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Subject: [ELTEJ] Submission Acknowledgement

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Dr. Dat Bao

Editor in Chief

INVESTIGATING DIGITAL LITERACY OF ENGLISH TEACHERS IN YOGYAKARTA

ABSTRACT

Teaching English nowadays is different from teaching English ten or fifteen years ago. Students today have changed a lot compared to students in the past. Students today need different ways of teaching as they also have different learning styles. This study is intended to investigate how much the English teachers in Yogyakarta are technologically literate as it will tell them how much they are prepared to teach their students who are digital natives. This study is also aimed at identifying the challenges they face in teaching millennial students in term of their use of technology and describing their hopes and expectation in their professional work as English teachers. Questionnaires in the form of google form will be used to collect the data from all the potential participants, while interview will be used to collect the data from the selected participants. The findings show that most of the participants possess high level of digital literacy, suggesting that they have the skills needed to help them teach online classes using the available online teaching platforms. They seem to enjoy teaching online classes as they are capable of exploiting the online resources as the teaching materials, developing the available resources and even creating the digital teaching materials and using it in their online classes. The most serious problem they have is lack of IT knowledge in regard with the new online teaching platforms and internet connection. If they have to use the new online teaching platform, they have to learn it on their own, usually through YouTube and teach how to use it to their students. The classic problem, the internet connection, still occurs among the teachers and it cause problems in delivering the teaching materials and assess the students work. The findings of this study are beneficial for the policy makers to design professional development program which fits the need of the English teachers in Yogyakarta. The students will get the most benefit as the improvement in teachers' professionalism will impact positively to their professional performance in the classroom.

Keywords: digital literacy; teachers; IT knowledge; technology

1. Introduction

The development of information and communication technologies increases massively in the 21 Century. According to Preston (Putra et al., 2005), this phenomena of novel technologies refer to the use of a modern way called internet. Over the last years, the internet becomes embedded in popular culture around the world among young and adults. Websites, YouTube, Wikipedia, and blogs are examples of internet based outlets which people call for when they seek information. Another form called email and various social media platforms have allowed instant communication among people across the world.

In addition to instant communication, the social networking sites of Website 2.0 technologies such as Instagram, Twitter, Facebook, and WhatsApp have let people collaborate by sharing and editing online content. In the industrial domain, the internet has also helped people distribute their products more efficiently and faster. Using online application such as Zalora, Shoppe, Tokopedia, Amazon, Alibaba, etc. people do the trading, shopping, buying and selling. From these examples, it indicates clearly how internet has become the central aspect of most human lives around the world today, as more and more people across the globe have been using it.

In the field of education, massive technology development also exists, especially in the process of teaching and learning held both in formal and informal classes. From the students' side, the use of modern technologies becomes a must nowadays because these students are categorized as digital natives. They were born and grow up during this millennium era taking their life path together with technology almost in their everyday life. Therefore, conducting classes making use of digital tools such as applications and websites in their learning process can help them understand the materials better.

In dealing with technology, it calls for the ability of using it. The ability of using tools of technology brings us to the concept of Digital literacy. The term Digital Literacy was first defined in Glister's eponymous book as "the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers" (Hossain, 2015). Glister (1997) as cited in Hsu (2019) said that digital literacy is the ability to effectively seek, navigate, analyse and make information about the using various forms of digital technology. Meanwhile, media literacy is concerned with helping students develop an

informed and critical understanding of the nature of mass media, the techniques used by them, and the impact of these techniques (Tan, Xiang, Zhang, Teng, & Yao, 2012). In this research, the use of the term digital literacy refers to the multiplicity of literacies associated with the use of digital technology which is used by the teacher and students.

In the context of education, one of the famous applications among teachers and students are Microsoft Office which includes Presentation PowerPoint, Microsoft Word, and Microsoft Excel, etc. These forms of applications are highly used by both teachers and students. Another form of technology which is often used is website. It's used very frequently in the process of teaching and learning which functions to develop students' learning process. This technological phenomenal development in the field of education is the issue most researchers conduct the studies.

In Indonesian context, unfortunately, the development of technology is not followed up properly by the teachers yet. According to Riyana (2010), the academic quality of teachers, the condition of improving teacher academic qualifications, and the condition of teacher shortages are the problems which exist in the regions of Indonesia at the various levels of education. Most teachers still use the lecturing method in teaching the lessons. However, in fact, in this modern era, teachers can deliver the material by utilising kinds of technology forms that internet provides. This should be the concern of everyone, as using technology can make the learning interesting and enjoyable. In addition, the review of the percentage of the use of information media in Indonesia is reported to be in the low position which is only 9,2 % (Hsu, 2019). This shows that low media literacy is in line with the introduction of learning media used in the learning process.

The low reported position is indeed unfortunate for Indonesian education as the ability to use ICT is one of the obligatory competences for every teacher today. This implies that teachers should increase their ability to technology. The building of the technology competency should have been started since the teachers are in their college. However, according to Kennedy, Judd, Churchward, Grey, & Krause (2008), the majority of the prospective teachers or most teacher-students currently only know a little about a variety of technology. They are only familiar with already well-established technology forms such as e-mail, instant messaging, cell phones, and social networking sites. Indeed, this limited technology knowledge is not enough for their needed competency in teaching in the future. Their understanding of how to use technology related to teaching and learning process should

be upgraded because it is necessary to improve their teaching competence. Furthermore, results of an informal interview done in one of the private English lecturers in Yogyakarta showed that three out of five of the sixth-semester students only know a few of the applications and websites to develop their skills in their academic studies. The famous websites such as course, Edmodo and Duolingo are strange names to them just like names of Kahoot, hot potatoes, and monkey survey, etc. This fact is unexpected and quite shocking. There should be more researches and trainings conducted in this issue as, again, technology competency among teachers is necessary and a must.

Considering these conditions, this research aims to describe the level of the digital literacy among English teachers of junior high school in Yogyakarta. Why teachers of junior high school? It's because junior high school is a crucial bridging educational step for students. Junior high school is the phase where learners move from their childhood to their adolescent period, from simple and basic learning to more advanced and complicated one. In terms of psychological point of view, junior high school period is also known as the transition from learning basic to learning further. In this phase, they start to prepare themselves to more complex and serious learning experience, including the use of technology in their learning journey. As for the teachers, it implies that teachers of junior high school hold a very important role as well. Teachers of junior high school are expected to be able to make the transition learning journey feels smooth and natural, including the inclusion of technology. Teachers of junior high school should be able to introduce the students to technology well and naturally so that the students will get positive and correct image of technology in their life, and thus make use of technology wisely to support them in their learning. In sum, teachers of junior high school are expected to have adequate knowledge and competency in utilizing technology in educational setting.

By doing this research, it is expected that the research results are beneficial and contribute to the management and policy making for the junior high school teachers in Yogyakarta. In addition, it can be used as a reference for establishing and planning proper trainings especially related to information and communication technology for the junior high school teachers in Yogyakarta.

Literature Review

Literacy has traditionally been described as the ability to read (decoding text), and write (encoding text), in the days when information came as books, newspapers and magazines, and was accessed through physical print-onpaper libraries. Nevertheless, the concept contains more meaningful and problematic aspects, which made it to be claimed by a range of different theoretical fields. In fact, it also relates to the ability to research information from a variety of sources, to find, to understand, to use it properly or functionally, and finally to elaborate it into knowledge. These are precisely the qualities which are needed to give a person the motivation and mindset to make best use of information. They provide the basis for understanding the importance of information, and ofdealing with information resources and communication channels, as well as the incentive to continually improve one's capabilities (Bawden, 2008).

Indeed nowdays the modern era people mostly use many kinds of technologies such as smartphone and computer in other to get knowledge they are needed. Therefore, people have to know about the important of understanding about Digital literacy which is closely related to the concepts of information literacy, ICT, and multiple sets of new literacies. Individuals use the term imprecisely, and this lead to miscommucication and understanding.

Digital literacy is not a new strategy for a student to gain the information and knowledge needed (Saubari & Baharuddin, 2016). The term digital literacy was first introduced by Gilster in the late 1990s. he said that it is the ability to understand and use information inmultiple formats from a wide range of sources when it is presented via computers (Spante, Hashemi, Lundin, & Algers, 2018). The capability to use the technology to allow us to right to use the materials is a key aspect of digital literacy. As a starting point, the obvious aspect of digital literacy is an internet. In simple terms, digital literacy is the ability to properly use and evaluate digital resources, tools and services and apply it to their life long learning process (Maharana & Mishra, 2007).

To measure the digital literacy, the researcher uses three competences adapted from Ng (2012) competences, technical, cognitive, and social-emotional dimention.

1. The technical dimension of being digitally literate broadly means possessing the technical and operational skills to use ICT for learning and in everyday activities.
2. The cognitive dimension of Ng's (2012) digital literacy model is associated with the ability to think critically in the search, evaluate and create cycle of handling digital information. It also means being able to evaluate and select appropriate software programs to learn with or to do a specific task.

3. The social-emotional dimension of digital literacy and the intersecting areas between the social-emotional and cognitive dimensions involve being able to use the Internet responsibly for communicating, socializing and learning.

Review of Relevant Studies

Maharana & Mishra (2007) conducted a study on the digital literacy level in India which aims to know the teachers' use of digital resources and their knowledge of searching for and evaluating these resources. In the research, they used a survey to answer their research questions of which the participants were postgraduate teachers at Jabalpur University in 2007.

Another similar research was held by Lim (2018). He explored the understanding of digital literacy of college students' Religious Buddha (PTKB) in Banten. In the research, he used descriptive quantitative which focuses on four competencies. There are internet searching, hypertextual navigation, content evaluation, dan knowledge assembly. Digital level of understanding Literacy student PTKB viewed from the Internet searching dimension of 75.85%, 62.40 hypertextual, content evaluation of 65.86%, and Understanding of digital literacy student PTKB Judging from the dimensions Knowledge assembly of 67.95%.

Ng (2012) investigates the knowledge about educational technologies of a group of undergraduate students studying the course Introduction to eLearning at a university in Australia and how they adopt unfamiliar technologies into their learning. The study explores the 'digital nativeness' of these students by investigating their degree of digital literacy and the ease with which they learn to make use of unfamiliar technologies. In her study, she employed mix method with pre-service teachers as the participants. She identified the technologies that should be understood by the students who will held a blended-learning mode such as for concept-mapping software), Prezi (presentation software), Hot Potatoes or SurveyMonkey software (for quiz creation) and VoiceThread and Wikispaces as collaborative platforms to respectively upload the students' digital stories and construct a collaborative WebQuest.

Phuapan, Viriyavejakul and Pimdee (2016) conducted a similar study which was held among students in nine universities in Thailand. In their study, they used digital competences from Bloom Taxonomy which refers to the technologies to answer their research questions. With a massive sampling of 400 undergraduate students as their participants, they sought to determine which digital literacy skills were most important in using digital technology, communications tools, and/or networks to access, manage, integrate, evaluate, create and communicate information in order to function in a knowledge society.

Alamsyah (2017) investigated the patterns of digital literacy among Sriwijaya University (SU) lecturer and its contribution to the implementation of eLearning. Employing a mixed method involving 30 lecturer participants and used offline and online questionnaires, in-depth interviews, and secondary data collection, he found that digital literacy competence among the lecturers was in a high position. This situation is the initial capital for the implementation of e-learning at the university. However, this situation has not contributed to the implementation of e-learning because of (a) lecturer was not willing to adapt to the e-learning environment system; (b) policy makers had not been intervening several factors that contributed to e-learning implementation at university level. What makes the current research different from this research is that the the current reseacher is aimed to know how ready the English teachers of Junior High Schools in Yogyakarta with the technologies to help the students in the learning process.

The present study was conducted to answer the following research questions:

1. How is the digital literacy level of the junior high school English teachers in Yogyakarta?

2. What kinds of technology forms do the junior high school English teachers in Yogyakarta use?

3. Why do the junior high school English teachers in Yogyakarta use applications to develop their academic purposes?

4. What kind of problems do junior high school English teachers in Yogyakarta face in using technology in their teaching?

