction. It provides opportunities for students to have freedom of opinion, freedom of belief, freedom of inspiration, freedom to have a perspective of justice, and equality.

The community radio-based blended learning model must also prepare students to face the challenges of the 21st century, where life changes are so fast, dynamic, and challenging to predict. Students must quickly and critically see the reality and the changes that occur and deal with it. Therefore, education cannot end up being carried out only by transferring knowledge with students only receiving and understanding that knowledge. Students must understand what can be done with the knowledge they have in the future. Through critical pedagogy and a dialogic learning process, the teacher must encourage students to think philosophically and practically about what is learned and why it should be studied.

Furthermore, they must see what happens to the reality around themselves and their world, reflect on what to do with what has been learned and seen on the truth and the world, and predict the results. Thus, the construction of transformative ideas will appear. Students will carry that out in facing their world's problems and realities.

The framework of CR-BBLM contributes as a recommendation for alternative learning in remote areas using community radio as a solution to learning difficulties in remote areas during the COVID-19 pandemic due to internet signal constraints. However, it still needs further research about its implementation in the field, which can be done using this framework as a theoretical basis. A solution must be taken to solve learning difficulties in remote areas in Indonesia during the COVID-19 pandemic, and further research must be carried out immediately considering the need and

urgency. This promising model can immediately implement to solve the problems and students can immediately continue the learning process and continue to grow and develop.

4 Conclusion

There is an alternative solution to learning in remote areas with lack of internet access, namely, the community radio-based blended learning model, utilizing a radio network for learning activities. This learning can be implemented by collaborating community radio with teachers, students, and students' guardians. Furthermore, the teachers and students carry out blended learning that combines common knowledge with learning using technology. In this case, the technology used is the radio. The teachers act as a facilitator who will guide student during learning activities and the parents act as a motivator who helps students' study at home. They can openly and dialogically implement the community radio-based blended learning model to foster students' critical awareness and encourage the creation of students' transformative ideas in dealing with problems in the real world.

4.1 Limitations of this study

There are numerous limitations to consider in interpreting the results of this integrative literature review study. This study examines various literatures to construct a theoretical framework of alternative learning in remote areas with limited internet access during a pandemic situation. This alternative learning is based on community radio and utilizes blended learning syntax. As a result, we have to exclude literature that does not discuss the community radio and the blended learning syntax from this study and its model, including from implementing it in the learning process. However, the emphasis of the literature that supports the constructed learning model has been thoroughly examined in this study.

4.2 Recommendations for future research

Since the pandemics started two years ago, we have seen an increase in alternative learning approaches. Most of them run well in areas with good internet networks, allowing for proper online course-based blended learning. However, there are still few studies focusing on rural areas with poor internet connectivity. Therefore, as a result, the findings of this study can be used to implement the community radio-based blended learning model as a promising alternative learning method for rural areas during this pandemic period. Further research can be done by collecting empirical data in the [learning process. This is to demonstrate the model's efficacy in teaching and learning activities during a pandemic era.](#)

Declarations

Author contribution statement

All authors listed have significantly contributed to the development and the writing of this article.

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No data was used for the research described in the article.

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Purnama, 2011.

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eToc Blurb

Community radio-based blended learning model, Pandemic Era, Remote Area, Integrative Literature Review.

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Review article

Community radio-based blended learning model: A promising learning model in remote area during pandemic era

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ABSTRACT

The COVID-19 pandemic is a big challenge for education worldwide because education has to be done virtually to stop the spread of the COVID-19. The problem is that there are students who live in areas far from cities, while learning in an interconnected world should be done virtually. Diverse geographical conditions in Indonesia consisting of mountains, lowlands, highlands, and valleys and some areas that are far away from cities make students difficult to connect to the internet and thus, virtual teaching is challenging. These areas are often referred to as remote areas. So far, the Indonesian government's approach to dealing with learning difficulties in remote areas is vague. This research aims to construct a theoretical learning framework that can be used to facilitate distance learning in remote areas in Indonesia. This research proposes a developmental theory of alternative learning in remote areas through the integrative literature review. In this research, the theoretical framework evolved out of the review of existing research on community radio, blended learning, transformative education, and critical pedagogy. This research yields a theoretical framework regarding the community radio-based blended learning model that contributes as a promising alternative learning solution in remote areas. It is inferred that this learning model would be a promising learning model in remote areas during unpredictable situations such as in the pandemic era.

1. Introduction

The world is currently suffering from the COVID-19 pandemic, which poses a serious health and fatality risks. To monitor the rapid spread of the virus between individuals, the World Health Organization (WHO) has provided a protocol for individuals to implement physical distancing (World Health Organization, 2020). This condition represents an enormous challenge to sustainability in the field of education, which must carry out the teaching and learning process amidst restrictions on human activities during the COVID-19 pandemic to ensure children's rights to continue to get the education to ensure the sustainability of children's lives in the future (Lee, 2013; Smith, 2019). Teaching and learning activities that have been performed face-to-face have now been shifted to virtual or distance learning. However, the internet is not accessible in certain regions in several countries due to various constraints such as location, making it difficult for people to carry out distance or virtual learning. This is what occurred in Indonesia.

Indonesia's geographical and topographical conditions, which consist of islands with plains and mountains, make it difficult for all In-

donesia regions to have access to the internet that can be used for online learning (Afrianti and Aditia, 2020). Many students have to walk far up the mountains, climb trees, or reach the woods to get internet signals. In certain places, teachers must visit students' homes one by one to continue teaching-learning process during the COVID-19 pandemic. This, of course, makes learning inefficient and negatively impacts student learning progress (Tamah et al., 2020; Supena et al., 2020). The Indonesian government has issued a policy on education in emergencies and guidelines for learning from home but fails to help those who are unable to use the internet during distance learning.

The COVID-19 pandemic has unknown end date. The Indonesian government has yet to provide precise solutions to learning problems in areas without internet connectivity or in remote regions, resulting in depression among students, student families, and teachers (Irawan et al., 2020). Students must continue their education and develop their abilities, but their environments are insufficiently supportive and accommodating. It leaves teachers and parents perplexed about how to rectify the situation, as it cannot be resolved separately.

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Significant concrete initiatives or acts by the government or other organizations are required to resolve the sector's issue in practical terms. One of the attempts that can be made in places that do not have access to the internet is to create a learning model that uses other networks in the region (Friedman, 2020). Radio networks in Indonesia are more straightforward and more accessible in some areas (Jurriëns, 2009). This network can provide content knowledge or direct teaching activities from teachers to students (Nwaerandu and Thompson, 1987). In essence, the learning process is an instructor who encourages the transmission of information that can direct students to explore the knowledge they want to know and learn on their own so that students obtain learning experiences that are useful for their growth (Kelly, 2016; Freire, 1985). However, this cannot be achieved individually. There must be a commitment and collaboration on the part of the different parties, such as the educational community, the school, and the government, to use the network and establish suitable learning methods so that learning can be carried out effectively.

A community radio network can be formed in this situation by volunteers, schools, teachers, students, and parents of students who will use, manage, and supervise the radio networks. This community will provide the teachers with the information they need to keep students actively engaged on learning activities during the pandemic.

This idea cannot be implemented without any underlying theory. This study contributes to constructing a theoretical learning framework model for using community radio networks as learning medium in remote areas. This model develops through systematic reviews, synthesis, critical analysis, and integrating several works of literature on community radio, blended learning, necessary transformative education, and critical transformation pedagogy. Hopefully, the research results will be used as a theoretical basis for further research on implementation in the field as an alternative learning solution in remote areas, so that distance learning during a pandemic can still occur.

The next section of this article is a research methodology that explains the integrative literature review method used in building a theoretical framework in this study. The third part is the review, critical analysis, synthesis, and integration of several works of literature on community radio, blended learning, compulsory transformative education, and critical transformation pedagogy. The next part is a description of the theoretical framework for the Radio Community-Based Blended Learning Model. The last part is the conclusion of the research.

2. Method

This study uses an integrative literature review as a research method to construct a theoretical framework for alternative learning in remote areas where it was challenging to do virtual learning during this pandemic due to the difficulty of accessing the internet network. In this case, the integrative literature review provides a basis for constructing a new model or theoretical or conceptual theory by reviewing, critiquing, and synthesizing literature representing a particular topic in an integrated manner so that new theoretical frameworks and perspectives can be produced (Torraco, 2005). This study is different from the other two literature review studies, namely, Systematics Literature Review and Semi Systematics Review. They serve as a resource for identifying and reviewing critical research to ascertain trends and major research influences on a particular topic, not as a means of developing the theoretical framework (Synder, 2019; Baumeister and Leary, 1997; Torraco, 2005; Wong et al., 2013; Liberati et al., 2009). Additionally, the Integrative Literature Review study also has a potential unique contribution to the reconceptualization of established topics, which is then used to develop new frameworks and perspectives by providing an overview or description of research trends and their influences (Synder, 2019). Therefore, it is considered appropriate and effective to be used in this research to construct a theoretical framework regarding alternative learning model in remote areas that became an issue in distance or vir-

tual learning during this pandemic due to poor internet connection. The role of this method is to promote a theoretical solution to the need for alternative learning in remote areas. The results will be the basis for further research on these ideas and how they are implemented in the learning process.

This method is carried out in four stages: designing, conducting, analyzing, and writing the review (Synder, 2019; Torraco, 2005). In the first stage, designing a review determines some essential points, such as deciding the topic, reaffirming the study's reasons and objectives, formulating the scope and specific research questions, and starting to collect the literature to be reviewed. Next, researchers begin to conduct a review, starting from determining time to conduct the study, testing a review process, to critiquing and synthesizing the literature. The method of criticizing literature was done by critical analysis, which involves a careful examination of the main ideas and their relationship to a problem and critiquing existing literature. Meanwhile, synthesis is carried out by integrating existing ideas with new ideas to create a new formula for the topic being discussed. The form of synthesis in this study is an alternative model or theoretical framework, a new way of thinking about the issues addressed with an integrative review, and derived directly from the critical analysis and synthesis that have been done (Torraco, 2005).

Furthermore, the third stage is analysis review. In the integrative literature review study, data analysis is replaced with clear logic and reasoning conceptual as the basis for argument and explanation. These two are the most important features used to develop the proposed framework or model and allow readers to see the relationship between research problems, critique of the literature, and theoretical results in a theoretical framework. The last stage is a review, which is written precisely and directly. The rationale and urgency of the study are conveyed. Besides, the review process, for example, how the literature is identified, analyzed, synthesized, and reported by researchers, is described transparently. Review results in integrative review studies are not assessed and evaluated as rigorously as in empirical studies. Still, the quality is seen from the depth, thoroughness, and substantial contribution that is really valuable and new in a particular field or topic (Synder, 2019).

3. Results and discussion

This section developed a theoretical framework about the Community Radio-Based Blended Learning Model, which was inspired by the difficulty of learning or access in several remote areas in Indonesia during the COVID-19 pandemic. Because of Indonesia's geography and topology, internet connection or network is disrupted and difficult to receive in remote areas. When a pandemic is still ravaging the country, the Indonesian government implement education implementation policies to respond to the conditions of the Covid-19 pandemic. However, remote areas that are difficult to be covered by internet signals have not been included in the program's coverage. Until now, the government has not offered any concrete solutions to the problem. The domino effect of these problems is felt not only by students but also by teachers and parents who feel depressed and confused about what to do to ensure that students continue learning amid a pandemic with no clear end in sight. It follows that we cannot remain silent because it is related to students' rights to education and the continuous advancement and growth of students, which are crucial for them in order to be able to confront life's obstacles in the future.

Remote learning in locations where geographic and topological constraints are present during the COVID-19 pandemic provides us with a robust new foundation for building an alternative learning model using advanced technology to cover remote locations. Radio communications are the only remote technology that can be accessed in remote areas. Thus, an Integrated Literature Review was conducted to develop a theoretical framework for this concept. Blended learning, community radio,

transformative critical education, and transformative critical pedagogy were chosen as literature of choice.

As a learning model, blended learning combines face-to-face and distance learning by using remote technology. In this research, blended learning is the most likely learning model for distance learning combined with radio network technology for learning in rural areas. This literature was selected because it represents the core ideas of alternative learning ideas in remote areas, utilizing radio networks in the context of community radio development. Instead of focusing on radio network technology, it focuses on reviewing the radio community's literature to support constructing the framework learning model in this research. While developing this idea, it is not sufficient to have a radio network, but rather a community with a joint commitment and roles to seek, manage, regulate, and supervise the use of radio networks for distance learning in remote areas.

Additionally, the articles on transformative critical education and essential transformative learning were selected because the two topics will be used as a basis and guidelines for implementing learning using radio networks. In case learning will be instructional from teachers to students, the idea will actively develop students' transformative critical awareness. Due to internet network constraints, a solution is needed to solve learning difficulties in remote areas of Indonesia during the COVID-19 pandemic, resulting in this literature being very necessary to be reviewed to construct a new theoretical framework from the integration of the results of these kinds of literature. The following is a complete list of the detailed descriptions of the literature review.

3.1. Blended learning model

The discourse on blended learning has appeared since the 1960s, but it only started to have many supporters in the 1990s since technology began to develop. The first-time blended learning uses were when the Center for Interactive Learning, an educational business institution in Atlanta, made a press release in 1999 about an online course program using the Blended Learning methodology. There was no clear definition of blended learning until Graham published a book entitled *The First Handbook of Blended Learning*, which answered the ambiguity of the purpose of blended learning. [Graham \(2006\)](#) defines Blended Learning as a combination of instructions from two historically separate teaching and learning models: the face-to-face learning system and the distributed learning system. Some educational developers provide various definitions of blended learning, but the point is to combine two learning models to achieve the desired learning objectives. Therefore, blended learning is factors that are used together to obtain harmonious results, which can be seen from the student learning process.

[Singh and Reed \(2001\)](#) define blended learning as a learning program containing more than one model used to optimize learning. [Graham \(2006\)](#) also defines mixed learning as an effective combination of several learning techniques, technologies, and ways of delivering materials to meet student needs. Blended learning can also be interpreted as an educational approach that combines various face-to-face models with distance education and uses different types of educational technology.

In principle, blended learning combines face-to-face learning with Information, Communication, and Technology (ICT), which makes blended learning have several advantages ([Hoic-Bozic et al., 2008](#); [Graham 2006](#)). First, using a combination of different educational techniques and technologies can improve academic abilities. Furthermore, it can be applied to students with diverse and independent learning styles and allows cost savings and lowers education costs. Using various learning techniques also attracts students' attention. Finally, by using a combination of face-to-face education and other processes, students can access knowledge anytime and anywhere ([Hoic-Bozic et al., 2008](#); [Graham, 2006](#)). Blended learning can facilitate optimal learning by providing various learning media that can attract students' attention to ed-

ucation and develop their knowledge. In blended learning, the teacher acts as a facilitator and media in the learning process. The teacher provides instruction or learning materials and offers guidance to students on carrying out learning activities and taking advantage of the technology used in learning.

Syntax in blended learning can refer to ICT-based learning because, in principle, Blended Learning combines face-to-face learning with ICT-based learning ([Wahyuni et al., 2019](#)). [Ramsay \(2001\)](#) stated that there are 3 syntaxes in blended learning:

1. Seeking information and critically having sources of information based on the relevance, validity and reliability, and academic clarity of content;
2. The acquisition of data, namely students' individually or groups cooperatively and collaboratively trying to find, understand and confront information obtained from information providers with ideas that already exist in their minds;
3. Synthesizing of knowledge, namely, constructing knowledge through the process of assimilation and accommodation from the results of the analysis, discussion, and formulation of conclusions on the information obtained

Blended learning has several roles, including as a learning process that combines learning models, learning styles, and various technology and communication-based learning media. Furthermore, it serves as coaching between distance independent learning and face-to-face learning between teachers and students, knowing that is supported by effective learning, from delivery, education, to learning styles. Finally, parents and teachers have an important role in student learning, where the teacher acts as a facilitator and parents act as a motivator ([Borup et al., 2019](#)). There are six mixed learning elements: face-to-face learning in class, self-study, technology and information, tutorials, collaboration, and evaluation ([Valiathan, 2002](#)). In limited education, there are also four learning concepts: 1) Combining or blending web-based technology modes such as virtual classes, collaborative learning, streaming video, audio, and text; 2) Combining pedagogical approach that will result in optimal learning with or without technology, such as cognitivism, constructivism, and behaviorism; 3) Connecting all forms of learning techniques such as videotapes, audio cassettes under face-to-face guidance of teachers; 4) Combining learning technology to create cooperative learning and working effectively ([Valiathan, 2002](#)).

Blended learning, which in principle combines various learning models with technology and is characterized by independent learning, can be used as the basis for alternative learning solutions during a pandemic in remote areas where it is difficult to access the internet. Before implementing mixed learning, an analysis of several things, including attainable competencies, learning objectives, students, and available resources, is needed. This is the basis for determining how the learning design will be made and what media can support learning. After conducting the analysis, the teacher can see what technologies can be combined in learning and arrange learning steps. For example, in remote areas, the technology that students can use and reach is radio. The teacher can include radio to be incorporated into learning. Furthermore, the teacher makes learning steps and guides students to study independently at home by using technology in the form of radio.

3.2. Community radio

[Mtimde \(2000\)](#) describes Community Radio as stations owned and operated by public or group members for their communities. AMARC as a World Association of Community Radio Broadcasters promotes community radio as a social and cultural development tool which represents a non-profit broadcasting station providing services to the community ([Diasio, 2010](#)). Philosophically, the advent of community radio is based on the public's need to communicate knowledge and reality

and facts on the ground without being manipulated by any group with interest beyond the public interest (Barker, 1998). In 1949, the emergence of community radio originated from the poverty problem experienced by mining workers in Bolivia because the radio there was controlled by several interested people and had never broadcast the truth and condition of these workers and thus, the workers then produced community radio (Jurriëns, 2014). The radio was regulated by themselves and used to spread the truth and their aspirations. Catavi Radio was a collective radio station for creating the labor union that was broadcast in Bolivia at the time. They spread the truth about their plight and used the radio as a propaganda weapon to attract support for solidarity to achieve justice. Community radio has since started to appear in many other countries. Community radio contact called the Community Audio Tower System (CATS) was developed in Asia in 1970. Initially, radio was dominantly used to support development initiatives (Semuju, 2020). Not long after that, community radio among the people started to emerge and, under their influence, broadcast democracy issues for the people's good.

Community radio is different from public radio and private radio. Firstly, community radio participation starts from establishment, evaluation and monitoring. Secondly, it has a transparent community and community radio has an exact audience, namely members of the community itself and the people around the community. Thirdly, community radio only serves communities that are within its coverage area or in other words, it has limited coverage area. Fourthly, it provides closeness to the local situation. Because of the close relationship with the community and the environmental area around the community, it will have a wealth of information about the local social and cultural sites of the community coverage. Fifthly, technology is affordable and the technology used is invincible with the ability of the community. Lastly, having the jargon "from, by, for and about the community", it can be interpreted that community radios are really from their own circle for their own interests and broadcast about the community and the needs of the community itself (Lewis, 1989). Also, in establishing community radio, some conditions must be fulfilled. Firstly, participation is a fundamental principle. Community members are the main actors of community radio's existence and sustainability and all members are open to managing this radio. The second condition is locality. The Radio community exists to serve the community's interests so that the radio community must always be locality-oriented. Thirdly, community radio is non-profit or in other words, it is not used to earn profit. The last condition is control from the community to ensure that broadcast content meets the community's needs and community involvement is significant to control broadcast content and its management (Lewis, 1989).

3.2.1. Organizing community radio

In organizing community radio, the organizer must understand the fundamentals of community radio and the characteristics and differences that distinguish community radio from public radio or private radio. So far, there is still no single definition of community radio. Even AMARC International, an organization that covers radio communities worldwide, does not define community radio. AMARC said that community radio is described from three distinctive aspects, namely being a nonprofit activity, controlled by the community, and characterized by community participation (Akhter, 2010). Historically, community radio's philosophy has been to enable those who do not have a voice to express themselves, to represent the voices of those who are the victims of racial discrimination, gender discrimination, or social class oppression, and generally to become a tool for growth (Fleming, 2009). AMARC International emphasizes that the purpose of community radio is not to do something for the community but to allow the community to do something for itself (Akhter, 2010).

Six differences distinguish community radio from public or private radio. Firstly, there is community participation in the process of establishing, managing, evaluating, and monitoring a community radio sta-

tion. Secondly, community clarity means that community radio has an exact audience, namely residents who live in a specific area. Thirdly, limited coverage area means that community radio broadcasts serve communities' interests within its broadcast coverage. Fourthly, there is closeness to the local situation. Fifthly, the five technologies and affordable costs mean that the technology used by a community radio must be adapted to the community's capabilities. Lastly, having the jargon of, by, for, and about the community means that community radio is established and operated for the community's benefit (Birowo et al., 2005). Besides, in the implementation of radio broadcasting, several prerequisites must be considered, among others (Darmanto et al., 2015):

1. Participation is a fundamental principle

Community members as the main actors in organizing community radio must be open to community radio management. This participation aims to encourage democratization in community members so that community radio operations can be used as a medium to express interests and meet community members' needs.

2. Locality

Community radio aims to facilitate community interests so that community radio must be oriented to community members' locality. This allows community members' opinions and interests to be voiced according to the community members' identity, environmental characteristics, social and cultural character.

3. Nonprofits

Community radio is run from community members' self-help and is adapted to suit community skills and is not used for material gain.

4. Control of community members

The involvement of community members in ensuring that broadcast content is by community members' needs is essential. The involvement is not only in planning but also in control of broadcast content to its management.

3.2.2. Community radio for education in several countries

3.2.2.1. *Community radio for education in Canada.* Radio has been used as a medium for education since the 1920s in rural Canada. It is motivated by Canada's extensive geographic conditions, the scattered population, difficulty accessing remote areas, the disparity of education in rural areas with urban areas, and the minimum technology and infrastructure to reach rural areas (Lambert and Arthur, 1961). Furthermore, the Canadian National Railway (CNR) program emerged with the target of the Point Greg School for students with disabilities and blindness in the Vancouver area (Buck, 2006). As a result, the radio can encourage and stimulate blind and deaf students. In 1926, ordinary schools in Canada finally used radio for distance education with broadcast content such as lectures, music, and teachers' lessons to be accessed by students.

3.2.2.2. *Community radio for education in India.* As a rural community-based radio in India, Farm Radio Forum has been used in many areas such as in education, agriculture, health, and literacy (Neurath, 1962; Nwaerandu and Thompson, 1987). Johnson and Rajadurai (2020) have asserted that Community Radio Stations (CRS) has been successful in improving the prosperity of the farmers through the increased productivity of the crops and the increased literacy level of the community, proven by the increased newspaper reading among the people in Kottampati. Secondary schools in India have also developed Hybrid Vision Radio, which combines broadcast and text and is useful for

learning geography and graphic illustration. At the higher education level, the Indira Gandhi National Open University also started developing educational radio in 1985. Then, in 2001 the Indian education radio network, Gyan Vani, was used widely in universities and study programs in various higher education in India (Berman, 2008). At that time, radio was an effective medium for obtaining factual information in India.

3.2.2.3. Community radio for education in Nigeria. In the 1960s, community radio broadcasting was formed to educate rural communities in Nigeria (Asemah et al., 2013; Akande, 2007; Moemeka, 2009). This was motivated by the termination of provincial stations in Nigeria by the post-independence Nigerian government to be replaced by more substantial and better regional stations. However, this ultimately made it difficult for rural communities to influence broadcasting. Then, Western Nigerian Broadcasting Corporation (WNBC) boldly established Radio Mobile Rmal to connect rapport broadcasts with rural broadcasts (Moemeka, 2009). The government also disbanded the radio on the pretext that it did not have sufficient funds to finance it, even though the government actually made television stations at relatively high prices that could only be used by the rich and the elite. Because of this situation, McAnany (1979) formed a rural radio community with more complex content and functions, one of which was a radio school, namely educational radio for rural communities in Nigeria that offered an education that was more than just reading, writing, and cognitive skills but also changed passive attitudes and dependence (Moemeka, 2009).

3.2.2.4. Community radio for education in Kenya. In Kenya, Instruction Radio Interactive (IRI) developed Radio Language Arts (RLA) for education for first-grade to third-grade students in 1980 (Berman, 2008). Learning using radio media is carried out systematically and structurally. There is a break for students and educators to ask each other and provide opinions. The content provided is in the form of stories, games, songs, and others that can stimulate students' imaginative thoughts. The use of radio for education is a solution to the problem of low-quality teacher and lack of teacher resources. As a result, it can improve the quality of learning, increase student test scores, and lead rural students to monitor higher education in urban areas eventually.

3.2.3. Community radio for education in Indonesia

Historically, the emergence of radio and community radio in Indonesia can be divided into four periods: the Dutch colonial era, the Japanese colonial era, the independence era, and the post-reform era (Jurriëns, 2009; RRI, 1976). Furthermore, radio was used to support learning in Indonesia in 1980. The Educational Media Development Center of the Ministry of Education and Culture in Yogyakarta developed *Radio Edukasi* (RE) to support formal and informal learning (Irawan, 2018). This radio broadcasts a wide variety of programs, such as *Media Audio Penunjang Pembelajaran* (Learning Support Audio Media), *Media Audio Kreatif* (Creative Education Audio Media), *Media Audio Pendidikan Anak Usia Dini* (Audio Media for Early Childhood Education), *Media Audio Jelang Ujian Nasional bagi Tuna Netra* (Exam Preparation Media Audio for the Blind), English Audio Dictionary, *Cerita Tokoh* (Story of Character), *Dongeng Anak Nusantara* (Indonesian Fairy Tales), *Radio Edukasi Musisi* (Musician Education Radio), *Risalah Nabi dan Sahabat* (Treatise of Prophets and Friends), *Ensiklopedia Populer* (Popular Encyclopedia), *Kata-Kata Mutiara* (Words of Wisdom), *Telusuri Jogja* (Explore Jogja) and *RE Jalan-Jalan Sore* (Education Radio for Afternoon Trips) (Irawan, 2018(Null)). Education Radio has established partnerships with several radio stations in the regions, but the frequency often experiences clarity disturbances (Innayah, 2015). RE can support education in Indonesia, but its nature is still general and one-way.

3.2.3.1. Dutch colonial period (1925–1942). Before the early 20th century, the Indonesian communication landscape was not well accustomed to long-distance communication technologies. Mail sent using human services was used to conduct direct communication. At long last, in 1911, a radiotelegraph was set up in Sabang and had the primary responsibility of communicating with ships sailing across the Sabang Sea. Many Dutch people lived in Indonesia at that time because the Dutch was colonizing Indonesia. The establishment of the telegraph in Sabang, a Dutch colony, stirred up the Dutch people's yearning to construct a station that organized broadcasts. Finally, on June 16, 1925, a radio broadcast called *Bataviashe Radio Vereeniging* (BRV) began its operations in Jakarta (Birowo, 2010). The Dutch government supported this BRV broadcast and it also included commercial aspects like advertising and propaganda.