Research Method

The was a descriptive study in nature and mixed method as explained by Creswell (2012) was used to answer the research questions. The study was conducted in the area of Yogyakarta city. 12 Muhammadiyah junior high schools in Yogyakarta were chosen as the school samples. Each school offered English as a compulsory subject and the school had its own English teacher(s). Further, English was taught at all levels of grade 7, 8, and 9.

The subject of this research was digital literacy of the English teachers in Muhammadiyah junior high schools in Yogyakarta. The teachers from each grade in the junior high schools were involved in the research. Therefore, there were around 36 English teachers from Muhammadiyah junior high schools in Yogyakarta city involved in this study. The objects of research in this study were the aspects related to the teachers' skills, challenge/problems and efforts to be digitally literate as English teachers in the schools.

In collecting the data, the research team used questionnaires and semi-structured interviews. For data analysis, the interviews were recorded and transcribed. The theme-based coding was then conducted for further analysis. The quantitative data were analyzed in terms of percentage. For qualitative data, after the interview, the researchers will make interview transcripts, select part of them as data, do reduction for unrelated information and make coding of the data obtained. The researchers manage data in the form of files. Next, the researchers group the data and interpret them to draw conclusions, answer research questions. The data analyzed will be used to describe the digital literacy of English teachers in Muhammadiyah junior schools in Yogyakarta, the challenges/problems and how they bear all the challenges/problems.

According to Flick (2013), qualitative data analysis is the classification and interpretation of linguistic (or visual) material to make statements about implicit and explicit dimensions and structures of meaning-making in the material and what is represented in it. Meaning-making can refer to subjective or social meanings. Qualitative data analysis is also applied to discover and describe issues in the field or structures and processes in routines and practices. Often, qualitative data analysis combines approaches to a rough analysis of the material (overviews, condensation, summaries) with approaches to detailed analysis (elaboration of categories, hermeneutic interpretations or identified structures). The final aim

is often to arrive at general statements by comparing various materials or various texts or several cases (Flick, 2013).

E. Validity

The validation of the qualitative data and the results of the study will be carried out using member checking techniques on the results of the recording, interview transcripts and research results. Verbatim data (direct quotation) will also be used to better explain the views of the research subjects interviewed.
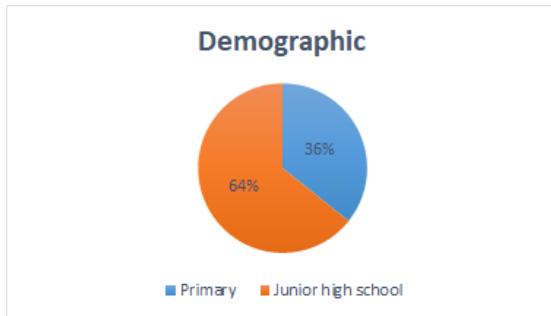
FINDINGS and DISCUSSION

The process of collecting the research data was carried out around two week long in mid-December 2020. Due to the pandemic situation, the process of collecting the data was done online using Google Form. The Google form was distributed to the targeted participants mainly through *Whatsapp*. Meanwhile, the interview was done via telephone call. Regarding the research instruments, to obtain the instruments' validity and reliability, in addition to the one explained previously, the researchers also conducted an intensive discussion among them. The following table depicts the blueprint of the instrument:

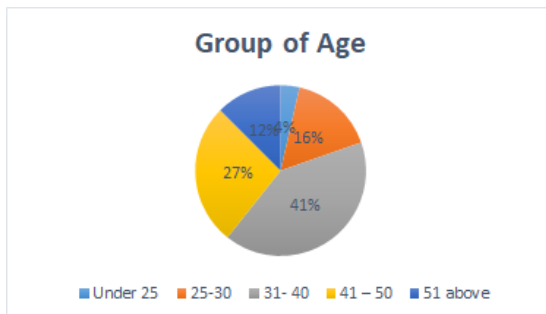Table 2. The blueprint of the research instrument

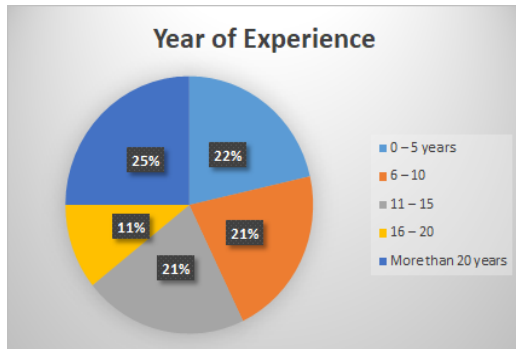| Category	Item quantity
Respondents' identity	9
Digital literacy	18
Capability in working with application	5
Frequency in using websites and applications	16
Frequency in using web services	11

2. Profiles of the Research Subjects

Based on the data collected, as shown in the chart below, there were a total of 56 teachers who became the research subjects. They comprised of 20 teachers of primary school and 36 teachers of junior high school.

Demographic

- Primary 36%
- Junior high school 64%

Meanwhile, seen from the age group category, among these participants, 8.9 percent were 51 years of age and above, 26% were within 41 and 50 years old, 41.1% aged between 31 to 40 years old, 19.6% were within the range of 25-30 years of age and 3.6% were under 25. Based on the demographic data, the participants within the range of 31 and 40 years of age ranked the first, followed by those falling in the range of 41 up to 50 years old. The least percentage was those of under 25 years of age with the percentage of 3.6. The following chart depicts the spread of the age group among the participants.

Group of Age

- Under 25
- 25-30 16%
- 31- 40 41%
- 41 – 50 27%
- 51 above 12%

Regarding the participants' teaching experience or duration of time serving as teachers, teachers with 0 up to 5 years ranked the first (25%). The groups of teachers with 6 to 10 years of experience, 11 to 15 and more than 20 years of experience ranked the second (21%). The least percentage was the group of teachers with 15 to 20 years of experience.

Year of Experience

- 0 – 5 years: 22%
- 6 – 10: 21%
- 11 – 15: 21%
- 16 – 20: 11%
- More than 20 years: 25%

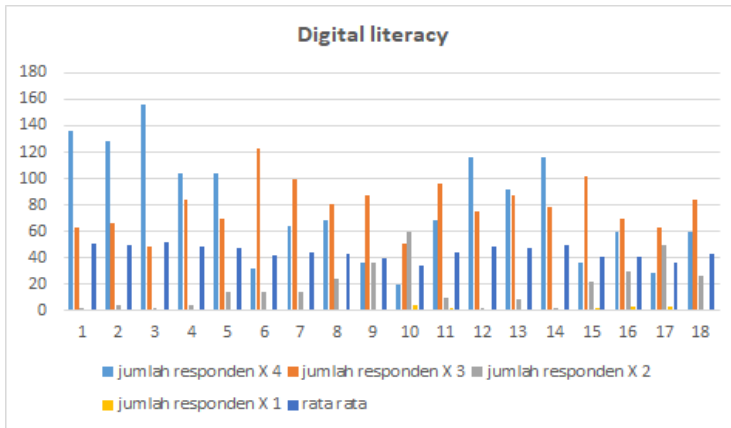**3. Research Findings**

a. Digital Literacy

To know the level of the teachers' digital literacy, after the data are collected, they are analyzed quantitatively first. This functions to determine the mean of each aspect researched. Next, categorization is made to help researchers categorize the teachers' digital literacy level as the following:

Table 3. Categorization of the digital literacy level

Mean	Category
55 - 72	Very high
37 - 54	High
19 - 36	Medium
18	Low

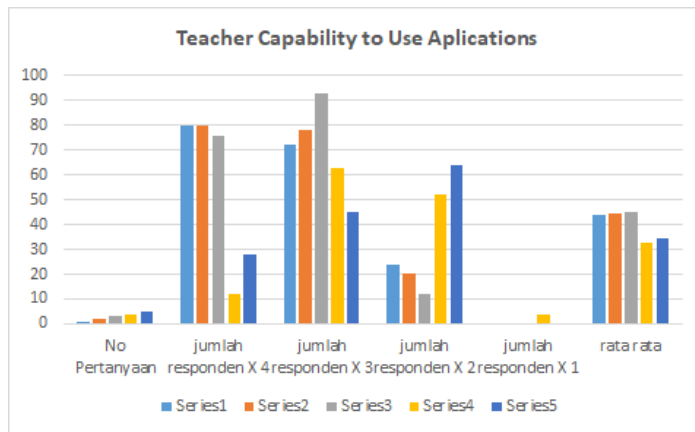The results of the data analysis are presented through the following tables:

Table 4. Participants' digital literacy level

Digital literacy

Referring to the data displayed on Table 4, it is found out that the level of digital literacy among the participants, in general, is in high category. This is based on the value of the mean reaching score of 44.27. Zooming into the table more closely, though, it's interesting to notice that among all items asked, the highest score the participants gave was item no 3 stating that ICT makes the process of teaching and learning more interesting. For this item, majority of the participants gave such a high score that it could reach mean of 51.5 comprising of 39 participants agreed to choose *sangat setuju*, 16 participants chose *setuju*, and only 1 single participant chose *kurang setuju*. On the contrary, for item number 10 stating "I own the technical skills I need to work with ICT for learning and to create artifacts (eg wiki, blog) that demonstrate my understanding of what I have learnt/mastered", the participants gave the least score as it only reached 33.75 as its mean. For this item, majority of the participants chose *kurang setuju* (30 participants), 17 participants chose *setuju*, and only 5 participants chose *sangat setuju*. And interestingly, there were 4 respondents who agreed to choose *tidak setuju*.

b. Capability in working with learning applications

Table 5. Participants' capability in working with application

Teacher Capability to Use Aplications

In terms of participants' capability in working with application, there were five questions asked in this category. These five questions referred to the idea of how the participants perceived themselves regarding their capability in working with various learning applications on the internet. Specifically, these five questions comprised questions related to the capability in operating some specific application categories such as word processor, spreadsheet, presentation, video editing, and photo editing.

Based on Table 5, it's found out that in general, the participants perceived themselves to be in "high (capable)" category with the average mean score reaching 40.15. Meanwhile, when viewed more closely, it appears that among these five learning application groups asked, the participants were most confident with application group number three i.e. presentation (power point presentation, keynote) and least confident with application category number four i.e. video editing (iMovie, Movie maker) with the respective average mean score of 45.25 and 32.75 respectively.

c. **Frequency of using learning website/applications**

Table 6. Frequency of using website/applications
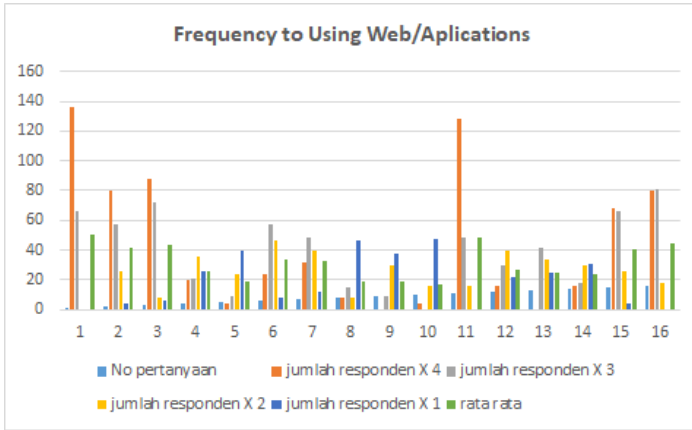
Frequency to Using Web/Aplications

Table 6 shows results of the data analysis regarding the types of applications used by participants in the learning processes they conduct. Among 16 applications asked, the top three most used applications chosen by the participants were You tube, Google Classroom, and Zoom with average mean score of 50.5, 48 and 44.75 respectively. Meanwhile, the least used application was Cousera as it only reached the average mean score of 16.75.

d. **Frequency in using web services**

Table 7. Frequency of using website services
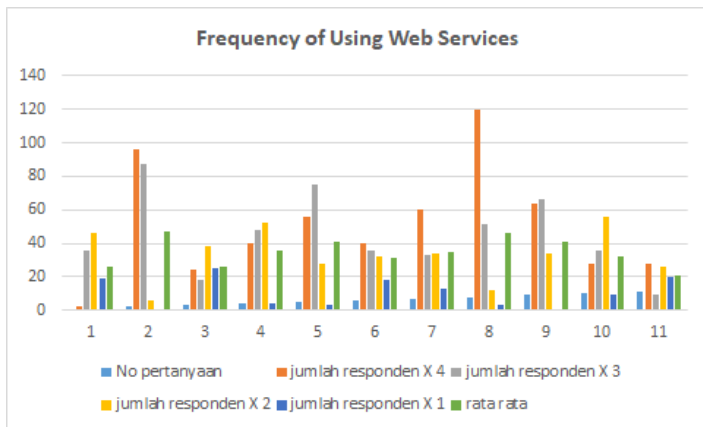

Frequency of Using Web Services

Table 7 provides information related to data about the services available on websites/applications that participants often used. In this section, there were 11 questions asked about the website services which were most frequently used by the participants in their daily teaching practice. Among these 11 questions, question number two topped the survey for this section with the average mean score reached 47.25. Most participants stated that they most often accessed websites such as online dictionaries and content specific websites as they considered these types of websites helped them in finding out references and contents for their classes. The second most accessed website type was the one which was related to social media such as Facebook, Instagram, twitter, etc. with the mean score of 46.5. The participants said that they often used these kinds of social media for their teaching.