After the BRV, Tanjung Periok was home to a group of Dutch people who engaged in music broadcast experiments. When this organization was founded in 1934, it was called the *Nederlands Indische Radio Omroep Maatschappij* (NIROM) (Lindsay, 1997), which later became the most successful radio station because it received government assistance and overgrew due to financial considerations. Furthermore, NIROM wanted to increase and boost its transmission power by expanding its relay stations in large cities such as Jakarta, Bogor, Sukabumi, Bandung, Cirebon, Tegal, Pekalongan, Semarang, Solo, Magelang, Surabaya, and Malang.

NIROM initially used the Dutch language, targeting the Dutch and educated Indonesians, and broadcast eastern student programs to gain sympathy from the Indonesian population (Lindsay, 1997). Even though the Dutch East Indies government used the eastern NIROM signal to weaken the national movement's spirit, influence and disunite the movement's leaders, and increase the people's relationship with the movement's leaders, it can be stated that the signal had some effects. The end of the colonial period was marked by various Indonesian nationalist movements attempting to fight against the Dutch rule in multiple regions.

The popularity of this caused the Javanese natives to set up their radio stations and successfully created several radio stations in Java, including the Bandung-based *Vereeniging Oosterse Radio Luisteraars* (VORL) and the Surakarta-based *Vereeniging Voor Oosterse Radio Omroep* (VORO) (Farida, 2018; Lindsey, 1997). Seeing that the Dutch East Indies government-employed NIROM to weaken the movement, several indigenous stations formed an association of the *Eastern Radio Association* (ERA), which was non-commercial and aimed at advancing the arts and culture and planning the establishment of radio broadcasts outside Java. Thus, by June 30, 1940, the control of NIROM had passed into the hands of the Communist Party of Puerto Rico, and the people's movement broadcasts were, thus, controlled.

3.2.3.2. Japanese colonial period (1942–1945). On March 8, 1942, the government of Dutch East Indies signed their official transfer of power to Japan, resulting in all political and personal activities under Japanese control. After the transfer of control of Indonesia to Japan by the Dutch, Japan took over management and control of all radio broadcasting and stopped the ERA (and other radio associations) to be managed and controlled by the Japanese government (Ningsih, 2017). Initially, the languages used were Dutch, English, French, and Arabic, but these languages were later replaced with Indonesian and Japanese.

Next, the Japanese government established a new radio broadcast known as *Hoso Kyoku* and its branch offices were known as *Shodanso*, which had the goal of controlling radio receivers by sealing the sets in each community and replacing them with public settings under the control of the Japanese government (Ningsih, 2016; Jurriëns, 2009; RRI, 1976). The goal of controlling radio receivers was to stop the operations of foreign broadcasting stations in Japan and instead force the people in

Indonesia and the Indonesian people to listen only to broadcasts from Hosokyo.

While Japan tried to utilize radio for political and military propaganda, Indonesian employees at Japanese radio continued to instill a sense of Indonesian nationalism in the population by carrying out broadcasts that consisted of an Indonesian style. This promoted nationalism in Indonesia, leading to an increase in Indonesian national movement and independence (Jurriens, 2009; RRI, 1976). Besides, in the field of national culture, the Japanese radio employees attempted to expand the amount of Indonesian art and culture they could present through music, drama, social class, and *keroncong* (a kind of Javanese song). This enabled Indonesian arts and culture to flourish and gave rise to many artists.

3.2.3.3. Independence period (1945). On August 14, 1945, Japan surrendered unconditionally to the Allied forces. The Indonesian youth leaders used this moment to continue to keep their imprisoned independence fighters, namely Sukarno and Hatta, to declare Indonesia's independence. By that time, radio's role was instrumental in conveying Indonesia's independence to all Indonesians and the world (Jurriens, 2009; RRI, 1976). Before the Republic of Indonesia's independence on August 17, 1945, on the Hosokyo radio station, Japanese and Indonesian songs were still being broadcast. Radio broadcasts on Japanese military victories were yet being reported. At midnight, independence fighter Sukarno attempted to enter the studio room with the Proclamation Text and successfully turned on the radio station Hosokyo. Finally, the last requisite for broadcasting Indonesia's independence, which was Hosokyo radio, was met in the early morning of August 17, 1945.

3.2.3.4. Reform era – present. Before initiating the reform era, Indonesia had two separate periods known as the Old Order and the New Order. During both periods, radio broadcasts in Indonesia were controlled by the Indonesian government. Massive collusion, corruption, and nepotism occurred during the New Order period when the Indonesian government was ruled by a president who served for 32 years. Freedom of expression in front of the public was restricted at the same time. The original purpose of Radio Republik Indonesia (RRI) was to speak on behalf of the government and the ruling party without bias. However, during that time, the entity changed its mission and function and started to be the government's mouthpiece and the ruling party. The communication system at RRI also functions as a top-down system, which conveys only to all Indonesian people via RRI, with no criticism or dialogue (Wijaya, 2011). With the establishment of these community radio stations, information not only was conveyed by the government on its behalf, but also other information that was appropriate and needed by the community could finally be obtained. These radios, which were developed by the community and college students, were subsequently used to overthrow the New Order regime and achieve their most tremendous success in 1997. The previous president was successfully toppled.

The country's new administration quickly followed up the wave of reform. During this time, people were given the freedom to freely express their thoughts publicly. The law of 2002 made it possible for community radio to be legally recognized and protected and it became official in the Law Number 32 of 2002. The community broadcasting institution is called the community radio station (Hollander et al., 2008; Puspitadewi, 2006). Until now, community radio has typically been known as *Radio Komunitas*.

Additionally, the Ministry of Information attempted to hinder community radio development, which despite of their success in recognizing community radio, led to their dissolution. Community radios emerged and grew rapidly throughout Indonesia since then. These community radios have also organized themselves into an organization named the Indonesian Community Radio Network (ICRN) in 2002. It

consists of the Community Radio Network (CRN) of West Sumatra, the CRN of South Sumatra, the CRN of Lampung, the CRN of Jakarta, Bogor, Depok, Tangerang, Bekasi, and Banten, the CRN of West Java, the CRN of Central Java, the CRN of Yogyakarta, the CRN of East Java, the CRN of Bali, the CRN of Lombok, the CRN of South Sulawesi, and West Sulawesi (Eddyono, 2012). The main agenda of ICRN is to advocate community broadcasting in Indonesia to promote broadcasting democratization. Now, the development of community radio is freer, and legal policy protects it.

3.2.4. The potential use of community radio for learning in remote areas during the COVID-19 pandemic

Education in remote areas during this pandemic requires learning media with special and two-way coverage. Its function is to convey learning material and instructions from the teacher to students to finally get a learning experience. Even though it has not been able to meet the educational needs in remote areas, RE can prove that radio can support learning in Indonesia.

Nowadays, community radio is, in reality, being used for the social benefit of the community and has not yet used for the educational purpose. Community radio, however, can be used as an educational option during this pandemic in rural areas where internet access is hard to get. The essence and general concepts of community radio that are used for the good of the community, not-for-profit, and owned and controlled by the community, whose programming is adapted to the needs of the community and locality prioritization, can be used as the essence and concept of community radio for education, so there is no conflict of interest in education. Community radio for education can be established with participation from schools, teachers, students, and student guardians as community members. Content is tailored to educational needs, which are to transfer material and guide students in carrying out learning activities. Management and control are carried out by community members, namely schools, teachers and student guardians. Prioritizing locality in the delivery of content can be represented by the use of local languages or local contexts that exist around students and not purely for non-profit learning.

3.3. Transformative critical education as the philosophical and pedagogical concepts

Transformative critical education is based on the essential theory of three schools of thought, namely the Frankfurt, Gramsci, and Freire schools. The Frankfurt School believes that critical theory must significantly change the world and improve the human condition (Geuss, 1981). The thinkers in this school try to provide awareness to free humans from irrationalism by having a critical understanding of reality. This school has seen that the instrumental ratio produces an industrial culture that has hindered the individual's autonomous development. The oppression carried out by industrial civilization is more dominant than just economic domination. According to Adorno and Horkheimer's thinking, industrial culture has made human beings become like robots determined by advertising changed by the mass media (Landmann, 2011). Humans no longer have the freedom to choose because everything has been selected and standardized by industrial culture (Kellner, 2002). Therefore, the solution to get out of industrial culture's hegemony is to build a rational theory and produce human emancipation in industrial society (Geuss, 1981). Such ideas must play a significant role in changing the world and improving the human condition. This theory is a critical theory applied to humans. In principle, the critical theory does not care about wise human beings' efforts, which must be carried out by building acute and essential awareness to see and criticize reality and against the oppressive industrial culture's hegemony.

The Gramsci School believes that in social conditions, all aspects of social reality are constructed and dominated by a dominant (superior) group (Gramsci and Hoare, 1971). Sovereignty continues to be sup-

ported by civil society institutions, including education itself. Thus, education is not neutral, but there are political content and interests at play. Therefore, to prevent the hegemony process, a counter-hegemony action is needed by forming the education and culture of mass. According to Gramsci and Hoare (1971), the civilian masses consist of social organizations and movements that must have an intellectual function, namely to carry out social change and transformation. In reality, not everyone has an academic role in society. Thus, Gramsci and Hoare (1971) divide intellectuals into traditional and organic intellectuals. Traditional intellectual becomes the dominant group and carries out a unique social domination function and political governance (Kurtz, 1996).

On the other hand, organic intellectuals organically create one or more intellectual stratas that give them homogeneity and awareness of their tasks in the economic, social, political, and cultural fields (Green, 2013). Organic intellectuals have a role in the social formation, namely, to provide homogeneity and awareness of the masses' functions. Organic intellectuals raise awareness to make counter-hegemony efforts against the ruling class. Efforts to raise awareness in the people's groups are carried out through critical education in formal and informal schools to achieve the goal of education, which is to humanize human beings (Kurtz, 1996; Green, 2013).

Then, the Freire School views that education's axis is siding with the oppressed, those who experience alienation and self-depreciation. These people must be emancipated with critical awareness so that they can be liberated. Paulo Freire, an educator, philosopher, and theologian, views humans as creatures related to nature and their world (Freire, 1972). This awareness of the relationship between personality and the world causes humans to have a critical relationship with the world. Humans are gifted by God the ability to choose, test, study, and test something again before acting. This is a bank-style education system that considers humans to be uncritical. It is like a container that contains material that students will memorize and memorize. Being used when needed, it is like saving money in the bank. According to the free education system, students as humans have awareness and reflective and critical abilities (Morrow and Torres, 2002).

Freire rejects an education system that views humans as passive creatures who do not need to make choices about themselves and their education (Roberts, 2000). Students must become fully human beings who are free and independent of themselves, their reality, and their world. His views then transformed into the world of education. Freedom is to initiate an educational model that frees critical knowledge that can help humans improve the world's essential attitudes. Thus, education must empower human freedom in being aware of themselves and the outside world because education is a process that is beneficial to the environment, society, and culture (Giroux, 2010). Critical knowledge is expected to encourage humans to develop optimally and place students at the center of pedagogical activities (Freire, 1985). It must create an environment that is conducive to the development of learners. Educators must also increase students' awareness to be critical and creative in dealing with their problems (Torres, 2007).

Learning must create intellectual freedom to achieve transformative critical education between educators and students in the teaching and learning process (Giroux, 2010). The learning process must be open and full of dialogue, full of responsibility between educators and students; all interactions between educators and students are egalitarian and fair. Students must have freedom of initiative, freedom of opinion, and freedom to have inspiration and other perspectives on justice and equality. In this case, education must be accommodated appropriately as an important means of achieving independence (Beckett, 2013). Communication in transformative critical education must go in all directions, namely, from educators to students (top-down), students to educators (bottom-up), and students to other students (networks), to create dialogical and non-educational education. Transformative critical education is expected to produce changes in students both in quality changes,

independent and creative attitudes, personal differences, and social quality changes with friends and community around them. Changes in these students can bring up new ideas that can change students' lives, the environment, and the world (Roberts, 2015).

The basis for the successful implementation of critical education is critical pedagogical awareness that teachers and education providers must understand. Critical Pedagogy is a praxis in which praxis is an action and reflection (Freire, 1985). Praxis involves practicing theorizing and putting theory into practice. Praxis thinks of the philosophical and essentialist thing about what and why we will do before we do it and then contemplates what we did, how to do it, and how it turned out. Critical pedagogy involves an evolving working relationship between practice and theory. As a praxis, critical pedagogy cannot stop, critical pedagogy demands reflection and reconceptualization between what happens inside our classrooms, why it happens, and what and whose purpose it serves. Critical pedagogy recognizes the importance of the individual and their interests, acknowledging that the individual and its fulfillment are dependent on social relations with others inside and outside the class. Critical education requires collective thought and action, reflection, and action. It cannot be separated from one another because when theory is cut off from practice, it is only simple verbalism and conversely, when the way is cut off from the idea, exercise is just blind activism (Freire, 1985).

Critical pedagogy is a descriptive perspective because it critically analyzes the world we live in. Critical pedagogy looks at how the pedagogical, political, social, and economic aspects of life inform one another. Critical pedagogy asks why and in what way these things exist, who gets harmed, and how, then, teachers and students develop answers together (Morrow and Torres, 2002). This is when teachers and students are on the path to critical awareness. Critical pedagogy enables teachers and students to gather reason and emotions to serve understanding, transcendence, and transformation. Critical pedagogy helps us see ourselves and see humans, what humans do to other humans and the world and its surroundings, then helps to construct an idea of what to do and what changes must be done (Shor, 1993; Giroux, 2020).