Question 3: Why do the English teachers of primary education in Yogyakarta use applications to develop their academic purposes?

In regard to the RQ 3, there are four issues found in the study, i.e., the reasons for using the application for learning the English subject, reasons for using the applications for teaching, the language skills and the teaching skills developed during the use of the applications.

In using the application for learning, improving their English, 62.69 percent of the participants interviewed declared that the applications were user friendly. They did not have any difficulties in using the application. In other word it is easy to use the application. 13.43 percent answered that the application provided sufficient facilities for them to use the application for teaching. They said that they could post the pdf material, audio material and also audiovisual easily. 4.48 percent of the participants trusted the application to be safe.

Meanwhile, the reasons why they used the application for teaching, **56.92% of the participants said that that the application was easy to use.** The did not have significant problem in using the application. 27% of them said that the application had supporting facilities to help them teach online. 24.69% of them agreed that the application provided resources to teach. In other word, they did not have to develop their teaching material.

In dealing with the language skills developed during the use of the application, **32.26 percent said that their listening skill improved significantly.** 27.96% agreed that the use application could improve their reading skill. 20.43% of the participants believed that the use

of application could iprove their speaking ability. While 19.35% conceived that by using the applications, their writing ability would improve.

In regard to the teaching skills developed during the use of the application, **40.28% believed that their material management skill improved.** 26.39% of the participants cerebrated that their skill in learning and teaching method improved. 8.33% agreed that their skill in class management developed well during the use of the application. Only 2.78% conceived that their language mastery improved and 6.94 percent of the participants believed that all their teaching skills improved well by using the application.

Question 4: What kind of problems do English teachers of primary education in Yogyakarta face in using technology in their teaching?

The teachers identified several weaknesses of applications used to learn their subject or major: quota of data provided (28.57), availability of advertisement (4.76), too many resources to select (11.90), need of parents/teacher's guide (26.19), learning facililty in the application (9.52), signal or connection (19.05).

The teachers identified several weaknesses of applications used for teaching: quota of data provided (24.32), availability of advertisement (0), too many resources to select (8.11), need of parents/teacher's guide (18.92), learning facililty in the application (10.81), signal or connection (37.84).

Lack of IT knowledge and facility

One of the participants said that he did not have enough knowledge of the information technology and lack of facility in his mobile phone and laptop and internet connection. This situation prevented him to join a teacher upgrading program such as workshops, including the one which was aimed at improving the teachers' capacity in using the IT.

> ...lack of knowledge on IT and lack of facility, For example the capacity of the cell phone or laptop that need to be upgraded. Another problem emerges if we have to do our activity from home which is without wi-fi, there is unstable connection here. We have never joined workshops related to the use of application in teaching our students...

> ... I never join workshop on using application to teach. Workshop where teachers can learn
> how to use applications to teach are needed. Also, it is necessary to have a sharing forum
> among teachers about what application feasible to teachers and students...

Moreover, he explained that due to his insufficient knowledge on IT and capacity in his cellphone, he preferred to use the teaching materials available on YouTube than developing the materials on his own.

> ...I prefer using videos from YouTube because of my time limitation as a
> teacher and facility or memory of my cellphone. I don't make my own video,
> either. I have to spend lots of time to take the picture and audio, and also for
> editing it. If my students have problems in pronunciation, I ask them to send
> me a personal message, and to respond to it, I send them a voice note to give
> an example of how to say words or sentences.

One of the participants said that the use of online teaching application will only benefit the teacher who is familiar with the application, but the students will not get any benefit from it for they were not familiar with the platform. This is due to the fact that the application is only installed in the teacher's laptop.

> A relatively new application may result in teaching and learning problems. Only the
> teacher knows how to use it, the students have not yet been familiar with it, or the
> application is only installed in the teacher's laptop. I usually make a backup material
> or manual of the material from the application. This is for face-to-face meeting in
> my class... (Ageng)

Cellphone management

As children are not supposed to have their own cellphones, they depend on their parents to access their assignments from their teachers. If any of their parents always stay at home and does not have to go out to work, it will not be a big deal. But if both of the parents have to work, they will have to wait until their parents get home from work to learn materials or do the assignments.

> For online learning, we use two applications i.e. WA and gform. There is a problem
> when the students share the cell phone with other family members. Sometimes

when the parents arrived home, they forgot to tell their child. Further, the technical problem also occurs when the connection is not stable.

Using, WA, there often many messages posted so that some students often miss certain tasks. As a teacher, I remind them about the assignment to accomplish. I understand that the online learning environment or atmosphere is quite different from learning in the classroom. Monitoring and guidance are much more needed here.

We use user friendly applications, word for the materials and ppt including the video or voice note to explain the materials. The exercises are taken for the textbook. This is to anticipate the problems

Problem with new application

For common applications which are popular among teacher and students, most of the teachers do not have any problem. The problem emerge when they have to use a new application. It is not only that they have to learn on their own, they have to teach their students on how to use the application.

Problems in online learning especially exists with relatively new applications...this does not happen on the use of google form, g classroom, zoom, quizziz. For the relatively new or unfamiliar one, the teacher needs to train the students to be familiar and able to use the learning application. A complicated application especially for 'senior' teachers is also a problem, there must be a workshop.

In my opinion, complicated here can be the activity that requires the teachers to install before using the application in the mobile phone or laptop, or complexity in inputting the data or materials in the application, or the data cannot be copied and pasted from word document to the application used. Another case is on the application using certain codes.

The workshop is to anticipate or to overcome students' boredom and it is to drive students' motivation to learn online.

Not all of us-the teacher are able to use the application, for example G-meet.

But we do our best to do that, we learn from tutorials from YouTube.

This excerpt is very interesting. It was found not all teachers in her school was familiar with the online teaching platforms such as G-meet. But this pandemic situation could motivate

them to learn on their own, such as from you tube. It has proved that this pandemic forced them to be an independent learner in the use of online teaching platform.

B. DISCUSSION

Research Question 1

Regarding research question 1asking about how is the digital literacy level of the junior high school English teachers in Yogyakarta, the results of data analysis show that the participants perceive that they are quite digitally literate as the average score reaches the category of "high" level. This result sparks some intriguing points to discuss further, though.

From the positive side, this result is acceptable and relevant especially when it's related to the condition when this research is carried out i.e. during the Covid19 pandemic which has made all learning processes be conducted online involving technology. This is also the case with the participants in this study. Practically, due to the pandemic, these participants have been implementing online learning since the beginning of 2020. It means since last year they have been working with technology intensively and using it in their teaching and learning process. Within this one year period, they have been demanded to be able to adapt quickly to the existing situation. As a result, they learn quickly from any possible sources and they do learning by doing from the online learning process they conduct. Long story short, online learning due to covid19 pandemic has forced teachers, including the participants in this research, to make themselves be familiar with technology and be more competent in using it as well. And it means be more literate digitally.

Furthermore, in terms of the form and type of technology the participants use, they have made their own milestone with their digital literacy development process during this pandemic. Starting from using *whatsapp* more frequently and for teaching, they now, slowly but surely, have been moved to a higher level by applying more complex applications such as *youtube, google classroom, zoom, quizizz* and some other types of online learning platform. Meanwhile, in terms of content, they also experience a kind of quantum leaping regarding the use of technology in the learning processes they conduct. Searching and browsing various learning materials through internet, compiling them and packing them in media that are fully supported by technology, such as video, audio, or power point presentation and then presenting them in online settings via *Google Classroom, Youtube channel, LMS (Learning Mobile System)*, etc. are things that become very close to their lives and they do daily in their

classrooms in this past one year. Of course all these processes of learning, adapting, adopting and developing technology in their daily teaching practices have made them be more digitally literate and more confident in working with technology, and thus made them perceive that they have high level of digital literacy hierarchy.

However, seen from a different perspective, the result of the research rings a bell to a need of more discussions and further research in the field. As part of the questionnaire which asks about participants' digital literacy is based on the participants' personal perception plus due to the fact that perception is subjective in nature, the result this research collects may be influenced by several factors from the participants themselves. Personal characteristics might possibly affect perception the most such as a person's attitudes, personality, motives, interests, past experiences, and expectations. Therefore, an additional research of the same topic but different research method is needed in order to balance the information. One of the possible research types is like the one done by Alkali and Amichai (2004) which uses a performance-based pioneer method that investigated the application of the digital literacy skills conceptual model among different groups of scholars. Applying statistical computation in their research such one way MANOVA and a few other relevant formulas, this research can serve as one of the alternatives in measuring digital literacy skills. Using this kind of way, it's hoped that the results will be an objective balancing tool to researches which use perception as the main method of data collecting technique.

Research Question 2

Research question 2 deals with the kinds of technology forms that the participants use. Referring to Table 6, it's stated that the top three most used applications chosen by the participants were You tube, Google Classroom, and Zoom.

This result is in line with the findings of other researches in the field. One of the factors causing it is because the use of You Tube is quite popular among teachers, including participants in this study. One of the indicators is that there have been many researchers in the field of ELT and learning media who have conducted researches on the use of YouTube in education, including English education. These researches agree that teachers use You Tube quite often to support their daily teaching needs (Tamim, 2013; Bardaki, 2019; Kabooha & Elyas, 2018). Regarding the advantages of using You Tube, in general, it's an accepted fact that the use of YouTube can improve students' involvement and participation in the

classroom and learning strategies (Callow & Zammit, 2012). Furthermore, Mayer (2001) also stresses that the use of You Tube videos is greatly effective especially for introductory courses as it can facilitate difficult concepts, and attract the attention of weak students as well as visual/ special students. In addition, YouTube is a multidimensional resource that offers videos in all fields of knowledge that can be accessed effortlessly. As videos on YouTube are limited in length; this makes them suitable for the tight classroom's time. Studies have also examined the effect of YouTube on autonomous learning (Hafner & Miller, 2011). Berk (2009) argues that the verbal and visual elements provided by the online video clips match the idiosyncrasies of the Net Generation of learners and address their different learning styles.

As for this research, the reason why participants chose You Tube as one of the forms that is used most often is because it's effective and flexible, as shown through the following interview excerpt:

> …... *I prefer using videos from YouTube because of my time limitation as a teacher and facility or memory of my cellphone. I don't make my own video, either. I have to spend lots of time to take the picture and audio, and also for editing it. If my students have problems in pronunciation, I ask them to send me a personal message, and to respond to it, I send them a voice note to give an example of how to say words or sentences.*

Meanwhile, as for the use of Google Classroom, based on the research results, it becomes the second most used form of technology among the participants. Asked further about the reason why they chose this application, the same reason to You Tube usage seems to dominate their answers, as shown through the interview excerpt below:

> …… *Problems in online learning especially exists with relatively new applications...this does not happen on the use of google form, g classroom, zoom, quizziz. For the relatively new or unfamiliar one, the teacher needs to train the students to be familiar and able to use the learning application.*

> ……. *For online learning, we use two applications i.e. Whatsapp and Google Classroom. There is a problem still, especially when the students share the cell*

phone with other family members. Sometimes when the parents arrived home, they forgot to tell their child. Further, the technical problem also occurs when the connection is not stable.

This study has found that in regard with the use of application for learning most of the participants considered the applications were user-friendly. It suggests that most of the teachers have high level of digital literacy as reflected in their ability to use the digital technologies (Martin's, 2005; Ng, 2012). This is very important in making the online teaching successful. With the skill of using digital technologies, the teachers can create, develop or select the materials suitable and appropriate with the level of the students. They will ensure that the materials are within the students' reach to learn. This will help the students acquire the content of the subject more easily. In other word, the teachers help prepare the students to face a globalized and multilingual world (Goodwin-Jones, 2016).

The most serious problem faced by the teachers is their IT knowledge and the facility in their communication devices, such as mobile phone. Their skill in using the online teaching platforms is crucial and reflect the level of digital literacy of the teachers (see Goodwin-Jones, 2016; Martin's, 2005; Ng, 2012). This finding also shows that the IT facility of the teachers cannot guarantee the effectiveness of the online teaching due to the internet connection, which is sometimes interrupted and down. This confirms the finding of the study conducted by Huerta and Sandoval-Almazán (2016).

Conclusion

This study explores the digital literacy of primary school teachers in Yogyakarta. The reasons why this study is important is due to the fact that the Covid-19 pandemic has forced the policy makers to close all the schools and apply work from home for all teachers. This affects the way how the students learn. Therefore, the students have to learn also from home. The online teaching is not an option anymore, it is mandatory due to the school closure. To make this online teaching and learning process run effectively and successful, the teachers have to be digital literate. This study is implemented, among others, is to assess how digital

literate the elementary school teachers in Yogyakarta are. This finding could be used as a consideration for the policy makers to make rules and regulations related to online teaching and learning process in Yogyakarta.

In general, the level of digital literacy of the teachers is in high category, suggesting that the teachers know very well how to use the online teaching application or platforms without any problems. They know how to prepare and or select the material from online resources, deliver it through the application to the students, assess and give feedback to the students, work etc. In term of the capability in working with the learning application, it was found that most of the participants capable, suggesting that the they did not have any issues with the complexity of the application. They knew all the icons and their functions very well. This suggests that they could maximize the use of the application by the facilities provided. This affects the effectiveness and success of online teaching during the pandemic.

Among the available online learning resources and applications, YouTube was still the most frequently accessed as the learning resource. It is understandable as youtube provides almost everything including the teaching and learning resources for all subject matters in the forms of interesting videos. Meanwhile, Google Classroom was the most favourite application for teaching, followed by Zoom. These two applications are user friendly and the ways how to use them is just so simple. They also provide record facility which they can upload it in youtube as the learning resources. Among the online resources available in the websites, online dictionary is the most popular among the teachers, followed by content specific websites. The online dictionary suggests more complete translation and examples of how words are used in sentences. This is so helpful for the teachers. The content specific websites such as British Council is very rich ans so resourceful not only for teachers but also for students. Among the social media, Facebook was still the champion, followed by Instagram

and twitter. This suggest that teachers still need media to socialize themselves and at the same time search for teaching resources in those social media platforms.

In terms of the problems, most of the teachers encountered issues with the lack of IT knowledge and facility including their unfamiliarity with the online learning platforms and internet connection and cell phone availability. These three issues became the major problems faced by elementary teachers in teaching online classes during the school closure.

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Bambang Widi Pratolo:

We have reached a decision regarding your submission to English Language Teaching Educational Journal, "INVESTIGATING DIGITAL LITERACY OF ENGLISH TEACHERS IN YOGYAKARTA".

Our decision is: Revisions Required

When you revise your manuscript please highlight the changes you make in the manuscript by using the track changes mode in MS Word or by using bold or coloured text, and please follow the ELTEJ standards. You have 1 week to finish this revision.

ELTEJ Standards:
The article should be research-based.
Novelty should be addressed clearly in the introduction.
The similarity index should be below 20%, preferably below 10%.
The language should be grammatically correct and academically acceptable.
Consult your professional proofreader when necessary.
The research methodology should be convincing.
The number of references should be over 30 with 85% of them from the last-10-year journals and include the doi numbers.
The findings must be discussed sufficiently by connecting the findings to the theories and existing studies as explained in the introduction.
Please complete your revision within one week.

Reviewer A:
Recommendation: Revisions Required

TITLE AND ABSTRACT - Provide comments and recommendations for the title and abstract.

Paraphrase the title to be more interesting. For more detail Please see the attachment.

INTRODUCTION -Â Provide comments and recommendations about the state of the art, novelty, and contribution of the research.

Please see the attachment.

METHOD - Provide comments and recommendations for the method.

Please see the attachment.

FINDINGS AND DISCUSSION -Â Provide comments and recommendations for the research results and discussion.

Please see the attachment.

CONCLUSIONS -Â Provide comments and recommendations for conclusions.

Please see the attachment.

REFERENCES -Â Provide comments and recommendations for reference.

Please see the attachment.

DECISION RECOMMENDATION -Â Choose the decision recommendations.

Minor Revision

GENERAL COMMENT - Provide overall comments and recommendations of the

paper. Give feedback for the paper's structure, conformity to the template, clarity, grammatical construction, etc.

Please see the attachment.

Reviewer B:
Recommendation: Revisions Required

TITLE AND ABSTRACT - Provide comments and recommendations for the title and abstract.

Please observe the use of tenses in the abstract.
The abstract is too long. It exceeds the maximum number of words required by the journal.

INTRODUCTION -Â Provide comments and recommendations about the state of the art, novelty, and contribution of the research.

The introduction section is too long. Having the first and second paragraph to cover general information on internet is a bit too long. It is highly suggested to combine the two paragraphs and shorten it.

No critical review of the studies discussed in Literature Review section.

METHOD - Provide comments and recommendations for the method.

There should be elaboration on the questionnaires used and interviews conducted.
Some information presented are not necessary.

FINDINGS AND DISCUSSION -Â Provide comments and recommendations for the research results and discussion.

The presentation of the findings should be improved.
All tables presented and its description should be improved and revised.
Add more references in discussing the findings in RQ1.
The discussion addresses RQ1 and RQ2, but not RQ3 and RQ4.

CONCLUSIONS -Â Provide comments and recommendations for conclusions.

Please add implications of the study.

REFERENCES -Â Provide comments and recommendations for reference.

References are limited and most of the references are outdated. Please add more recent references.

DECISION RECOMMENDATION -Â Choose the decision recommendations.

Minor Revision

GENERAL COMMENT - Provide overall comments and recommendations of the paper. Give feedback for the paper's structure, conformity to the template, clarity, grammatical construction, etc.

Please proofread the manuscript. Found quite a number of grammatical errors, spelling mistakes and capitalization issues.
The number of words for the manuscript exceeds the maximum number of words set by the journal.

Dr. Dat Bao

Editor in Chief

INVESTIGATING DIGITAL LITERACY OF ENGLISH TEACHERS IN Yogyakarta
Revised title: Digital Literacy readiness: Voices of Indonesian Primary and Secondary
English Teachers

ABSTRACT

Teaching English nowadays is different from teaching English ten or fifteen years ago. The ways students learn today have changed significantly compared the ways they learn in the past. Students today need different ways of teaching as they also have different learning styles. This study is intended to investigate how much the English teachers in Yogyakarta are technologically literate as it will tell them how much they are prepared to teach their students who are digital natives. This study is also aimed at identifying the challenges they face in teaching millennial students in term of their use of technology and describing their hopes and expectation in their professional work as English teachers. Questionnaires in the form of google form will be used to collect the data from all the participants, while interview was used to collect the data from the selected participants. The findings showed that most of the participants possessed high level of digital literacy, suggesting that they had the skills needed to help them teach online classes using the available online teaching platforms. They seemed to enjoy teaching online classes as they were capable of exploiting the online resources as the teaching materials, developing the available resources and even creating the digital teaching materials and using it in their online classes. The most serious problem they had was lack of IT knowledge in regard with the new online teaching platforms and internet connection. If they had to use the new online teaching platform, they had to learn it on their own, usually through YouTube and teach how to use it to their students. The classic problem, the internet connection, still occured among the teachers and it caused problems in delivering the teaching materials and assessing the students work. The findings of this study were beneficial for the policy makers to design professional development program which fitted the need of the English teachers in Yogyakarta. The students would get the most benefit as the improvement in teachers' professionalism would impact positively to their professional performance in the classroom.

1. Introduction

Recently there has been a spate of interest in the study of digital literacy among teachers and students as the impact of

the development of information and communication technologies which increases massively in the 21 Century. According to Preston (Putra et al., 2005), this phenomena of novel technologies refer to the use of a modern way called internet. Over the last years, the internet becomes embedded in popular culture around the world among young and adults. Websites, YouTube, Wikipedia, and blogs are examples of internet based outlets which people call for when they seek information. Another form called email and various social media platforms have allowed instant communication among people across the world.

In addition to instant communication, the social networking sites of Website 2.0 technologies such as Instagram, Twitter, Facebook, and WhatsApp have let people collaborate by sharing and editing online content. In the industrial domain, the internet has also helped people distribute their products more efficiently and faster. Using online application such as Zalora, Shoppe, Tokopedia, Amazon, Alibaba, etc. people do the trading, shopping, buying and selling. From these examples, it indicates clearly how internet has become the central aspect of most human lives around the world today, as more and more people across the globe have been using it.

In the field of education, massive technology development also exists, especially in the process of teaching and learning held both in formal and informal classes. From the students' side, the use of modern technologies becomes a must nowadays because these students are categorized as digital natives. They were born and grew up during this millennium era taking their life path together with technology almost in their everyday life. Therefore, conducting classes by making use of digital tools such as applications and websites in their learning process can help them understand the materials better.

In dealing with technology, it calls for the ability of using it. The ability of using tools of technology brings us to the concept of digital literacy. The term digital literacy was first defined in Glister's eponymous book as "the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers" (Hossain, 2015). Glister (1997) as cited in Hsu (2019) says that digital literacy is the ability to effectively

seek, navigate, analyse and make information about the using various forms of digital technology. Meanwhile, media literacy is concerned with helping students develop an informed and critical understanding of the nature of mass media, the techniques used by them, and the impact of these techniques (Tan, Xiang, Zhang, Teng, & Yao, 2012). In this present study, the use of the term digital literacy refers to the multiplicity of literacies associated with the use of digital technology which is used by the teacher and students.

In the context of education, one of the famous applications among teachers and students are Microsoft Office which includes Presentation PowerPoint, Microsoft Word, and Microsoft Excel, etc. These forms of applications are highly used by both teachers and students. Another form of technology which is often used is website. It is used very frequently in the process of teaching and learning which functions to develop students' learning process. This technological phenomenal development in the field of education is the issue most researchers conduct the studies.

In Indonesian context, unfortunately, the development of technology is not followed up properly by the teachers yet. According to Riyana (2010), the academic quality of teachers, the condition of improving teacher academic qualifications, and the condition of teacher shortages are the problems which exist in the regions of Indonesia at the various levels of education. Most teachers still use the lecturing method in teaching the lessons. However, in fact, in this modern era, teachers can deliver the material by utilising kinds of technology forms that internet provides. This should be the concern of everyone, as using technology can make the learning interesting and enjoyable. In addition, the review of the percentage of the use of information media in Indonesia is reported to be in the low position which is only 9,2 % (Hsu, 2019). This shows that low media literacy is in line with the introduction of learning media used in the learning process.