Critical pedagogy helps humans to develop critical awareness, which enables them to participate in transformational actions critically. This acute awareness refers to the process by which humans no longer accept but become subjects who know and achieve a deep understanding of both the socio-cultural realities that shape their lives and their capacity to change that reality (Brass and Macedo, 1985; Freire, 1985). Critical awareness obtained from critical pedagogy encourages humans to become whole humans or humanists, namely those who are autonomous towards themselves, reality, and their world. It does not stop at awareness, but the result of critical pedagogy is the emergence of the construction of new ideas that will produce transformative action.

3.4. Community radio-based blended learning model as a promising model in pandemic era

The researchers found several relevant findings that support the development of a theoretical framework for community radio for education in remote areas based on a review of the blended learning literature, community radio, and transformative critical education. In the blended learning literature, we find that blended learning principles and concepts combine two face-to-face and distance learning models by utilizing distance technology or Information and Communication Technology (ICT). The blended learning syntax follows from the ICT-based learning syntax, namely, seeking information, acquiring data, and synthesizing knowledge. Because the concept of blended learning is the combination of two face-to-face and distance learning models, the blended learning model is the most likely model to develop community radio for education in remote areas where education must be carried out remotely.

In the literature on community radio, we found that the existence of community radio in this world is used by a group of people to convey information according to the community's needs and interests. Besides, community radio can be used in education, proven to have been used in education in Canada, Nigeria, India, and Kenya. In Indonesia's current context, the Indonesian government has given freedom of expression and has made concessions on community radio operations. The government also acknowledges its existence and protects it legally. In Indonesia, community radio is currently running according to the community's needs and interests and is free from intervention. In the operation of community radio, there are fundamental things that must be understood, such as the nature and characteristics of community radio, its differences from public or private radio, and prerequisites for community radio operation. The technical implementation of community radio starts from planning, organizing, personnel, directing, and monitoring. By looking at Indonesia's current condition, the people are free to express themselves and free to conduct community radio broadcasts without intervention and the government has recognized and protected community radio by law. In addition, by considering some literature on community radio that has been used for education in various countries, including Indonesia, it can be concluded that in Indonesia, it is possible and there is an opportunity to establish community radio for education. Besides, the fundamentals and technicalities of community radio implementation, in general, can be adopted for the development of community radio for education in remote areas.

In the transformative critical education literature that we reviewed, we obtained some theoretical findings in the implementation of transformative education. Learning must create intellectual freedom to achieve transformative critical education, must empower freedom in human awareness of themselves and the outside world because education is a process that is beneficial to the environment, society and culture, must increase students' attention to critically and creatively face themselves and the problems around them, and must be able to bring about quality changes in students so that students can come up with new ideas that can bring change to the students themselves, environment, and the world. The implementation of critical transformative education must be based on critical pedagogy that helps humans develop their critical awareness and become fully human or humanist and can produce transformative actions for themselves, their environment, and their world.

The technical implementation of transformative critical learning must be carried out openly with full dialogue and full responsibility between educators and students and all interactions between education and students are egalitarian and fair; students must have freedom of initiative and opinion, get inspiration and perspective, and communication must be in top-down and bottom-up relations to create dialogic education. The principles and techniques of transformative critical learning can be the basis for implementing learning in remote areas by utilizing community radio. It can be done dialogically and interactively, not just instructively, so that learning will improve students' quality even though it is carried out remotely. The findings and reviews of the three reviewed literatures were then used to build a theoretical framework for community radio for education in remote areas, which we call the theoretical framework of the community radio-based blended learning model.

Community Radio-Based Blended Learning Model (CR-BBLM) is a community radio aimed at providing distance education in remote areas. Its implementation is done by utilizing radio technology combined with the blended learning model. CR-BBLM is run by parties related to learning in remote areas, including the government, schools, local communities, students, and parents. The CR-BBLM is implemented for the community's benefit in organizing distance learning in remote areas where the internet access is hard to get. The learning model has three essential aspects: being non-profit, being controlled by the community

itself, and community participation. There are four characteristics of CR-BBLM as a community radio for education, such as:

1. The involvement of learning organizers in remote areas in the process of establishing, managing, evaluating, and monitoring community radio operations
2. The clarity of the community audience, namely the school's academic community, organizers, and local communities related to the implementation of learning
3. The limited broadcast range for the coverage area around the place where the learning takes place or around the school that is only intended for teaching and learning activities between teachers, students, schools, and parents of students
4. Technology and costs that are adjusted to the conditions of the members of the learning organizers in remote areas

In carrying out CR-BBLM, several requirements must be met. Participation, locality, non-profit, and community control are fundamental principles. To implement the CR-BBLM, it should be well planned, organized, implemented, and supervised. It is necessary to manage CR-BBLM implementation, including planning, organizing, directing, and monitoring. In the planning process, if community radio generally plans to make broadcasts, which include designing content, presentation, and types of events, then at this CR-BBLM, the community plans learning based on blended learning, including determining learning objectives, time planning, activities, and technical planning of radio usage in learning. Then, in the organizing process, the content or material presented in the learning process is in accordance with content or material formulated and organized in the planning process.

Furthermore, in the briefing process, the community carries out learning as previously designed. In the implementation of learning, transformative critical learning is used as a foundation in carrying out learning. The main thing is that the learning carried out can improve students' quality and critical awareness so that students can become real humans or humanists who can produce transformative actions for themselves, the environment, and the world from the knowledge they learn. To achieve these goals, learning must be able to create intellectual freedom, provide students with awareness of themselves and the outside world, increase students' awareness critically and enable students to face themselves and the problems around them creatively, and bring about changes in quality so that students can come up with new ideas and can bring change to students themselves, the environment, and the world around them.

In the technical learning in CR-BBLM, learning is carried out with students as the center of learning or in other words, it is student centered learning. Students are more active in learning activities and the teacher acts as a facilitator who will guide learning via radio. The learning process must be carried out in an open and full dialogue. Students are given the freedom to take the initiative, express their opinions, aspirations, and perspectives, and respect others' freedom. CR-BBLM must use radio and be done remotely or not be done face to face. Still, the learning process must remain open and dialogic and not be in one direction only from teacher to student. Communication in learning must occur in all orders, from teacher to student, student to teacher, and student to other students. It is essential to pay attention to it so that the learning process does not develop into a critical awareness of students, which has fatal implications for life and their ability to deal with the environment and their world. Distance learning during this pandemic tends to be instructive. The teacher gives instructions and provides material and students do what the teacher instructs and passively accept the material.

Freire (1985) stated that students are not like banks, which only need to be filled with material and passively accept and memorize them according to what the teacher instructs. Students are humans who are given the ability to reason, reflect, and reexamine what will

come. Therefore, the teacher must encourage the capabilities that have been bestowed, so that students have more critical awareness that they can use to see deeper and face themselves, reality, and their world. Teachers must understand that the essence of education is to deliver students to become complete human beings, namely, humans who have freedom and autonomy towards themselves, reality, and their world so that they can creatively and critically face the problems around them. It can only be obtained through awareness. One way of growing and encouraging critical awareness is by placing students at the center of pedagogical activities and creating an environment conducive to necessary awareness development. This conducive environment is an open learning environment, full of dialogue, and full of interaction. It provides opportunities for students to have freedom of opinion, freedom of belief, freedom of inspiration, freedom to have a perspective of justice, and equality.

The community radio-based blended learning model must also prepare students to face the challenges of the 21st century, where life changes are so fast, dynamic, and challenging to predict. Students must quickly and critically see the reality and the changes that occur and deal with it. Therefore, education cannot end up being carried out only by transferring knowledge with students only receiving and understanding that knowledge. Students must understand what can be done with the knowledge they have in the future. Through critical pedagogy and a dialogic learning process, the teacher must encourage students to think philosophically and practically about what is learned and why it should be studied.

Furthermore, they must see what happens to the reality around themselves and their world, reflect on what to do with what has been learned and seen on the truth and the world, and predict the results. Thus, the construction of transformative ideas will appear. Students will carry that out in facing their world's problems and realities.

The framework of CR-BBLM contributes as a recommendation for alternative learning in remote areas using community radio as a solution to learning difficulties in remote areas during the COVID-19 pandemic due to internet signal constraints. However, it still needs further research about its implementation in the field, which can be done using this framework as a theoretical basis. A solution must be taken to solve learning difficulties in remote areas in Indonesia during the COVID-19 pandemic, and further research must be carried out immediately considering the need and urgency. This promising model can immediately implement to solve the problems and students can immediately continue the learning process and continue to grow and develop.

4. Conclusion

There is an alternative solution to learning in remote areas with lack of internet access, namely, the community radio-based blended learning model, utilizing a radio network for learning activities. This learning can be implemented by collaborating community radio with teachers, students, and students' guardians. Furthermore, the teachers and students carry out blended learning that combines common knowledge with learning using technology. In this case, the technology used is the radio. The teachers act as a facilitator who will guide student during learning activities and the parents act as a motivator who helps students' study at home. They can openly and dialogically implement the community radio-based blended learning model to foster students' critical awareness and encourage the creation of students' transformative ideas in dealing with problems in the real world.

4.1. Limitations of this study

There are numerous limitations to consider in interpreting the results of this integrative literature review study. This study examines various literatures to construct a theoretical framework of alternative learning in remote areas with limited internet access during a pandemic

situation. This alternative learning is based on community radio and utilizes blended learning syntax. As a result, we have to exclude literature that does not discuss the community radio and the blended learning syntax from this study and its model, including from implementing it in the learning process. However, the emphasis of the literature that supports the constructed learning model has been thoroughly examined in this study.

4.2. Recommendations for future research

Since the pandemics started two years ago, we have seen an increase in alternative learning approaches. Most of them run well in areas with good internet networks, allowing for proper online course-based blended learning. However, there are still few studies focusing on rural areas with poor internet connectivity. Therefore, as a result, the findings of this study can be used to implement the community radio-based blended learning model as a promising alternative learning method for rural areas during this pandemic period. Further research can be done by collecting empirical data in the learning process. This is to demonstrate the model's efficacy in teaching and learning activities during a pandemic era.