The low reported position is indeed unfortunate for Indonesian education as the ability to use ICT is one of the obligatory competences for every teacher today. This implies that teachers should increase their ability to use technology for teaching and learning process. The building of the technology competency should have been started since the teachers are in their college. However, according to Kennedy, Judd, Churchward, Grey, & Krause (2008), the majority of the prospective teachers or most teacher-students currently only know a little about a variety of technology. They are only familiar with already well-established technology forms such as e-mail, instant messaging, cell phones, and social networking sites. Indeed, this

limited technology knowledge is not enough for their needed competency in teaching in the future. Their understanding of how to use technology related to teaching and learning process should be upgraded because it is necessary to improve their teaching competence. ~~Furthermore, results of an informal interview done in one of the private English lecturers in Yogyakarta showed that three out of five of the sixth-semester students only know a few of the applications and websites to develop their skills in their academic studies. The famous websites such as course, Edmodo and Duolingo are strange names to them just like names of Kahoot, hot potatoes, and monkey survey, etc. This fact is unexpected and quite shocking. There should be more researches and trainings conducted in this issue as, again, technology competency among teachers is necessary and a must.~~

Considering these conditions, this research aims ==to describe the level of the digital literacy among English teachers of junior high school in Yogyakarta. Why teachers of junior high school? It's because junior high school is a crucial bridging educational step for students==. Junior high school is the phase where learners move from their childhood to their adolescent period, from simple and basic learning to more advanced and complicated one. In terms of psychological point of view, junior high school period is also known as the transition from learning basic to learning further. In this phase, they start to prepare themselves to more complex and serious learning experience, including the use of technology in their learning journey. As for the teachers, it implies that teachers of junior high school hold a very important role as well. Teachers of junior high school are expected to be able to make the transition learning journey feels smooth and natural, including the inclusion of technology. Teachers of junior high school should be able to introduce the students to technology well and naturally so that the students will get positive and correct image of technology in their life, and thus make use of technology wisely to support them in their learning. In sum, teachers of junior high school are expected to have adequate knowledge and competency in utilizing technology in educational setting.

By doing this research, it is expected that the research results are beneficial and contribute to the management and policy making for the junior high school teachers in Yogyakarta. In addition, it can be used as a reference for establishing and planning proper trainings especially related to information and communication technology for the junior high school teachers in Yogyakarta.

Literature Review

Literacy has traditionally been described as the ability to read (decoding text), and write (encoding text), in the days when information came as books, newspapers and magazines, and was accessed through physical print-onpaper libraries. Nevertheless, the concept contains more meaningful and problematic aspects, which made it to be claimed by a range of different theoretical fields. In fact, it also relates to the ability to research information from a variety of sources, to find, to understand, to use it properly or functionally, and finally to elaborate it into knowledge. These are precisely the qualities which are needed to give a person the motivation and mindset to make best use of information. They provide the basis for understanding the importance of information, and ofdealing with information resources and communication channels, as well as the incentive to continually improve one's capabilities (Bawden, 2008).

Indeed nowdays the modern era people mostly use many kinds of technologies such as smartphone and computer in other to get knowledge they are needed. Therefore, people have to know about the important of understanding about Digital literacy which is closely related to the concepts of information literacy, ICT, and multiple sets of new literacies. Individuals use the term imprecisely, and this lead to miscommucication and understanding.

Digital literacy is not a new strategy for a student to gain the information and knowledge needed (Saubari & Baharuddin, 2016). The term digital literacy was first introduced by Gilster in the late 1990s. he said that it is the ability to understand and use information inmultiple formats from a wide range of sources when it is presented via computers (Spante, Hashemi, Lundin, & Algers, 2018). The capability to use the technology to allow us to right to use the materials is a key aspect of digital literacy. As a starting point, the obvious aspect of digital literacy is an internet. In simple terms, digital literacy is the ability to properly use and evaluate digital resources, tools and services and apply it to their life long learning process (Maharana & Mishra, 2007).

~~To measure the digital literacy, the researcher uses three competences adapted from Ng (2012) competences, technical, cognitive, and social-emotional dimention.~~

4. ~~The technical dimension of being digitally literate broadly means possessing the technical and operational skills to use ICT for learning and in everyday activities.~~

5. ~~The cognitive dimension of Ng's (2012) digital literacy model is associated with the ability to think critically in the search, evaluate and create cycle of handling digital information. It also means being able to evaluate and select appropriate software programs to learn with or to do a specific task.~~

6. ~~The social-emotional dimension of digital literacy and the intersecting areas between the social-emotional and cognitive dimensions involve being able to use the Internet responsibly for communicating, socializing and learning.~~

Review of Relevant Studies

~~Maharana and Mishra (2007) conducted a study on the digital literacy level in India which aims to know the teachers' use of digital resources and their knowledge of searching for and evaluating these resources. In the research, they used a survey to answer their research questions of which the participants were postgraduate teachers at Jabalpur University in 2007.~~

Another similar research was held by Lim (2018). He explored the understanding of digital literacy of college students' Religious Buddha (PTKB) in Banten. In the research, he used descriptive quantitative which focuses on four competencies. There are internet searching, hypertextual navigation, content evaluation, dan knowledge assembly. Digital level of understanding Literacy student PTKB viewed from the Internet searching dimension of 75.85%, 62.40 hypertextual, content evaluation of 65.86%, and understanding of digital literacy student PTKB Judging from the dimensions knowledge assembly of 67.95%.

Ng (2012) investigates the knowledge about educational technologies of a group of undergraduate students studying the course Introduction to eLearning at a university in Australia and how they adopt unfamiliar technologies into their learning. The study explores the 'digital nativeness' of these students by investigating their degree of digital literacy and the ease with which they learn to make use of unfamiliar technologies. In her study, she employed mix method with pre-service teachers as the participants. She identified the technologies that should be understood by the students who will conduct a blended-learning mode such as for concept-mapping software, Prezi (presentation software), Hot Potatoes or SurveyMonkey software (for quiz creation) and VoiceThread and Wikispaces as collaborative platforms to respectively upload the students' digital stories and construct a collaborative WebQuest.

Phuapan, Viriyavejakul and Pimdee (2016) conducted a similar study which was held among students in nine universities in Thailand. In their study, they used digital competences from Bloom Taxonomy which refers to the technologies to answer their research questions. With a massive sampling of 400 undergraduate students as their participants, they sought to determine which digital literacy skills were most important in using digital technology, communications tools, and/or networks to access, manage, integrate, evaluate, create and communicate information in order to function in a knowledge society.

Alamsyah (2017) investigated the patterns of digital literacy among Sriwijaya University (SU) lecturer and its contribution to the implementation of eLearning. Employing a mixed method involving 30 lecturer participants and used offline and online questionnaires, in-depth interviews, and secondary data collection, he found that digital literacy competence among the lecturers was in a high position. This situation is the initial capital for the implementation of e-learning at the university. However, this situation has not contributed to the implementation of e-learning because the lecturers were not willing to adapt to the e-learning environment system and the policy makers had not been intervening several factors that contributed to e-learning implementation at the university level. What makes the current research different from this research is that the the current reseacher is aimed to know how ready the English teachers of Junior High Schools in Yogyakarta with the technologies to help the students in the learning process.

The present study was conducted to answer the following research questions:

5. How is the digital literacy level of the junior high school English teachers in Yogyakarta?

6. What kinds of technology forms do the junior high school English teachers in Yogyakarta use?

7. Why do the junior high school English teachers in Yogyakarta use applications to develop their academic purposes?

8. What kind of problems do junior high school English teachers in Yogyakarta face in using technology in their teaching?

Research Method

The was a descriptive study in nature and mixed method as explained by Creswell (2012) was used to answer the research questions. The study was conducted in the area of Yogyakarta city. 12 Muhammadiyah junior high schools in Yogyakarta were chosen as the school samples. Each school offered English as a compulsory subject and the school had its own English teacher(s). Further, English was taught at all levels of grade 7, 8, and 9.

The subject of this research was digital literacy of the English teachers in Muhammadiyah junior high schools in Yogyakarta. The teachers from each grade in the junior

high schools were involved in the research. Therefore, there were around 36 English teachers from Muhammadiyah junior high schools in Yogyakarta city involved in this study. The objects of research in this study were the aspects related to the teachers' skills, challenge/problems and efforts to be digitally literate as English teachers in the schools.

In collecting the data, the research team used questionnaires and semi-structured interviews. For data analysis, the interviews were recorded and transcribed. The theme-based coding was then conducted for further analysis. The quantitative data were analyzed in terms of percentage. For qualitative data, after the interview, the researchers will make interview transcripts, select part of them as data, do reduction for unrelated information and make coding of the data obtained. The researchers manage data in the form of files. Next, the researchers group the data and interpret them to draw conclusions, answer research questions. The data analyzed will be used to describe the digital literacy of English teachers in Muhammadiyah junior schools in Yogyakarta, the challenges/problems and how they bear all the challenges/problems.

According to Flick (2013), qualitative data analysis is the classification and interpretation of linguistic (or visual) material to make statements about implicit and explicit dimensions and structures of meaning-making in the material and what is represented in it. Meaning-making can refer to subjective or social meanings. Qualitative data analysis is also applied to discover and describe issues in the field or structures and processes in routines and practices. Often, qualitative data analysis combines approaches to a rough analysis of the material (overviews, condensation, summaries) with approaches to detailed analysis (elaboration of categories, hermeneutic interpretations or identified structures). The final aim is often to arrive at general statements by comparing various materials or various texts or several cases (Flick, 2013).

E. Validity

The validation of the qualitative data and the results of the study will be carried out using member checking techniques on the results of the recording, interview transcripts and research results. Verbatim data (direct quotation) will also be used to better explain the views of the research subjects interviewed.
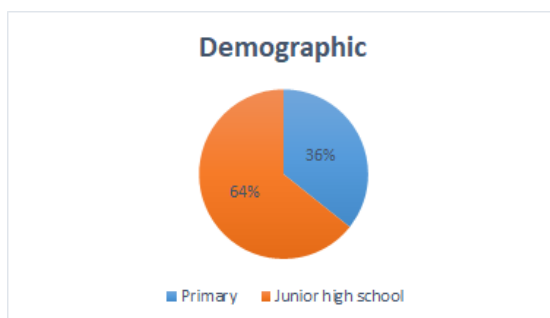
FINDINGS and DISCUSSION

The process of collecting the research data was carried out around two week long in mid-December 2020. Due to the pandemic situation, the process of collecting the data was done online using Google Form. The Google form was distributed to the targeted participants mainly through *Whatsapp*. Meanwhile, the interview was done via telephone call. Regarding the research instruments, to obtain the instruments' validity and reliability, in addition to the one explained previously, the researchers also conducted an intensive discussion among them. The following table depicts the blueprint of the instrument:

Table 2. The blueprint of the research instrument

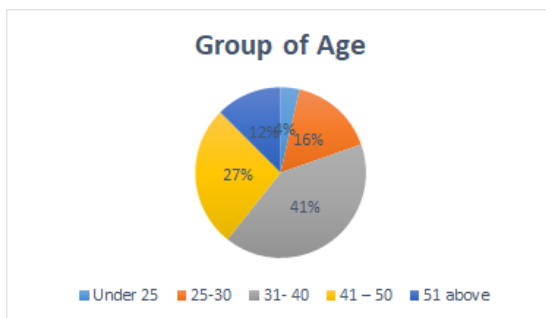| Category	Item quantity
Respondents' identity	9
Digital literacy	18
Capability in working with application	5
Frequency in using websites and applications	16
Frequency in using web services	11

2. Profiles of the Research Subjects

Based on the data collected, as shown in the chart below, there were a total of 56 teachers who became the research subjects. They comprised of 20 teachers of primary school and 36 teachers of junior high school.


Meanwhile, seen from the age group category, among these participants, 8.9 percent were 51 years of age and above, 26% were within 41 and 50 years old, 41.1% aged between

31 to 40 years old, 19.6% were within the range of 25-30 years of age and 3.6% were under 25. Based on the demographic data, the participants within the range of 31 and 40 years of age ranked the first, followed by those falling in the range of 41 up to 50 years old. The least percentage was those of under 25 years of age with the percentage of 3.6. The following chart depicts the spread of the age group among the participants.

Regarding the participants' teaching experience or duration of time serving as teachers, teachers with 0 up to 5 years ranked the first (25%). The groups of teachers with 6 to 10 years of experience, 11 to 15 and more than 20 years of experience ranked the second (21%). The least percentage was the group of teachers with 15 to 20 years of experience.
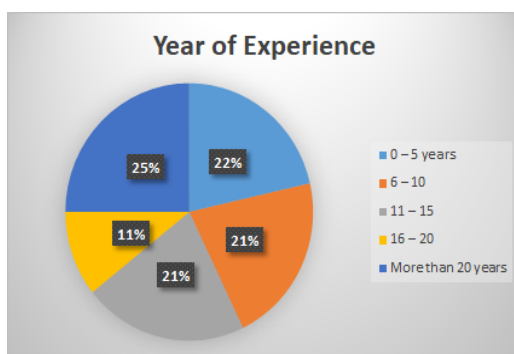
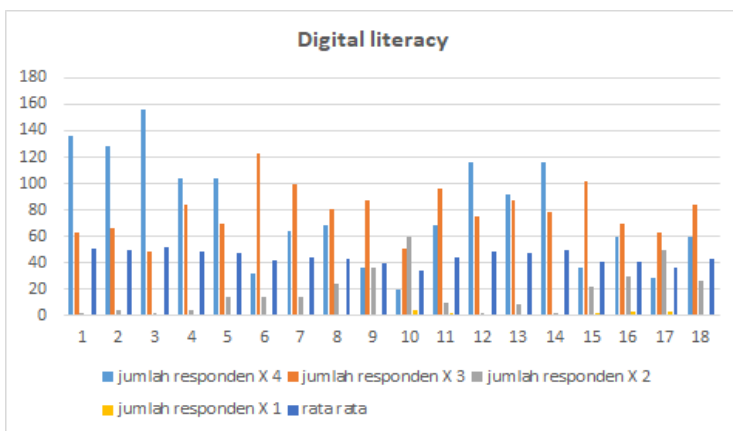**3. Research Findings**

e. Digital Literacy

To know the level of the teachers' digital literacy, after the data are collected, they are analyzed quantitatively first. This functions to determine the mean of each aspect researched. Next, categorization is made to help researchers categorize the teachers' digital literacy level as the following:

Table 3. Categorization of the digital literacy level

Mean	Category
55 - 72	Very high
37 - 54	High
19 - 36	Medium
18	Low

The results of the data analysis are presented through the following tables:

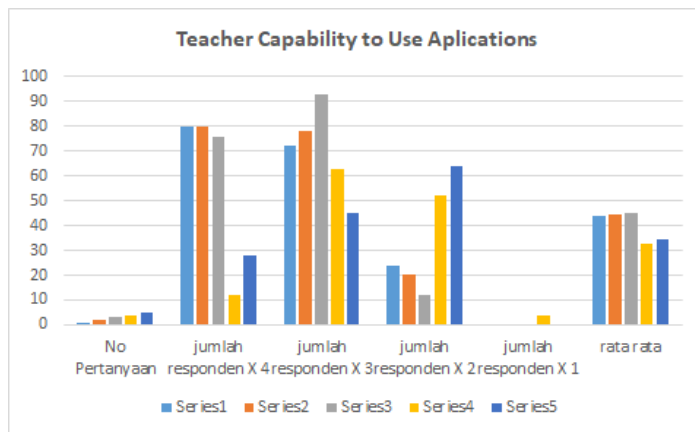Table 4. Participants' digital literacy level

Referring to the data displayed on Table 4, it is found out that the level of digital literacy among the participants, in general, is in high category. This is based on the value of the mean reaching score of 44.27. Zooming into the table more closely, though, it's interesting to notice that among all items asked, the highest score the participants gave was item no 3 stating that ICT makes the process of teaching and learning more interesting. For

this item, majority of the participants gave such a high score that it could reach mean of 51.5 comprising of 39 participants agreed to choose *sangat setuju*, 16 participants chose *setuju*, and only 1 single participant chose *kurang setuju*. On the contrary, for item number 10 stating "I own the technical skills I need to work with ICT for learning and to create artifacts (eg wiki, blog) that demonstrate my understanding of what I have learnt/mastered", the participants gave the least score as it only reached 33.75 as its mean. For this item, majority of the participants chose *kurang setuju* (30 participants), 17 participants chose *setuju*, and only 5 participants chose *sangat setuju*. And interestingly, there were 4 respondents who agreed to choose *tidak setuju*.

f. Capability in working with learning applications

Table 5. Participants' capability in working with application

In terms of participants' capability in working with application, there were five questions asked in this category. These five questions referred to the idea of how the participants perceived themselves regarding their capability in working with various learning applications on the internet. Specifically, these five questions comprised questions related to the capability in operating some specific application categories such as word processor, spreadsheet, presentation, video editing, and photo editing.

Based on Table 5, it's found out that in general, the participants perceived themselves to be in "high (capable)" category with the average mean score reaching 40.15. Meanwhile,

when viewed more closely, it appears that among these five learning application groups asked, the participants were most confident with application group number three i.e. presentation (power point presentation, keynote) and least confident with application category number four i.e. video editing (iMovie, Movie maker) with the respective average mean score of 45.25 and 32.75 respectively.

g. **Frequency of using learning website/applications**

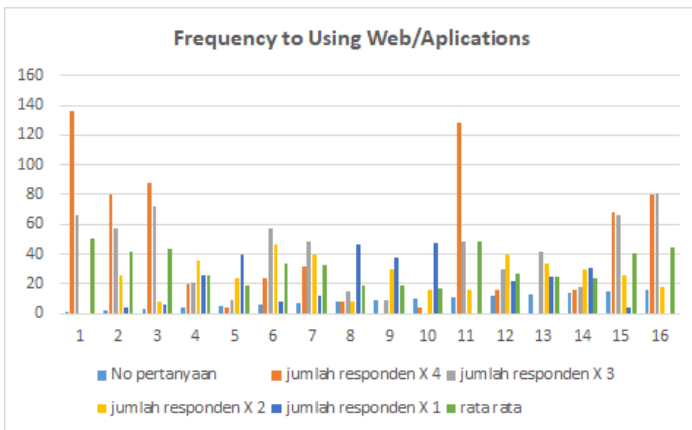Table 6. Frequency of using website/applications

Table 6 shows results of the data analysis regarding the types of applications used by participants in the learning processes they conduct. Among 16 applications asked, the top three most used applications chosen by the participants were You tube, Google Classroom, and Zoom with average mean score of 50.5, 48 and 44.75 respectively. Meanwhile, the least used application was Cousera as it only reached the average mean score of 16.75.

h. Frequency in using web services

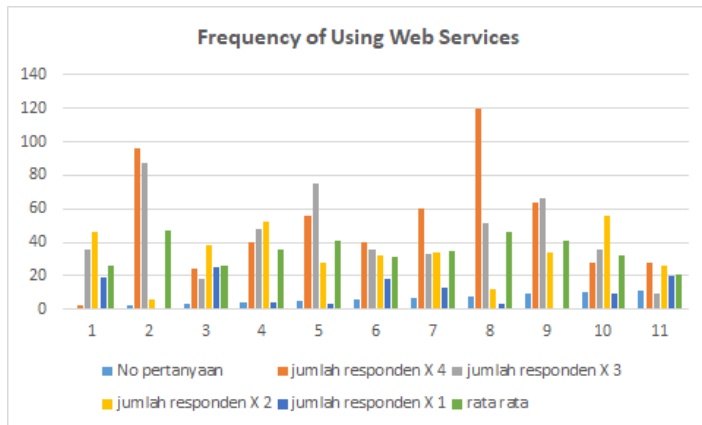Table 7. Frequency of using website services

Table 7 provides information related to data about the services available on websites/applications that participants often used. In this section, there were 11 questions asked about the website services which were most frequently used by the participants in their daily teaching practice. Among these 11 questions, question number two topped the survey for this section with the average mean score reached 47.25. Most participants stated that they most often accessed websites such as online dictionaries and content specific websites as they considered these types of websites helped them in finding out references and contents for their classes. The second most accessed website type was the one which was related to social media such as Facebook, Instagram, twitter, etc. with the mean score of 46.5. The participants said that they often used these kinds of social media for their teaching.

Question 3: Why do the English teachers of primary education in Yogyakarta use applications to develop their academic purposes?

In regard to the RQ 3, there are four issues found in the study, i.e., the reasons for using the application for learning the English subject, reasons for using the applications for teaching, the language skills and the teaching skills developed during the use of the applications.

In using the application for learning, improving their English, 62.69 percent of the participants interviewed declared that the applications were user friendly. They did not have any difficulties in using the application. In other word it is easy to use the application. 13.43 percent answered that the application provided sufficient facilities for them to use the application for teaching. They said that they could post the pdf material, audio material and also audiovisual easily. 4.48 percent of the participants trusted the application to be safe.

Meanwhile, the reasons why they used the application for teaching, **56.92% of the participants said that that the application was easy to use.** The did not have significant problem in using the application. 27% of them said that the application had supporting facilities to help them teach online. 24.69% of them agreed that the application provided resources to teach. In other word, they did not have to develop their teaching material.

In dealing with the language skills developed during the use of the application, **32.26 percent said that their listening skill improved significantly.** 27.96% agreed that the use application could improve their reading skill. 20.43% of the participants believed that the use of application could iprove their speaking ability. While 19.35% conceived that by using the applications, their writing ability would improve.

In regard to the teaching skills developed during the use of the application, **40.28% believed that their material management skill improved.** 26.39% of the participants cerebrated that their skill in learning and teaching method improved. 8.33% agreed that their skill in class management developed well during the use of the application. Only 2.78% conceived that their language mastery improved and 6.94 percent of the participants believed that all their teaching skills improved well by using the application.

Question 4: What kind of problems do English teachers of primary education in Yogyakarta face in using technology in their teaching?

The teachers identified several weaknesses of applications used to learn their subject or major: quota of data provided (28.57), availability of advertisement (4.76), too many resources to select (11.90), need of parents/teacher's guide (26.19), learning facililty in the application (9.52), signal or connection (19.05).

The teachers identified several weaknesses of applications used for teaching: quota of data provided (24.32), availability of advertisement (0), too many resources to select (8.11),

need of parents/teacher's guide (18.92), learning facililty in the application (10.81), signal or connection (37.84).

Lack of IT knowledge and facility

One of the participants said that he did not have enough knowledge of the information technology and lack of facility in his mobile phone and laptop and internet connection. This situation prevented him to join a teacher upgrading program such as workshops, including the one which was aimed at improving the teachers' capacity in using the IT.

> ...lack of knowledge on IT and lack of facility, For example the capacity of the cell phone or laptop that need to be upgraded. Another problem emerges if we have to do our activity from home which is without wi-fi, there is unstable connection here. We have never joined workshops related to the use of application in teaching our students…
>
> … I never join workshop on using application to teach. Workshop where teachers can learn how to use applications to teach are needed. Also, it is necessary to have a sharing forum among teachers about what application feasible to teachers and students...

Moreover, he explained that due to his insufficient knowledge on IT and capacity in his cellphone, he preferred to use the teaching materials available on YouTube than developing the materials on his own.

> ...I prefer using videos from YouTube because of my time limitation as a teacher and facility or memory of my cellphone. I don't make my own video, either. I have to spend lots of time to take the picture and audio, and also for editing it. If my students have problems in pronunciation, I ask them to send me a personal message, and to respond to it, I send them a voice note to give an example of how to say words or sentences.

One of the participants said that the use of online teaching application will only benefit the teacher who is familiar with the application, but the students will not get any benefit from it for they were not familiar with the platform. This is due to the fact that the application is only installed in the teacher's laptop.

A relatively new application may result in teaching and learning problems. Only the teacher knows how to use it, the students have not yet been familiar with it, or the application is only installed in the teacher's laptop. I usually make a backup material or manual of the material from the application. This is for face-to-face meeting in my class... (Ageng)

Cellphone use management

As children are not supposed to have their own cellphones, they depend on their parents to access their assignments from their teachers. If any of their parents always stay at home and does not have to go out to work, it will not be a big deal. But if both of the parents have to work, they will have to wait until their parents get home from work to learn materials or do the assignments.

For online learning, we use two applications i.e. WA and Google Form. There is a problem when the students share the cell phone with other family members. Sometimes when the parents arrived home, they forgot to tell their child. Further, the technical problem also occurs when the connection is not stable.