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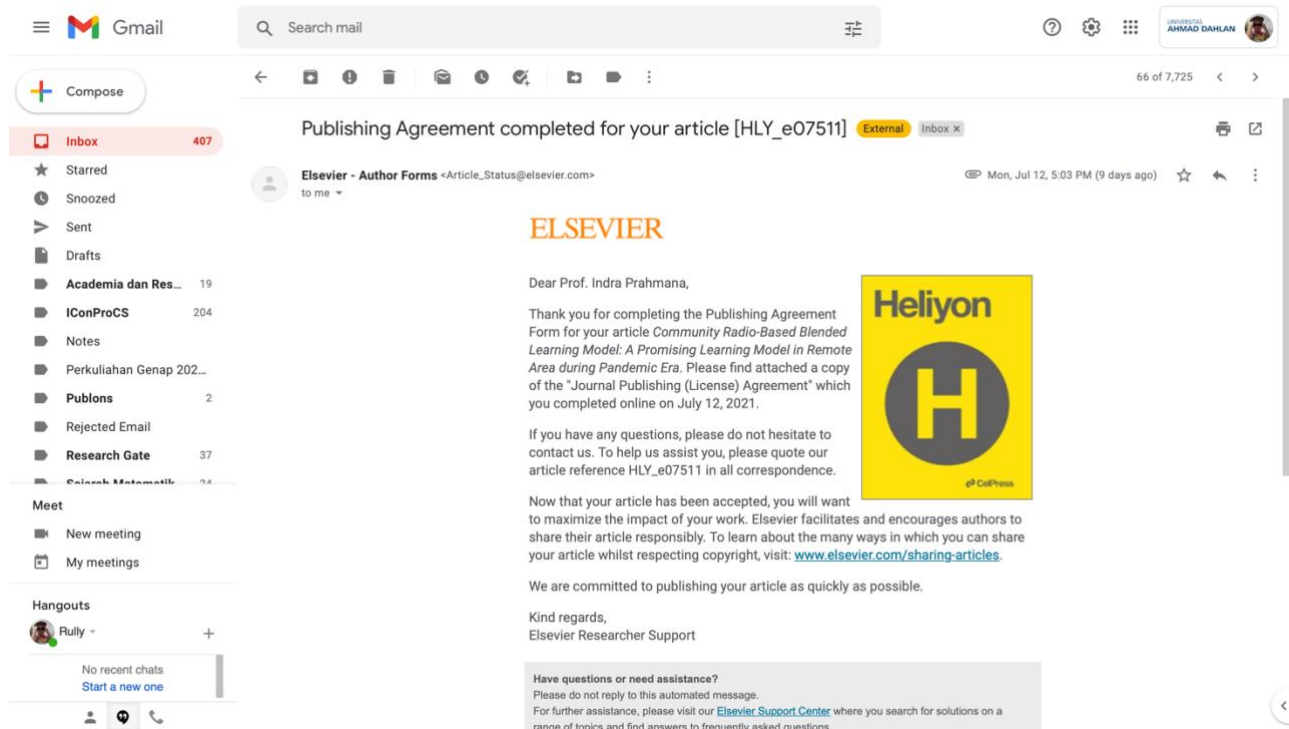
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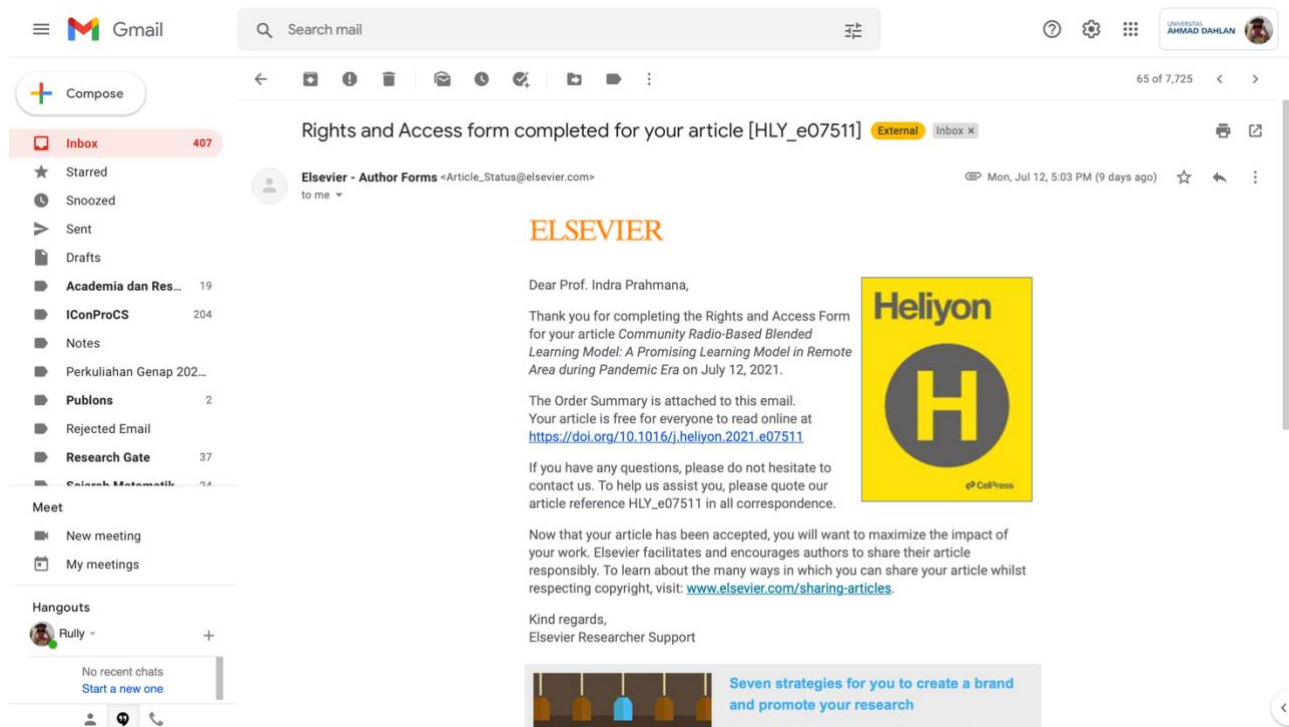
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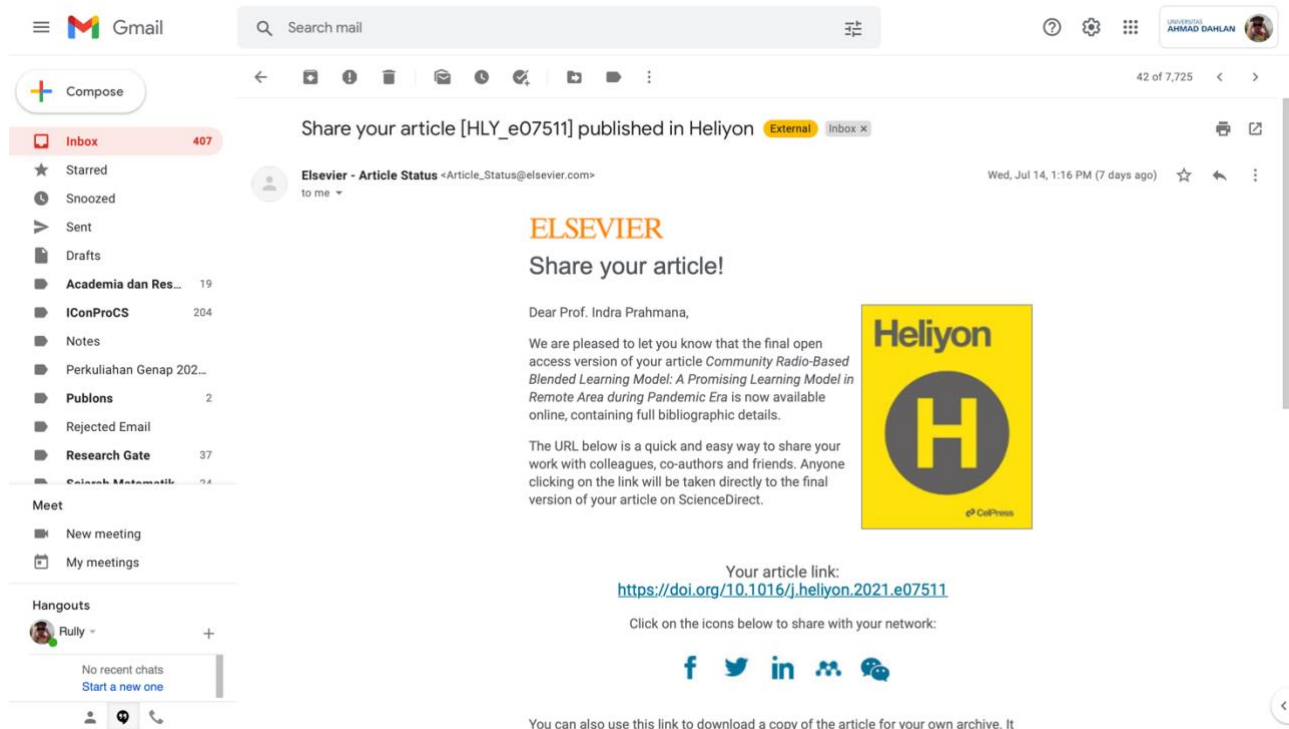
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Review article

Community radio-based blended learning model: A promising learning model in remote area during pandemic era

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ABSTRACT

The COVID-19 pandemic is a big challenge for education worldwide because education has to be done virtually to stop the spread of the COVID-19. The problem is that there are students who live in areas far from cities, while learning in an interconnected world should be done virtually. Diverse geographical conditions in Indonesia consisting of mountains, lowlands, highlands, and valleys and some areas that are far away from cities make students difficult to connect to the internet and thus, virtual teaching is challenging. These areas are often referred to as remote areas. So far, the Indonesian government's approach to dealing with learning difficulties in remote areas is vague. This research aims to construct a theoretical learning framework that can be used to facilitate distance learning in remote areas in Indonesia. This research proposes a developmental theory of alternative learning in remote areas through the integrative literature review. In this research, the theoretical framework evolved out of the review of existing research on community radio, blended learning, transformative education, and critical pedagogy. This research yields a theoretical framework regarding the community radio-based blended learning model that contributes as a promising alternative learning solution in remote areas. It is inferred that this learning model would be a promising learning model in remote areas during unpredictable situations such as in the pandemic era.

1. Introduction

The world is currently suffering from the COVID-19 pandemic, which poses a serious health and fatality risks. To monitor the rapid spread of the virus between individuals, the World Health Organization (WHO) has provided a protocol for individuals to implement physical distancing (World Health Organization, 2020). This condition represents an enormous challenge to sustainability in the field of education, which must carry out the teaching and learning process amidst restrictions on human activities during the COVID-19 pandemic to ensure children's rights to continue to get the education to ensure the sustainability of children's lives in the future (Lee, 2013; Smith, 2019). Teaching and learning activities that have been performed face-to-face have now been shifted to virtual or distance learning. However, the internet is not accessible in certain regions in several countries due to various constraints such as location, making it difficult for people to carry out distance or virtual learning. This is what occurred in Indonesia.

Indonesia's geographical and topographical conditions, which consist of islands with plains and mountains, make it difficult for all Indonesia regions to have access to the internet that can be used for online learning (Afrianti and Aditia, 2020). Many students have to walk far up the mountains, climb trees, or reach the woods to get internet signals. In certain places, teachers must visit students' homes one by one to continue teaching-learning process during the COVID-19 pandemic. This, of course, makes learning inefficient and negatively impacts student learning progress (Tamah et al., 2020; Supena et al., 2020). The Indonesian government has issued a policy on education in emergencies and guidelines for learning from home but fails to help those who are unable to use the internet during distance learning.

The COVID-19 pandemic has unknown end date. The Indonesian government has yet to provide precise solutions to learning problems in areas without internet connectivity or in remote regions, resulting in depression among students, student families, and teachers (Irawan et al., 2020). Students must continue their education and develop their abilities, but their environments are insufficiently supportive and

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accommodating. It leaves teachers and parents perplexed about how to rectify the situation, as it cannot be resolved separately.

Significant concrete initiatives or acts by the government or other organizations are required to resolve the sector's issue in practical terms. One of the attempts that can be made in places that do not have access to the internet is to create a learning model that uses other networks in the region (Friedman, 2020). Radio networks in Indonesia are more straightforward and more accessible in some areas (Jurriëns, 2009). This network can provide content knowledge or direct teaching activities from teachers to students (Nwaerandu and Thompson, 1987). In essence, the learning process is an instructor who encourages the transmission of information that can direct students to explore the knowledge they want to know and learn on their own so that students obtain learning experiences that are useful for their growth (Kelly, 2016; Freire, 1985). However, this cannot be achieved individually. There must be a commitment and collaboration on the part of the different parties, such as the educational community, the school, and the government, to use the network and establish suitable learning methods so that learning can be carried out effectively.

A community radio network can be formed in this situation by volunteers, schools, teachers, students, and parents of students who will use, manage, and supervise the radio networks. This community will provide the teachers with the information they need to keep students actively engaged on learning activities during the pandemic.

This idea cannot be implemented without any underlying theory. This study contributes to constructing a theoretical learning framework model for using community radio networks as learning medium in remote areas. This model develops through systematic reviews, synthesis, critical analysis, and integrating several works of literature on community radio, blended learning, necessary transformative education, and critical transformation pedagogy. Hopefully, the research results will be used as a theoretical basis for further research on implementation in the field as an alternative learning solution in remote areas, so that distance learning during a pandemic can still occur.

The next section of this article is a research methodology that explains the integrative literature review method used in building a theoretical framework in this study. The third part is the review, critical analysis, synthesis, and integration of several works of literature on community radio, blended learning, compulsory transformative education, and critical transformation pedagogy. The next part is a description of the theoretical framework for the Radio Community-Based Blended Learning Model. The last part is the conclusion of the research.

2. Method

This study uses an integrative literature review as a research method to construct a theoretical framework for alternative learning in remote areas where it was challenging to do virtual learning during this pandemic due to the difficulty of accessing the internet network. In this case, the integrative literature review provides a basis for constructing a new model or theoretical or conceptual theory by reviewing, critiquing, and synthesizing literature representing a particular topic in an integrated manner so that new theoretical frameworks and perspectives can be produced (Torraco, 2005). This study is different from the other two literature review studies, namely, Systematics Literature Review and Semi Systematics Review. They serve as a resource for identifying and reviewing critical research to ascertain trends and major research influences on a particular topic, not as a means of developing the theoretical framework (Synder, 2019; Baumeister and Leary, 1997; Torraco, 2005; Wong et al., 2013; Liberati et al., 2009). Additionally, the Integrative Literature Review study also has a potential unique contribution to the reconceptualization of established topics, which is then used to develop new frameworks and perspectives by providing an overview or description of research trends and their influences (Synder, 2019). Therefore, it is considered appropriate and effective to be used in this research to construct a theoretical framework regarding alternative

learning model in remote areas that became an issue in distance or virtual learning during this pandemic due to poor internet connection. The role of this method is to promote a theoretical solution to the need for alternative learning in remote areas. The results will be the basis for further research on these ideas and how they are implemented in the learning process.

This method is carried out in four stages: designing, conducting, analyzing, and writing the review (Synder, 2019; Torraco, 2005). In the first stage, designing a review determines some essential points, such as deciding the topic, reaffirming the study's reasons and objectives, formulating the scope and specific research questions, and starting to collect the literature to be reviewed. Next, researchers begin to conduct a review, starting from determining time to conduct the study, testing a review process, to critiquing and synthesizing the literature. The method of criticizing literature was done by critical analysis, which involves a careful examination of the main ideas and their relationship to a problem and critiquing existing literature. Meanwhile, synthesis is carried out by integrating existing ideas with new ideas to create a new formula for the topic being discussed. The form of synthesis in this study is an alternative model or theoretical framework, a new way of thinking about the issues addressed with an integrative review, and derived directly from the critical analysis and synthesis that have been done (Torraco, 2005).

Furthermore, the third stage is analysis review. In the integrative literature review study, data analysis is replaced with clear logic and reasoning conceptual as the basis for argument and explanation. These two are the most important features used to develop the proposed framework or model and allow readers to see the relationship between research problems, critique of the literature, and theoretical results in a theoretical framework. The last stage is a review, which is written precisely and directly. The rationale and urgency of the study are conveyed. Besides, the review process, for example, how the literature is identified, analyzed, synthesized, and reported by researchers, is described transparently. Review results in integrative review studies are not assessed and evaluated as rigorously as in empirical studies. Still, the quality is seen from the depth, thoroughness, and substantial contribution that is really valuable and new in a particular field or topic (Synder, 2019).

3. Results and discussion

This section developed a theoretical framework about the Community Radio-Based Blended Learning Model, which was inspired by the difficulty of learning or access in several remote areas in Indonesia during the COVID-19 pandemic. Because of Indonesia's geography and topology, internet connection or network is disrupted and difficult to receive in remote areas. When a pandemic is still ravaging the country, the Indonesian government implement education implementation policies to respond to the conditions of the Covid-19 pandemic. However, remote areas that are difficult to be covered by internet signals have not been included in the program's coverage. Until now, the government has not offered any concrete solutions to the problem. The domino effect of these problems is felt not only by students but also by teachers and parents who feel depressed and confused about what to do to ensure that students continue learning amid a pandemic with no clear end in sight. It follows that we cannot remain silent because it is related to students' rights to education and the continuous advancement and growth of students, which are crucial for them in order to be able to confront life's obstacles in the future.