Using, WA, there often many messages posted so that some students often miss certain tasks. As a teacher, I remind them about the assignment to accomplish. I understand that the online learning environment or atmosphere is quite different from learning in the classroom. Monitoring and guidance are much more needed here.

We use user friendly applications, word for the materials and ppt including the video or voice note to explain the materials. The exercises are taken for the textbook. This is to anticipate the problems

Problem with new application

For common applications which are popular among teacher and students, most of the teachers do not have any problem. The problem emerge when they have to use a new application. It is not only that they have to learn on their own, they have to teach their students on how to use the application.

Problems in online learning especially exists with relatively new applications...this does not happen on the use of google form, g classroom, zoom, quizziz. For the relatively new or unfamiliar one, the teacher needs to

train the students to be familiar and able to use the learning application. A complicated application especially for 'senior' teachers is also a problem, there must be a workshop.

In my opinion, complicated here can be the activity that requires the teachers to install before using the application in the mobile phone or laptop, or complexity in inputting the data or materials in the application, or the data cannot be copied and pasted from word document to the application used. Another case is on the application using certain codes.

The workshop is to anticipate or to overcome students' boredom and it is to drive students' motivation to learn online.

Not all of us-the teacher are able to use the application, for example G-meet.

But we do our best to do that, we learn from tutorials from YouTube.

This excerpt is very interesting. It was found not all teachers in her school was familiar with the online teaching platforms such as G-meet. But this pandemic situation could motivate them to learn on their own, such as from you tube. It has proved that this pandemic forced them to be an independent learner in the use of online teaching platform.

B. DISCUSSION

Research Question 1

Regarding research question 1asking about how is the digital literacy level of the junior high school English teachers in Yogyakarta, the results of data analysis show that the participants perceive that they are quite digitally literate as the average score reaches the category of "high" level. This result sparks some intriguing points to discuss further, though.

From the positive side, this result is acceptable and relevant especially when it's related to the condition when this research is carried out i.e. during the Covid19 pandemic which has made all learning processes be conducted online involving technology. This is also the case with the participants in this study. Practically, due to the pandemic, these participants have been implementing online learning since the beginning of 2020. It means since last year they have been working with technology intensively and using it in their teaching and learning process. Within this one year period, they have been demanded to be able to adapt quickly to the existing situation. As a result, they learn quickly from any possible sources and they do learning by doing from the online learning process they conduct. Long

story short, online learning due to covid19 pandemic has forced teachers, including the participants in this research, to make themselves be familiar with technology and be more competent in using it as well. And it means be more literate digitally.

Furthermore, in terms of the form and type of technology the participants use, they have made their own milestone with their digital literacy development process during this pandemic. Starting from using *whatsapp* more frequently and for teaching, they now, slowly but surely, have been moved to a higher level by applying more complex applications such as *youtube, google classroom, zoom, quizizz* and some other types of online learning platform. Meanwhile, in terms of content, they also experience a kind of quantum leaping regarding the use of technology in the learning processes they conduct. Searching and browsing various learning materials through internet, compiling them and packing them in media that are fully supported by technology, such as video, audio, or power point presentation and then presenting them in online settings via *Google Classroom, Youtube channel, LMS (Learning Mobile System)*, etc. are things that become very close to their lives and they do daily in their classrooms in this past one year. Of course all these processes of learning, adapting, adopting and developing technology in their daily teaching practices have made them be more digitally literate and more confident in working with technology, and thus made them perceive that they have high level of digital literacy hierarchy.

However, seen from a different perspective, the result of the research rings a bell to a need of more discussions and further research in the field. As part of the questionnaire which asks about participants' digital literacy is based on the participants' personal perception plus due to the fact that perception is subjective in nature, the result this research collects may be influenced by several factors from the participants themselves. Personal characteristics might possibly affect perception the most such as a person's attitudes, personality, motives, interests, past experiences, and expectations. Therefore, an additional research of the same topic but different research method is needed in order to balance the information. ~~One of the possible research types is like the one done by Alkali and Amichai (2004) which uses a performance-based pioneer method that investigated the application of the digital literacy skills conceptual model among different groups of scholars. Applying statistical computation in their research such one way MANOVA and a few other relevant formulas, this research can serve as one of the alternatives in measuring digital literacy skills.~~

Research Question 2

Research question 2 deals with the kinds of technology forms that the participants use. Referring to Table 6, it is stated that the top three most used applications chosen by the participants were You tube, Google Classroom, and Zoom.

This result is in line with the findings of other researches in the field. One of the factors causing it is because the use of You Tube is quite popular among teachers, including participants in this study. One of the indicators is that there have been many researchers in the field of ELT and learning media who have conducted researches on the use of YouTube in education, including English education. Many studies have confirmed that teachers use You Tube quite often to support their daily teaching needs (Tamim, 2013; Bardaki, 2019; Kabooha & Elyas, 2018). Regarding the advantages of using YouTube, in general, it is an accepted fact that the use of YouTube can improve students' involvement and participation in the classroom and learning strategies (Callow & Zammit, 2012). Furthermore, Mayer (2001) also stresses that the use of YouTube videos is greatly effective especially for introductory courses as it can facilitate difficult concepts, and attract the attention of weak students as well as visual/ special students. In addition, YouTube is a multidimensional resource that offers videos in all fields of knowledge that can be accessed effortlessly. As videos on YouTube are limited in length; this makes them suitable for the tight classroom's time. Studies have also examined the effect of YouTube on autonomous learning (Hafner & Miller, 2011). Berk (2009) argues that the verbal and visual elements provided by the online video clips match the idiosyncrasies of the Net Generation of learners and address their different learning styles.

As for this research, the reason why participants chose You Tube as one of the forms that is used most often is because it's effective and flexible, as shown through the following interview excerpt:

> *…... I prefer using videos from YouTube because of my time limitation as a teacher and facility or memory of my cellphone. I don't make my own video, either. I have to spend lots of time to take the picture and audio, and also for editing it. If my students have problems in pronunciation, I ask them to send*

Commented [MOU1]: Kabooha, R., & Elyas, T. (2018). The effects of YouTube in multimedia instruction for vocabulary learning: Perceptions of EFL students and teachers. *English Language Teaching*, *11*(2), 72-81.

me a personal message, and to respond to it, I send them a voice note to give an example of how to say words or sentences.

Meanwhile, as for the use of Google Classroom, based on the research results, it becomes the second most used form of technology among the participants. Asked further about the reason why they chose this application, the same reason to You Tube usage seems to dominate their answers

…… Problems in online learning especially exists with relatively new applications...this does not happen on the use of google form, g classroom, zoom, Quizziz. For the relatively new or unfamiliar one, the teacher needs to train the students to be familiar and able to use the learning application.

……. For online learning, we use two applications i.e. WhatsApp and Google Classroom. There is a problem still, especially when the students share the cell phone with other family members. Sometimes when the parents arrived home, they forgot to tell their child. Further, the technical problem also occurs when the connection is not stable.

This study has found that in regard with the use of application for learning most of the participants considered the applications were user-friendly. It suggests that most of the teachers have high level of digital literacy as reflected in their ability to use the digital technologies (Martin's, 2005; Ng, 2012). This is very important in making the online teaching successful. With the skill of using digital technologies, the teachers can create, develop or select the materials suitable and appropriate with the level of the students. They will ensure that the materials are within the students' reach to learn. This will help the students acquire the content of the subject more easily. In other word, the teachers help prepare the students to face a globalized and multilingual world (Goodwin-Jones, 2016).

The most serious problem faced by the teachers is their IT knowledge and the facility in their communication devices, such as mobile phone. Their skill in using the online teaching platforms is crucial and reflect the level of digital literacy of the teachers (see Goodwin-Jones, 2016; Martin's, 2005; Ng, 2012). This finding also shows that the IT facility of the teachers cannot guarantee the effectiveness of the online teaching due to the internet connection, which is sometimes interrupted and down. This confirms the finding of the study conducted by Huerta and Sandoval-Almazán (2016).

Conclusion

~~This study explores the digital literacy of primary school teachers in Yogyakarta. The reasons why this study is important is due to the fact that the~~ Covid-19 pandemic has forced the policy makers to close all the schools and apply work from home for all teachers. This affects the way how the students learn. Therefore, the students have to learn also from home. The online teaching is not an option anymore, it is mandatory due to the school closure. To make this online teaching and learning process run effectively and successful, the teachers have to be digital literate. This study is implemented, among others, is to assess how digital literate the elementary school teachers in Yogyakarta are. This finding could be used as a consideration for the policy makers to make rules and regulations related to online teaching and learning process in Yogyakarta.

In general, the level of digital literacy of the teachers is in high category, suggesting that the teachers know very well how to use the online teaching application or platforms without any problems. They know how to prepare and or select the material from online resources, deliver it through the application to the students, assess and give feedback to the students, work etc. In term of the capability in working with the learning application, it was

found that most of the participants capable, suggesting that the they did not have any issues with the complexity of the application. They knew all the icons and their functions very well. This suggests that they could maximize the use of the application by the facilities provided. This affects the effectiveness and success of online teaching during the pandemic.

Among the available online learning resources and applications, YouTube was still the most frequently accessed as the learning resource. It is understandable as youtube provides almost everything including the teaching and learning resources for all subject matters in the forms of interesting videos. Meanwhile, Google Classroom was the most favourite application for teaching, followed by Zoom. These two applications are user friendly and the ways how to use them is just so simple. They also provide record facility which they can upload it in youtube as the learning resources. Among the online resources available in the websites, online dictionary is the most popular among the teachers, followed by content specific websites. The online dictionary suggests more complete translation and examples of how words are used in sentences. This is so helpful for the teachers. The content specific websites such as British Council is very rich ans so resourceful not only for teachers but also for students. Among the social media, Facebook was still the champion, followed by Instagram and twitter. This suggest that teachers still need media to socialize themselves and at the same time search for teaching resources in those social media platforms.

In terms of the problems, most of the teachers encountered issues with the lack of IT knowledge and facility including their unfamiliarity with the online learning platforms and internet connection and cell phone availability. These three issues became the major problems faced by elementary teachers in teaching online classes during the school closure.

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REVISION 2

Digital literacy readiness: Voices of Indonesian primary and secondary English teachers

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ARTICLE INFO

ABSTRACT

The ways students learn nowadays have changed significantly since the Covid 19 pandemic in 2019. Students today need different ways of teaching as they also have different learning styles. This study is intended to investigate how much the Indonesian primary and secondary English teachers are technologically literate, identify the challenges they face in teaching using technology and describe their hopes and expectation in their professional work as English teachers. Questionnaires in the form of google form were used to collect the data from all the participants, while interview was used to collect the data from the selected participants. The findings showed that most of the participants possessed high level of digital literacy, suggesting that they had the skills needed to help them teach online classes using the available online teaching platforms. They seemed to enjoy teaching online classes as they were capable of exploiting the online resources as the teaching materials, developing the available resources and even creating the digital teaching materials and using it in their online classes. The most serious problem they had was lack of IT knowledge in regard with the new online teaching platforms and internet connection. If they had to use the new online teaching platform, they had to learn it on their own, usually through YouTube and teach how to use it to their students. The classic problem, the internet connection, still occurred among the teachers and it caused problems in delivering the teaching materials and assessing the students' work. This implies that the policy makers need to design professional development program which would help the Indonesia English teachers cope with their technological issues.

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1. Introduction

Recently there has been a spate of interest in the study of digital literacy among teachers and students as the impact of the development of information and communication technologies which increases massively in the 21 Century. According to Preston et al (**2015a**, **2015b**) these phenomena of novel technologies **refer** to the use of a modern way called internet. Over the last years, the internet has been

embedded in popular culture around the world among young and adults. Websites, YouTube, Wikipedia, and blogs are examples of internet-based outlets which people call for when they seek information. Email and various social media platforms have allowed instant communication among people across the world.

In addition to instant communication, the social networking sites of Website 2.0 technologies such as Instagram, Twitter, Facebook, and WhatsApp have let people collaborate by sharing and editing online content. **In** the industrial domain, the internet has also helped people distribute their products more efficiently and faster. Using online application such as Zalora, Shoppe, Tokopedia, Amazon, Alibaba, etc. people do the **trading**, shopping, buying and selling. These phenomena indicate clearly how internet has become the central aspect of most human lives around the world today.