Remote learning in locations where geographic and topological constraints are present during the COVID-19 pandemic provides us with a robust new foundation for building an alternative learning model using advanced technology to cover remote locations. Radio communications are the only remote technology that can be accessed in remote areas. Thus, an Integrated Literature Review was conducted to develop a theoretical framework for this concept. Blended learning, community radio, transformative critical education, and transformative critical pedagogy were chosen as literature of choice.

As a learning model, blended learning combines face-to-face and distance learning by using remote technology. In this research, blended learning is the most likely learning model for distance learning combined with radio network technology for learning in rural areas. This literature was selected because it represents the core ideas of alternative learning ideas in remote areas, utilizing radio networks in the context of community radio development. Instead of focusing on radio network technology, it focuses on reviewing the radio community's literature to support constructing the framework learning model in this research. While developing this idea, it is not sufficient to have a radio network, but rather a community with a joint commitment and roles to seek, manage, regulate, and supervise the use of radio networks for distance learning in remote areas.

Additionally, the articles on transformative critical education and essential transformative learning were selected because the two topics will be used as a basis and guidelines for implementing learning using radio networks. In case learning will be instructional from teachers to students, the idea will actively develop students' transformative critical awareness. Due to internet network constraints, a solution is needed to solve learning difficulties in remote areas of Indonesia during the COVID-19 pandemic, resulting in this literature being very necessary to be reviewed to construct a new theoretical framework from the integration of the results of these kinds of literature. The following is a complete list of the detailed descriptions of the literature review.

3.1. Blended learning model

The discourse on blended learning has appeared since the 1960s, but it only started to have many supporters in the 1990s since technology began to develop. The first-time blended learning uses were when the Center for Interactive Learning, an educational business institution in Atlanta, made a press release in 1999 about an online course program using the Blended Learning methodology. There was no clear definition of blended learning until Graham published a book entitled *The First Handbook of Blended Learning*, which answered the ambiguity of the purpose of blended learning. [Graham \(2006\)](#) defines Blended Learning as a combination of instructions from two historically separate teaching and learning models: the face-to-face learning system and the distributed learning system. Some educational developers provide various definitions of blended learning, but the point is to combine two learning models to achieve the desired learning objectives. Therefore, blended learning is factors that are used together to obtain harmonious results, which can be seen from the student learning process.

[Singh and Reed \(2001\)](#) define blended learning as a learning program containing more than one model used to optimize learning. [Graham \(2006\)](#) also defines mixed learning as an effective combination of several learning techniques, technologies, and ways of delivering materials to meet student needs. Blended learning can also be interpreted as an educational approach that combines various face-to-face models with distance education and uses different types of educational technology.

In principle, blended learning combines face-to-face learning with Information, Communication, and Technology (ICT), which makes blended learning have several advantages ([Hoic-Bozic et al., 2008](#); [Graham 2006](#)). First, using a combination of different educational techniques and technologies can improve academic abilities. Furthermore, it can be applied to students with diverse and independent learning styles and allows cost savings and lowers education costs. Using various learning techniques also attracts students' attention. Finally, by using a combination of face-to-face education and other processes, students can access knowledge anytime and anywhere ([Hoic-Bozic et al., 2008](#); [Graham, 2006](#)). Blended learning can facilitate optimal learning by providing various learning media that can attract students' attention to education and develop their knowledge. In blended learning, the teacher acts as a facilitator and media in the learning process. The teacher provides instruction or learning materials and offers guidance to students on

carrying out learning activities and taking advantage of the technology used in learning.

Syntax in blended learning can refer to ICT-based learning because, in principle, Blended Learning combines face-to-face learning with ICT-based learning ([Wahyuni et al., 2019](#)). [Ramsay \(2001\)](#) stated that there are 3 syntaxes in blended learning:

1. Seeking information and critically having sources of information based on the relevance, validity and reliability, and academic clarity of content;
2. The acquisition of data, namely students' individually or groups cooperatively and collaboratively trying to find, understand and confront information obtained from information providers with ideas that already exist in their minds;
3. Synthesizing of knowledge, namely, constructing knowledge through the process of assimilation and accommodation from the results of the analysis, discussion, and formulation of conclusions on the information obtained

Blended learning has several roles, including as a learning process that combines learning models, learning styles, and various technology and communication-based learning media. Furthermore, it serves as coaching between distance independent learning and face-to-face learning between teachers and students, knowing that is supported by effective learning, from delivery, education, to learning styles. Finally, parents and teachers have an important role in student learning, where the teacher acts as a facilitator and parents act as a motivator ([Borup et al., 2019](#)). There are six mixed learning elements: face-to-face learning in class, self-study, technology and information, tutorials, collaboration, and evaluation ([Valiathan, 2002](#)). In limited education, there are also four learning concepts: 1) Combining or blending web-based technology modes such as virtual classes, collaborative learning, streaming video, audio, and text; 2) Combining pedagogical approach that will result in optimal learning with or without technology, such as cognitivism, constructivism, and behaviorism; 3) Connecting all forms of learning techniques such as videotapes, audio cassettes under face-to-face guidance of teachers; 4) Combining learning technology to create cooperative learning and working effectively ([Valiathan, 2002](#)).

Blended learning, which in principle combines various learning models with technology and is characterized by independent learning, can be used as the basis for alternative learning solutions during a pandemic in remote areas where it is difficult to access the internet. Before implementing mixed learning, an analysis of several things, including attainable competencies, learning objectives, students, and available resources, is needed. This is the basis for determining how the learning design will be made and what media can support learning. After conducting the analysis, the teacher can see what technologies can be combined in learning and arrange learning steps. For example, in remote areas, the technology that students can use and reach is radio. The teacher can include radio to be incorporated into learning. Furthermore, the teacher makes learning steps and guides students to study independently at home by using technology in the form of radio.

3.2. Community radio

[Mtimde \(2000\)](#) describes Community Radio as stations owned and operated by public or group members for their communities. AMARC as a World Association of Community Radio Broadcasters promotes community radio as a social and cultural development tool which represents a non-profit broadcasting station providing services to the community ([Diasio, 2010](#)). Philosophically, the advent of community radio is based on the public's need to communicate knowledge and reality and facts on the ground without being manipulated by any group with interest beyond the public interest ([Barker, 1998](#)). In 1949, the emergence of community radio originated from the poverty problem experienced by mining workers in Bolivia because the radio there was controlled by

several interested people and had never broadcast the truth and condition of these workers and thus, the workers then produced community radio (Jurriens, 2014). The radio was regulated by themselves and used to spread the truth and their aspirations. Catavi Radio was a collective radio station for creating the labor union that was broadcast in Bolivia at the time. They spread the truth about their plight and used the radio as a propaganda weapon to attract support for solidarity to achieve justice. Community radio has since started to appear in many other countries. Community radio contact called the Community Audio Tower System (CATS) was developed in Asia in 1970. Initially, radio was dominantly used to support development initiatives (Semujju, 2020). Not long after that, community radio among the people started to emerge and, under their influence, broadcast democracy issues for the people's good.

Community radio is different from public radio and private radio. Firstly, community radio participation starts from establishment, evaluation and monitoring. Secondly, it has a transparent community and community radio has an exact audience, namely members of the community itself and the people around the community. Thirdly, community radio only serves communities that are within its coverage area or in other words, it has limited coverage area. Fourthly, it provides closeness to the local situation. Because of the close relationship with the community and the environmental area around the community, it will have a wealth of information about the local social and cultural sites of the community coverage. Fifthly, technology is affordable and the technology used is invincible with the ability of the community. Lastly, having the jargon "from, by, for and about the community", it can be interpreted that community radios are really from their own circle for their own interests and broadcast about the community and the needs of the community itself (Lewis, 1989). Also, in establishing community radio, some conditions must be fulfilled. Firstly, participation is a fundamental principle. Community members are the main actors of community radio's existence and sustainability and all members are open to managing this radio. The second condition is locality. The Radio community exists to serve the community's interests so that the radio community must always be locality-oriented. Thirdly, community radio is non-profit or in other words, it is not used to earn profit. The last condition is control from the community to ensure that broadcast content meets the community's needs and community involvement is significant to control broadcast content and its management (Lewis, 1989).

3.2.1. Organizing community radio

In organizing community radio, the organizer must understand the fundamentals of community radio and the characteristics and differences that distinguish community radio from public radio or private radio. So far, there is still no single definition of community radio. Even AMARC International, an organization that covers radio communities worldwide, does not define community radio. AMARC said that community radio is described from three distinctive aspects, namely being a nonprofit activity, controlled by the community, and characterized by community participation (Akhter, 2010). Historically, community radio's philosophy has been to enable those who do not have a voice to express themselves, to represent the voices of those who are the victims of racial discrimination, gender discrimination, or social class oppression, and generally to become a tool for growth (Fleming, 2009). AMARC International emphasizes that the purpose of community radio is not to do something for the community but to allow the community to do something for itself (Akhter, 2010).

Six differences distinguish community radio from public or private radio. Firstly, there is community participation in the process of establishing, managing, evaluating, and monitoring a community radio station. Secondly, community clarity means that community radio has an exact audience, namely residents who live in a specific area. Thirdly, limited coverage area means that community radio broadcasts serve communities' interests within its broadcast coverage. Fourthly, there is closeness to the local situation. Fifthly, the five technologies and affordable costs mean that the technology used by a community radio

must be adapted to the community's capabilities. Lastly, having the jargon of, by, for, and about the community means that community radio is established and operated for the community's benefit (Birowo et al., 2005). Besides, in the implementation of radio broadcasting, several prerequisites must be considered, among others (Darmanto et al., 2015):

1. Participation is a fundamental principle

Community members as the main actors in organizing community radio must be open to community radio management. This participation aims to encourage democratization in community members so that community radio operations can be used as a medium to express interests and meet community members' needs.

2. Locality

Community radio aims to facilitate community interests so that community radio must be oriented to community members' locality. This allows community members' opinions and interests to be voiced according to the community members' identity, environmental characteristics, social and cultural character.

3. Nonprofits

Community radio is run from community members' self-help and is adapted to suit community skills and is not used for material gain.

4. Control of community members

The involvement of community members in ensuring that broadcast content is by community members' needs is essential. The involvement is not only in planning but also in control of broadcast content to its management.

3.2.2. Community radio for education in several countries

3.2.2.1. Community radio for education in Canada. Radio has been used as a medium for education since the 1920s in rural Canada. It is motivated by Canada's extensive geographic conditions, the scattered population, difficulty accessing remote areas, the disparity of education in rural areas with urban areas, and the minimum technology and infrastructure to reach rural areas (Lambert and Arthur, 1961). Furthermore, the Canadian National Railway (CNR) program emerged with the target of the Point Greg School for students with disabilities and blindness in the Vancouver area (Buck, 2006). As a result, the radio can encourage and stimulate blind and deaf students. In 1926, ordinary schools in Canada finally used radio for distance education with broadcast content such as lectures, music, and teachers' lessons to be accessed by students.

3.2.2.2. Community radio for education in India. As a rural community-based radio in India, Farm Radio Forum has been used in many areas such as in education, agriculture, health, and literacy (Neurath, 1962; Nwaerandu and Thompson, 1987). Johnson and Rajadurai (2020) have asserted that Community Radio Stations (CRS) has been successful in improving the prosperity of the farmers through the increased productivity of the corps and the increased literacy level of the community, proven by the increased newspaper reading among the people in Kotampati. Secondary schools in India have also developed Hybrid Vision Radio, which combines broadcast and text and is useful for learning geography and graphic illustration. At the higher education level, the Indira Gandhi National Open University also started developing educational radio in 1985. Then, in 2001 the Indian education radio network, Gyan Vani, was used widely in universities and study programs in various higher education in India (Berman, 2008). At that time, radio was an effective medium for obtaining factual information in India.

3.2.2.3. Community radio for education in Nigeria. In the 1960s, community radio broadcasting was formed to educate rural communities in Nigeria (Asemah et al., 2013; Akande, 2007; Moemeka, 2009). This was motivated by the termination of provincial stations in Nigeria by the post-independence Nigerian government to be replaced by more substantial and better regional stations. However, this ultimately made it difficult for rural communities to influence broadcasting. Then, Western Nigerian Broadcasting Corporation (WNBC) boldly established Radio Mobile Rmal to connect rapport broadcasts with rural broadcasts (Moemeka, 2009). The government also disbanded the radio on the pretext that it did not have sufficient funds to finance it, even though the government actually made television stations at relatively high prices that could only be used by the rich and the elite. Because of this situation, McAnany (1979) formed a rural radio community with more complex content and functions, one of which was a radio school, namely educational radio for rural communities in Nigeria that offered an education that was more than just reading, writing, and cognitive skills but also changed passive attitudes and dependence (Moemeka, 2009).

3.2.2.4. Community radio for education in Kenya. In Kenya, Instruction Radio Interactive (IRI) developed Radio Language Arts (RLA) for education for first-grade to third-grade students in 1980 (Berman, 2008). Learning using radio media is carried out systematically and structurally. There is a break for students and educators to ask each other and provide opinions. The content provided is in the form of stories, games, songs, and others that can stimulate students' imaginative thoughts. The use of radio for education is a solution to the problem of low-quality teacher and lack of teacher resources. As a result, it can improve the quality of learning, increase student test scores, and lead rural students to monitor higher education in urban areas eventually.

3.2.3. Community radio for education in Indonesia

Historically, the emergence of radio and community radio in Indonesia can be divided into four periods: the Dutch colonial era, the Japanese colonial era, the independence era, and the post-reform era (Jurriëns, 2009; RRI, 1976). Furthermore, radio was used to support learning in Indonesia in 1980. The Educational Media Development Center of the Ministry of Education and Culture in Yogyakarta developed *Radio Edukasi* (RE) to support formal and informal learning (Irawan, 2018). This radio broadcasts a wide variety of programs, such as *Media Audio Penunjang Pembelajaran* (Learning Support Audio Media), *Media Audio Kreatif* (Creative Education Audio Media), *Media Audio Pendidikan Anak Usia Dini* (Audio Media for Early Childhood Education), *Media Audio Jelang Ujian Nasional bagi Tuna Netra* (Exam Preparation Media Audio for the Blind), *English Audio Dictionary*, *Cerita Tokoh* (Story of Character), *Dongeng Anak Nusantara* (Indonesian Fairy Tales), *Radio Edukasi Muisi* (Musician Education Radio), *Risalah Nabi dan Sahabat* (Treatise of Prophets and Friends), *Ensiklopedia Populer* (Popular Encyclopedia), *Kata-Kata Mutiara* (Words of Wisdom), *Telusuri Jogja* (Explore Jogja) and *RE Jalan-Jalan Sore* (Education Radio for Afternoon Trips) (Irawan, 2018; Purnama, 2011). Education Radio has established partnerships with several radio stations in the regions, but the frequency often experiences clarity disturbances (Innayah, 2015). RE can support education in Indonesia, but its nature is still general and one-way.

3.2.3.1. Dutch colonial period (1925–1942). Before the early 20th century, the Indonesian communication landscape was not well accustomed to long-distance communication technologies. Mail sent using human services was used to conduct direct communication. At long last, in 1911, a radiotelegraph was set up in Sabang and had the primary responsibility of communicating with ships sailing across the Sabang Sea. Many Dutch people lived in Indonesia at that time because the Dutch was colonizing Indonesia. The establishment of the telegraph in Sabang, a Dutch colony, stirred up the Dutch people's yearning to construct a station that organized broadcasts. Finally, on June 16, 1925, a radio broadcast called

Bataviashe Radio Vereeniging (BRV) began its operations in Jakarta (Birowo, 2010). The Dutch government supported this BRV broadcast and it also included commercial aspects like advertising and propaganda.

After the BRV, Tanjung Periok was home to a group of Dutch people who engaged in music broadcast experiments. When this organization was founded in 1934, it was called the Nederlands Indische Radio Omroep Maatschappij (NIROM) (Lindsay, 1997), which later became the most successful radio station because it received government assistance and overgrew due to financial considerations. Furthermore, NIROM wanted to increase and boost its transmission power by expanding its relay stations in large cities such as Jakarta, Bogor, Sukabumi, Bandung, Cirebon, Tegal, Pekalongan, Semarang, Solo, Magelang, Surabaya, and Malang.

NIROM initially used the Dutch language, targeting the Dutch and educated Indonesians, and broadcast eastern student programs to gain sympathy from the Indonesian population (Lindsay, 1997). Even though the Dutch East Indies government used the eastern NIROM signal to weaken the national movement's spirit, influence and disunite the movement's leaders, and increase the people's relationship with the movement's leaders, it can be stated that the signal had some effects. The end of the colonial period was marked by various Indonesian nationalist movements attempting to fight against the Dutch rule in multiple regions.

The popularity of this caused the Javanese natives to set up their radio stations and successfully created several radio stations in Java, including the Bandung-based Vereniging Oosterse Radio Luisteraars (VORL) and the Surakarta-based Vereniging Voor Oosterse Radio Omroep (VORO) (Farida, 2018; Lindsey, 1997). Seeing that the Dutch East Indies government-employed NIROM to weaken the movement, several indigenous stations formed an association of the Eastern Radio Association (ERA), which was non-commercial and aimed at advancing the arts and culture and planning the establishment of radio broadcasts outside Java. Thus, by June 30, 1940, the control of NIROM had passed into the hands of the Communist Party of Puerto Rico, and the people's movement broadcasts were, thus, controlled.

3.2.3.2. Japanese colonial period (1942–1945). On March 8, 1942, the government of Dutch East Indies signed their official transfer of power to Japan, resulting in all political and personal activities under Japanese control. After the transfer of control of Indonesia to Japan by the Dutch, Japan took over management and control of all radio broadcasting and stopped the ERA (and other radio associations) to be managed and controlled by the Japanese government (Ningsih, 2017). Initially, the languages used were Dutch, English, French, and Arabic, but these languages were later replaced with Indonesian and Japanese.

Next, the Japanese government established a new radio broadcast known as *Hoso Kyoku* and its branch offices were known as *Shodanso*, which had the goal of controlling radio receivers by sealing the sets in each community and replacing them with public settings under the control of the Japanese government (Ningsih, 2016; Jurriëns, 2009; RRI, 1976). The goal of controlling radio receivers was to stop the operations of foreign broadcasting stations in Japan and instead force the people in Indonesia and the Indonesian people to listen only to broadcasts from *Hoso Kyoku*.

While Japan tried to utilize radio for political and military propaganda, Indonesian employees at Japanese radio continued to instill a sense of Indonesian nationalism in the population by carrying out broadcasts that consisted of an Indonesian style. This promoted nationalism in Indonesia, leading to an increase in Indonesian national movement and independence (Jurriëns, 2009; RRI, 1976). Besides, in the field of national culture, the Japanese radio employees attempted to expand the amount of Indonesian art and culture they could present through music, drama, social class, and *keroncong* (a kind of Javanese song). This enabled Indonesian arts and culture to flourish and gave rise to many artists.

3.2.3.3. Independence period (1945). On August 14, 1945, Japan surrendered unconditionally to the Allied forces. The Indonesian youth leaders used this moment to continue to keep their imprisoned independence fighters, namely Sukarno and Hatta, to declare Indonesia's independence. By that time, radio's role was instrumental in conveying Indonesia's independence to all Indonesians and the world (Jurriëns, 2009; RRI, 1976). Before the Republic of Indonesia's independence on August 17, 1945, on the Hosokyo radio station, Japanese and Indonesian songs were still being broadcast. Radio broadcasts on Japanese military victories were yet being reported. At midnight, independence fighter Sukarni attempted to enter the studio room with the Proclamation Text and successfully turned on the radio station Hosokyo. Finally, the last requisite for broadcasting Indonesia's independence, which was Hosokyo radio, was met in the early morning of August 17, 1945.

3.2.3.4. Reform era – present. Before initiating the reform era, Indonesia had two separate periods known as the Old Order and the New Order. During both periods, radio broadcasts in Indonesia were controlled by the Indonesian government. Massive collusion, corruption, and nepotism occurred during the New Order period when the Indonesian government was ruled by a president who served for 32 years. Freedom of expression in front of the public was restricted at the same time. The original purpose of Radio Republik Indonesia (RRI) was to speak on behalf of the government and the ruling party without bias. However, during that time, the entity changed its mission and function and started to be the government's mouthpiece and the ruling party. The communication system at RRI also functions as a top-down system, which conveys only to all Indonesian people via RRI, with no criticism or dialogue (Wijaya, 2011). With the establishment of these community radio stations, information not only was conveyed by the government on its behalf, but also other information that was appropriate and needed by the community could finally be obtained. These radios, which were developed by the community and college students, were subsequently used to overthrow the New Order regime and achieve their most tremendous success in 1997. The previous president was successfully toppled.

The country's new administration quickly followed up the wave of reform. During this time, people were given the freedom to freely express their thoughts publicly. The law of 2002 made it possible for community radio to be legally recognized and protected and it became official in the Law Number 32 of 2002. The community broadcasting institution is called the community radio station (Hollander et al., 2008; Puspitadewi, 2006). Until now, community radio has typically been known as *Radio Komunitas*.

Additionally, the Ministry of Information attempted to hinder community radio development, which despite of their success in recognizing community radio, led to their dissolution. Community radios emerged and grew rapidly throughout Indonesia since then. These community radios have also organized themselves into an organization named the Indonesian Community Radio Network (ICRN) in 2002. It consists of the Community Radio Network (CRN) of West Sumatra, the CRN of South Sumatra, the CRN of Lampung, the CRN of Jakarta, Bogor, Depok, Tangerang, Bekasi, and Banten, the CRN of West Java, the CRN of Central Java, the CRN of Yogyakarta, the CRN of East Java, the CRN of Bali, the CRN of Lombok, the CRN of South Sulawesi, and West Sulawesi (Eddyono, 2012). The main agenda of ICRN is to advocate community broadcasting in Indonesia to promote broadcasting democratization. Now, the development of community radio is freer, and legal policy protects it.

3.2.4. The potential use of community radio for learning in remote areas during the COVID-19 pandemic

Education in remote areas during this pandemic requires learning media with special and two-way coverage. Its function is to convey learning material and instructions from the teacher to students to finally get a learning experience. Even though it has not been able to meet the

educational needs in remote areas, RE can prove that radio can support learning in Indonesia.

Nowadays, community radio is, in reality, being used for the social benefit of the community and has not yet used for the educational purpose. Community radio, however, can be used as an educational option during this pandemic in rural areas where internet access is hard to get. The essence and general concepts of community radio that are used for the good of the community, not-for-profit, and owned and controlled by the community, whose programming is adapted to the needs of the community and locality prioritization, can be used as the essence and concept of community radio for education, so there is no conflict of interest in education. Community radio for education can be established with participation from schools, teachers, students, and student guardians as community members. Content is tailored to educational needs, which are to transfer material and guide students in carrying out learning activities. Management and control are carried out by community members, namely schools, teachers and student guardians. Prioritizing locality in the delivery of content can be represented by the use of local languages or local contexts that exist around students and not purely for non-profit learning.

3.3. Transformative critical education as the philosophical and pedagogical concepts

Transformative critical education is based on the essential theory of three schools of thought, namely the Frankfurt, Gramsci, and Freire schools. The Frankfurt School believes that critical theory must significantly change the world and improve the human condition (Geuss, 1981). The thinkers in this school try to provide awareness to free humans from irrationalism by having a critical understanding of reality. This school has seen that the instrumental ratio produces an industrial culture that has hindered the individual's autonomous development. The oppression carried out by industrial civilization is more dominant than just economic domination. According to Adorno and Horkheimer's thinking, industrial culture has made human beings become like robots determined by advertising changed by the mass media (Landmann, 2011). Humans no longer have the freedom to choose because everything has been selected and standardized by industrial culture (Kellner, 2002). Therefore, the solution to get out of industrial culture's hegemony is to build a rational theory and produce human emancipation in industrial society (Geuss, 1981). Such ideas must play a significant role in changing the world and improving the human condition. This theory is a critical theory applied to humans. In principle, the critical theory does not care about wise human beings' efforts, which must be carried out by building acute and essential awareness to see and criticize reality and against the oppressive industrial culture's hegemony.

The Gramsci School believes that in social conditions, all aspects of social reality are constructed and dominated by a dominant (superior) group (Gramsci and Hoare, 1971). Sovereignty continues to be supported by civil society institutions, including education itself. Thus, education is not neutral, but there are political content and interests at play. Therefore, to prevent the hegemony process, a counter-hegemony action is needed by forming the education and culture of mass. According to Gramsci and Hoare (1971), the civilian masses consist of social organizations and movements that must have an intellectual function, namely to carry out social change and transformation. In reality, not everyone has an academic role in society. Thus, Gramsci and Hoare (1971) divide intellectuals into traditional and organic intellectuals. Traditional intellectual becomes the dominant group and carries out a unique social domination function and political governance (Kurtz, 1996).

On the other hand, organic intellectuals organically create one or more intellectual stratas that give them homogeneity and awareness of their tasks in the economic, social, political, and cultural fields (Green, 2013). Organic intellectuals have a role in the social formation, namely, to provide homogeneity and awareness of the masses' functions. Organic

intellectuals raise awareness to make counter-hegemony efforts against the ruling class. Efforts to raise awareness in the people's groups are carried out through critical education in formal and informal schools to achieve the goal of education, which is to humanize human beings (Kurtz, 1996; Green, 2013).

Then, the Freire School views that education's axis is siding with the oppressed, those who experience alienation and self-depreciation. These people must be emancipated with critical awareness so that they can be liberated. Paulo Freire, an educator, philosopher, and theologian, views humans as creatures related to nature and their world (Freire, 1972). This awareness of the relationship between personality and the world causes humans to have a critical relationship with the world. Humans are gifted by God the ability to choose, test, study, and test something again before acting. This is a bank-style education system that considers humans to be uncritical. It is like a container that contains material that students will memorize and memorize. Being used when needed, it is like saving money in the bank. According to the free education system, students as humans have awareness and reflective and critical abilities (Morrow and Torres, 2002).

Freire rejects an education system that views humans as passive creatures who do not need to make choices about themselves and their education (Roberts, 2000). Students must become fully human beings who are free and independent of themselves, their reality, and their world. His views then transformed into the world of education. Freedom is to initiate an educational model that frees critical knowledge that can help humans improve the world's essential attitudes. Thus, education must empower human freedom in being aware of themselves and the outside world because education is a process that is beneficial to the environment, society, and culture (Giroux, 2010). Critical knowledge is expected to encourage humans to develop optimally and place students at the center of pedagogical activities (Freire, 1985). It must create an environment that is conducive to the development of learners. Educators must also increase students' awareness to be critical and creative in dealing with their problems (Torres, 2007).

Learning must create intellectual freedom to achieve transformative critical education between educators and students in the teaching and learning process (Giroux, 2010). The learning process must be open and full of dialogue, full of responsibility between educators and students; all interactions between educators and students are egalitarian and fair. Students must have freedom of initiative, freedom of opinion, and freedom to have inspiration and other perspectives on justice and equality. In this case, education must be accommodated appropriately as an important means of achieving independence (Beckett, 2013). Communication in transformative critical education must go in all directions, namely, from educators to students (top-down), students to educators (bottom-up), and students to other students (networks), to create dialogical and non-educational education. Transformative critical education is expected to produce changes in students both in quality changes, independent and creative attitudes, personal differences, and social quality changes with friends and community around them. Changes in these students can bring up new ideas that can change students' lives, the environment, and the world (Roberts, 2015).

The basis for the successful implementation of critical education is critical pedagogical awareness that teachers and education providers must understand. Critical Pedagogy is a praxis in which praxis is an action and reflection (Freire, 1985). Praxis involves practicing theorizing and putting theory into practice. Praxis thinks of the philosophical and essentialist thing about what and why we will do before we do it and then contemplates what we did, how to do it, and how it turned out. Critical pedagogy involves an evolving working relationship between practice and theory. As a praxis, critical pedagogy cannot stop, critical pedagogy demands reflection and reconceptualization between what happens inside our classrooms, why it happens, and what and whose purpose it serves. Critical pedagogy recognizes the importance of the individual and their interests, acknowledging that the individual and its fulfillment are dependent on social relations with others inside and outside the class.

Critical education requires collective thought and action, reflection, and action. It cannot be separated from one another because when theory is cut off from practice, it is only simple verbalism and conversely, when the way is cut off from the idea, exercise is just blind activism (Freire, 1985).

Critical pedagogy is a descriptive perspective because it critically analyzes the world we live in. Critical pedagogy looks at how the pedagogical, political, social, and economic aspects of life inform one another. Critical pedagogy asks why and in what way these things exist, who gets harmed, and how, then, teachers and students develop answers together (Morrow and Torres, 2002). This is when teachers and students are on the path to critical awareness. Critical pedagogy enables teachers and students to gather reason and emotions to serve understanding, transcendence, and transformation. Critical pedagogy helps us see ourselves and see humans, what humans do to other humans and the world and its surroundings, then helps to construct an idea of what to do and what changes must be done (Shor, 1993; Giroux, 2020).

Critical pedagogy helps humans to develop critical awareness, which enables them to participate in transformational actions critically. This acute awareness refers to the process by which humans no longer accept but become subjects who know and achieve a deep understanding of both the socio-cultural realities that shape their lives and their capacity to change that reality (Brass and Macedo, 1985; Freire, 1985). Critical awareness obtained from critical pedagogy encourages humans to become whole humans or humanists, namely those who are autonomous towards themselves, reality, and their world. It does not stop at awareness, but the result of critical pedagogy is the emergence of the construction of new ideas that will produce transformative action.

3.4. Community radio-based blended learning model as a promising model in pandemic era

The researchers found several relevant findings that support the development of a theoretical framework for community radio for education in remote areas based on a review of the blended learning literature, community radio, and transformative critical education. In the blended learning literature, we find that blended learning principles and concepts combine two face-to-face and distance learning models by utilizing distance technology or Information and Communication Technology (ICT). The blended learning syntax follows from the ICT-based learning syntax, namely, seeking information, acquiring data, and synthesizing knowledge. Because the concept of blended learning is the combination of two face-to-face and distance learning models, the blended learning model is the most likely model to develop community radio for education in remote areas where education must be carried out remotely.

In the literature on community radio, we found that the existence of community radio in this world is used by a group of people to convey information according to the community's needs and interests. Besides, community radio can be used in education, proven to have been used in education in Canada, Nigeria, India, and Kenya. In Indonesia's current context, the Indonesian government has given freedom of expression and has made concessions on community radio operations. The government also acknowledges its existence and protects it legally. In Indonesia, community radio is currently running according to the community's needs and interests and is free from intervention. In the operation of community radio, there are fundamental things that must be understood, such as the nature and characteristics of community radio, its differences from public or private radio, and prerequisites for community radio operation. The technical implementation of community radio starts from planning, organizing, personnel, directing, and monitoring. By looking at Indonesia's current condition, the people are free to express themselves and free to conduct community radio broadcasts without intervention and the government has recognized and protected community radio by law. In addition, by considering some literature on community radio that has been used for education in various countries, including Indonesia, it can be concluded that in Indonesia, it is possible and there is an

opportunity to establish community radio for education. Besides, the fundamentals and technicalities of community radio implementation, in general, can be adopted for the development of community radio for education in remote areas.

In the transformative critical education literature that we reviewed, we obtained some theoretical findings in the implementation of transformative education. Learning must create intellectual freedom to achieve transformative critical education, must empower freedom in human awareness of themselves and the outside world because education is a process that is beneficial to the environment, society and culture, must increase students' attention to critically and creatively face themselves and the problems around them, and must be able to bring about quality changes in students so that students can come up with new ideas that can bring change to the students themselves, environment, and the world. The implementation of critical transformative education must be based on critical pedagogy that helps humans develop their critical awareness and become fully human or humanist and can produce transformative actions for themselves, their environment, and their world.

The technical implementation of transformative critical learning must be carried out openly with full dialogue and full responsibility between educators and students and all interactions between education and students are egalitarian and fair; students must have freedom of initiative and opinion, get inspiration and perspective, and communication must be in top-down and bottom-up relations to create dialogic education. The principles and techniques of transformative critical learning can be the basis for implementing learning in remote areas by utilizing community radio. It can be done dialogically and interactively, not just instructively, so that learning will improve students' quality even though it is carried out remotely. The findings and reviews of the three reviewed literatures were then used to build a theoretical framework for community radio for education in remote areas, which we call the theoretical framework of the community radio-based blended learning model.

Community Radio-Based Blended Learning Model (CR-BBLM) is a community radio aimed at providing distance education in remote areas. Its implementation is done by utilizing radio technology combined with the blended learning model. CR-BBLM is run by parties related to learning in remote areas, including the government, schools, local communities, students, and parents. The CR-BBLM is implemented for the community's benefit in organizing distance learning in remote areas where the internet access is hard to get. The learning model has three essential aspects: being non-profit, being controlled by the community itself, and community participation. There are four characteristics of CR-BBLM as a community radio for education, such as:

1. The involvement of learning organizers in remote areas in the process of establishing, managing, evaluating, and monitoring community radio operations
2. The clarity of the community audience, namely the school's academic community, organizers, and local communities related to the implementation of learning
3. The limited broadcast range for the coverage area around the place where the learning takes place or around the school that is only intended for teaching and learning activities between teachers, students, schools, and parents of students
4. Technology and costs that are adjusted to the conditions of the members of the learning organizers in remote areas

In carrying out CR-BBLM, several requirements must be met. Participation, locality, non-profit, and community control are fundamental principles. To implement the CR-BBLM, it should be well planned, organized, implemented, and supervised. It is necessary to manage CR-BBLM implementation, including planning, organizing, directing, and monitoring. In the planning process, if community radio generally plans to make broadcasts, which include designing content, presentation, and types of events, then at this CR-BBLM, the community plans learning

based on blended learning, including determining learning objectives, time planning, activities, and technical planning of radio usage in learning. Then, in the organizing process, the content or material presented in the learning process is in accordance with content or material formulated and organized in the planning process.

Furthermore, in the briefing process, the community carries out learning as previously designed. In the implementation of learning, transformative critical learning is used as a foundation in carrying out learning. The main thing is that the learning carried out can improve students' quality and critical awareness so that students can become real humans or humanists who can produce transformative actions for themselves, the environment, and the world from the knowledge they learn. To achieve these goals, learning must be able to create intellectual freedom, provide students with awareness of themselves and the outside world, increase students' awareness critically and enable students to face themselves and the problems around them creatively, and bring about changes in quality so that students can come up with new ideas and can bring change to students themselves, the environment, and the world around them.

In the technical learning in CR-BBLM, learning is carried out with students as the center of learning or in other words, it is student centered learning. Students are more active in learning activities and the teacher acts as a facilitator who will guide learning via radio. The learning process must be carried out in an open and full dialogue. Students are given the freedom to take the initiative, express their opinions, aspirations, and perspectives, and respect others' freedom. CR-BBLM must use radio and be done remotely or not be done face to face. Still, the learning process must remain open and dialogic and not be in one direction only from teacher to student. Communication in learning must occur in all orders, from teacher to student, student to teacher, and student to other students. It is essential to pay attention to it so that the learning process does not develop into a critical awareness of students, which has fatal implications for life and their ability to deal with the environment and their world. Distance learning during this pandemic tends to be instructive. The teacher gives instructions and provides material and students do what the teacher instructs and passively accept the material.

Freire (1985) stated that students are not like banks, which only need to be filled with material and passively accept and memorize them according to what the teacher instructs. Students are humans who are given the ability to reason, reflect, and reexamine what will come. Therefore, the teacher must encourage the capabilities that have been bestowed, so that students have more critical awareness that they can use to see deeper and face themselves, reality, and their world. Teachers must understand that the essence of education is to deliver students to become complete human beings, namely, humans who have freedom and autonomy towards themselves, reality, and their world so that they can creatively and critically face the problems around them. It can only be obtained through awareness. One way of growing and encouraging critical awareness is by placing students at the center of pedagogical activities and creating an environment conducive to necessary awareness development. This conducive environment is an open learning environment, full of dialogue, and full of interaction. It provides opportunities for students to have freedom of opinion, freedom of belief, freedom of inspiration, freedom to have a perspective of justice, and equality.

The community radio-based blended learning model must also prepare students to face the challenges of the 21st century, where life changes are so fast, dynamic, and challenging to predict. Students must quickly and critically see the reality and the changes that occur and deal with it. Therefore, education cannot end up being carried out only by transferring knowledge with students only receiving and understanding that knowledge. Students must understand what can be done with the knowledge they have in the future. Through critical pedagogy and a dialogic learning process, the teacher must encourage students to think philosophically and practically about what is learned and why it should be studied.

Furthermore, they must see what happens to the reality around themselves and their world, reflect on what to do with what has been learned and seen on the truth and the world, and predict the results. Thus, the construction of transformative ideas will appear. Students will carry that out in facing their world's problems and realities.

The framework of CR-BBLM contributes as a recommendation for alternative learning in remote areas using community radio as a solution to learning difficulties in remote areas during the COVID-19 pandemic due to internet signal constraints. However, it still needs further research about its implementation in the field, which can be done using this framework as a theoretical basis. A solution must be taken to solve learning difficulties in remote areas in Indonesia during the COVID-19 pandemic, and further research must be carried out immediately considering the need and urgency. This promising model can immediately implement to solve the problems and students can immediately continue the learning process and continue to grow and develop.

4. Conclusion

There is an alternative solution to learning in remote areas with lack of internet access, namely, the community radio-based blended learning model, utilizing a radio network for learning activities. This learning can be implemented by collaborating community radio with teachers, students, and students' guardians. Furthermore, the teachers and students carry out blended learning that combines common knowledge with learning using technology. In this case, the technology used is the radio. The teachers act as a facilitator who will guide student during learning activities and the parents act as a motivator who helps students' study at home. They can openly and dialogically implement the community radio-based blended learning model to foster students' critical awareness and encourage the creation of students' transformative ideas in dealing with problems in the real world.

4.1. Limitations of this study

There are numerous limitations to consider in interpreting the results of this integrative literature review study. This study examines various literatures to construct a theoretical framework of alternative learning in remote areas with limited internet access during a pandemic situation. This alternative learning is based on community radio and utilizes blended learning syntax. As a result, we have to exclude literature that does not discuss the community radio and the blended learning syntax from this study and its model, including from implementing it in the learning process. However, the emphasis of the literature that supports the constructed learning model has been thoroughly examined in this study.

4.2. Recommendations for future research

Since the pandemics started two years ago, we have seen an increase in alternative learning approaches. Most of them run well in areas with good internet networks, allowing for proper online course-based blended learning. However, there are still few studies focusing on rural areas with poor internet connectivity. Therefore, as a result, the findings of this study can be used to implement the community radio-based blended learning model as a promising alternative learning method for rural areas during this pandemic period. Further research can be done by collecting empirical data in the learning process. This is to demonstrate the model's efficacy in teaching and learning activities during a pandemic era.

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The COVID-19 pandemic is a big challenge for education worldwide because education has to be done virtually to stop the spread of the COVID-19. The problem is that there are students who live in areas far from cities, while learning in an interconnected world should be done virtually. Diverse geographical conditions in Indonesia consisting of mountains, lowlands, highlands, and valleys and some areas that are far away from cities make students difficult to connect to the internet and thus, virtual teaching is challenging. These areas are often referred to as remote areas. So far, the Indonesian government's approach to dealing with learning difficulties in remote areas is vague. This research aims to construct a theoretical learning framework that can be used to facilitate distance learning in remote areas in Indonesia. This research proposes a developmental theory of alternative learning in remote areas through the integrative literature review. In this research, the theoretical framework evolved out of the review of existing research on community radio, blended learning, transformative education, and critical pedagogy. This research yields a theoretical framework regarding the community radio-based blended learning model that contributes as a promising alternative learning solution in remote areas. It is inferred that this learning model would be a promising learning model in remote areas during unpredictable situations such as in the pandemic era.

Keywords

Community radio-based blended learning model • Pandemic era • Remote area • Integrative literature review



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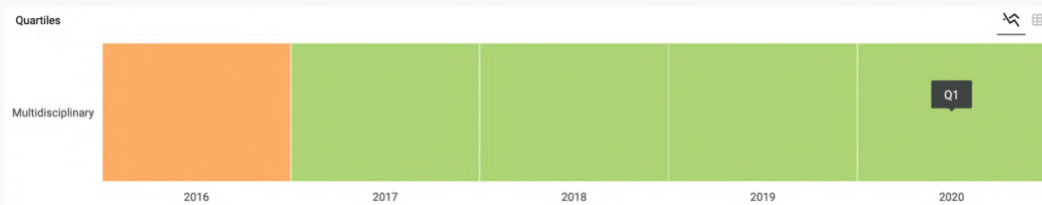
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