In the field of education, massive technology development also exists, especially in the process of teaching and learning held both in formal and informal classes. From the students' side, the use of modern technologies becomes a must nowadays because these students are categorized as digital natives. They were born and grew up during this millennium era taking their life path together with technology almost in their everyday life. Therefore, conducting classes by making use of digital tools such as applications and websites in their learning process can help them understand the materials better.

The ability of using tools of technology brings us to the concept of digital literacy. The term digital literacy was first defined as the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers (**Hussein et al, 2017**). Hsu (**2019a**, **2019b**) says that digital literacy is the ability to effectively seek, navigate, analyse and make information about the using various forms of digital technology. Meanwhile, media literacy is concerned with helping students develop an informed and critical understanding of the nature of mass media, the techniques used by them, and the impact of these techniques (**Tan, Xiang, Zhang, Teng, & Yao, 2012**). In this present study, the use of the term digital literacy refers **to** the multiplicity of literacies associated with the use of digital technology which is used by the teacher and students.

In the context of education, one of the famous applications among teachers and students are Microsoft Office which includes Presentation PowerPoint, Microsoft Word, and Microsoft Excel, etc. These forms of applications are highly used by both teachers and students. Another form of technology which is often used is website. This technological phenomenal development in the field of education is the issue most researchers conduct the studies. The use of digital literacy also concerns the ability to use digital learning platforms. A study that was conducted to identify the learning of English in the 21st century found that the platforms could be employed to assist language learners in their writing activities (**Ali, 2022**). Specifically, its use was to gauge the students' Language Learning Strategies (LLS) for instance metacognitive, cognitive, and social strategies classified (**Hamad, 2017**). This study aims to describe the level of the digital literacy among Indonesian primary and secondary English teachers. The findings of this study are expected to contribute to the management and policy making for Indonesian primary and secondary English teachers. In addition, it can be used as a reference for establishing and planning proper teacher professional development program especially related to information and communication technology.

Digital literacy is not a new strategy for a student to gain the information and knowledge needed (**Saubari & Baharuddin, 2016**). The term digital literacy was first introduced by Gilster in the late 1990s. He said that it is the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers (**Spante et al., 2018**; **Alkali & Amichai-Hamburger, 2004**). The capability to use the technology to allow us to right to use the materials is a key aspect of digital literacy. As a starting point, the obvious aspect of digital literacy is an internet. In simple terms, digital literacy is the ability to properly use and evaluate digital resources, tools and services and apply it to their lifelong learning process (**Falloon, 2020**; **Bawden, 2008**).

Pratolo and Solikhati (**2021**) investigated teachers' attitude towards digital literacy in EFL classroom. Their study endeavored to find out how the digital literacy was implemented in their English classes, to determine teachers' attitude in implementing the digital literacy, to scrutinize the challenges and the actions they took to cope with them**.** They found that computer and smartphone were the used the most often search for digital information. The teachers exhibited positive attitudes in the use of digital literacy for English teaching. They used syllabus as a major consideration, developed effective teaching, implemented multiple literacy and improved the four language skills. They also discovered lack of technology, lack of time and limited budget were acknowledged as hindrances in digital literacy

implementation. To cope with these issues, the teachers in their study developed an early planning and support plan.

Ng ([2012](#)) explored the knowledge about educational technologies of a group of undergraduate students studying the course *Introduction to eLearning* at a university in Australia and how they adopted unfamiliar technologies into their learning. The study explores the 'digital nativeness' of these students by investigating their degree of digital literacy and the ease with which they learn to make use of unfamiliar technologies. In her study, she employed mix method with pre-service teachers as the participants. She identified the technologies that should be understood by the students who would conduct a blended-learning mode such as for concept-mapping software, Prezi (presentation software), Hot Potatoes or SurveyMonkey software (for quiz creation) and VoiceThread and Wikispaces as collaborative platforms to respectively upload the students' digital stories and construct a collaborative WebQuest.

Phuapan, Viriyavejakul and Pimdee ([2016](#)) conducted a similar study which was held among students in nine universities in Thailand. In their study, they used digital competences from Bloom Taxonomy which refers to the technologies to answer their research questions. With a massive sampling of 400 undergraduate students as their participants, they sought to determine which digital literacy skills were most important in using digital technology, communications tools, and/or networks to access, manage, integrate, evaluate, create and communicate information in order to function in a knowledge society.

Alamsyah ([2017](#)) investigated the patterns of digital literacy among Sriwijaya University lecturers and its contribution to the implementation of eLearning. Employing a mixed method involving 30 lecturer participants and used offline and online questionnaires, in-depth interviews, and secondary data collection, he found that digital literacy competence among the lecturers was in a high position. This situation is the initial capital for the implementation of e-learning at the university. However, this situation has not contributed to the implementation of e-learning because the lecturers were not willing to adapt to the e-learning environment system and the policy makers had not been intervening several factors that contributed to e-learning implementation at the university level.

We identified a methodological gap in terms of the participants involved in the previous studies. Say for example, Pratolo and Solikhati (2021) involved junior high school teachers only as their research participants, while Alamsyah (2017) focused his study on the lecturers. Different from these two studies, Ng (2012) and Phuapan et.al. (2016) recruited undergraduate students as their informants. None of these studies looked into what the primary English teachers said about their readiness of digital technology. By nature, different participants with different background will offer different result. This present study is trying to fill in the gap by involving primary and secondary English teachers to speak out their voices and is conducted to answer the following research questions: (1) How is the digital literacy level of the Indonesian primary and secondary English teachers? (2) What kinds of technology forms do they use? (3) Why do they use such applications in their everyday teaching? (4) What kinds of problems do they face in using technology in their online teaching?

2. Method

The present study adopted a mixed methods approach as outlined by Creswell (2012) to investigate the digital literacy of Indonesian primary and secondary English teachers. A total of 36 Indonesian English teachers from across the country participated in the study. The data was collected through the use of both closed and open questionnaires, modified from the work of Son, Park, and Park (2017). The questionnaire consisted of six sections, including demographic information, perceptions and experiences with using Information and Communication Technologies (ICTs) in teaching, capability in using applications for teaching, frequency of using websites to support teaching, frequency of utilizing the services provided by these websites, and open questions about the use of applications to improve language skills and teaching. To help the participants be well informed with the questions and to avoid misunderstandings, the questionnaire was translated into Indonesian. The invitations were sent through WhatsApp messages along with the Google form link to the potential EFL teacher participants. Some of them responded quickly, some other filled up the form late. Therefore, by the time the data were analyzed, the recorded number of the participants was thirty-six. For their confidentiality purposes, none of their real names was used in any part of this study report. The data was analyzed using theme-based coding and quantified using percentages. The results were used to describe the digital literacy of the

participating English teachers and to examine the challenges they faced in using digital technology for teaching performance.

3. Findings and Discussion

The process of collecting the research data was carried out using Google Form. The Google form was distributed to the targeted participants mainly through *WhatsApp*. Meanwhile, the interview was done via telephone call. Regarding the research instruments, to obtain the instruments' validity and reliability, in addition to the member checking techniques, we also conducted an intensive discussion with them. Table 1 depicts the blueprint of the instrument:

Table 1. The blueprint of the research instrument

Category	Item Quantity
Respondents' identity	9
Digital literacy	18
Capability in working with application	5
Frequency in using websites and applications	16
Frequency in using web services	11
Total	59

4.1 Research Participants' Demographics

Based on the data collected, as shown in the chart below, there were a total of 56 teachers who became the participants of the research. These participants comprised of 20 teachers of primary school (36%) and 36 teachers of junior high school (64%).
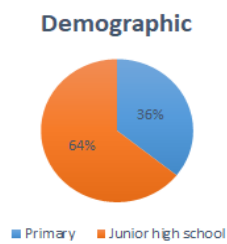

Fig. 1. Demographic

Meanwhile, seen from the age group category, among the participants, 8.9 percent were 51 years of age and above, 26% were within 41 and 50 years old, 41.1% aged between 31 to 40 years old, 19.6% were within the range of 25-30 years of age and 3.6% were under 25. Based on the demographic data, the participants within the range of 31 and 40 years of age ranked the first, followed by those falling in the range of 41 up to 50 years old. The least percentage was those of under 25 years of age with the percentage of 3.6%. The chart below depicts the spread of the age group among the participants.
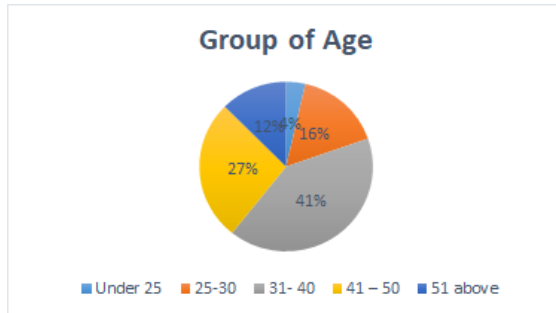
Fig. 2. Group of Age

Regarding the participants' teaching experience or duration of time serving as teachers, participants with more than 20 years of teaching experience ranked first reaching 25% and then followed by participants with teaching experience between 0-5 years who got the percentage score of 22%. Meanwhile groups of participants with teaching experience of 6-10 and 11-15 years ranked third each occupying 21%. The least rank was the group of participants with 15 to 20 years of teaching experience who gathered the percentage score of 11%.
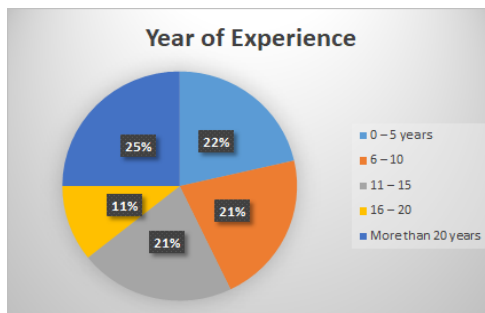

Fig. 3. Year of Experience

4.2 Research Findings

i. Research Question 1: Participants' digital literacy level

To know the level of the participants' digital literacy, after the data were collected, they were analyzed quantitatively first. This functions to determine the mean of each aspect researched. Next, categorization was made to help us categorize the participants' digital literacy level as shown in Table 2.

Table 2. Categorization of the digital literacy level

Mean	Category
55 - 72	Very high
37 - 54	High
19 - 36	Medium
18	Low

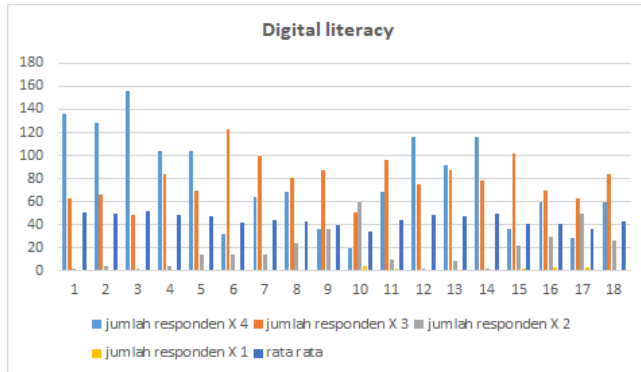The results of the data analysis are presented through the following chart:

Fig. 4. Participants' digital literacy level

Referring to the data displayed on [Figure 4](#), it is found out that the level of digital literacy among the participants, in general, is in high category. This is based on the value of the mean which reached score of 44.27. Zooming into the table more closely, though, it is interesting to notice that among all items asked, the highest score the participants gave was item no 3 stating that ICT makes the process of teaching and learning more interesting. For this item, majority of the participants gave such a high score that it could reach the mean of 51.5. They comprised of 39 participants who chose *strongly agree*, 16 participants chose *agree*, and only 1 single participant chose *somewhat disagree*. On the contrary, for item number 10 stating "I own the technical skills I need to work with ICT for learning and to create artifacts (e.g. wiki, blog) that demonstrate my understanding of what I have learnt/mastered", the participants gave the least score as it only reached 33.75 as its mean. For this item, majority of the participants chose *somewhat disagree* (30 participants), 17 participants chose *agree*, and only 5 participants chose *strongly agree*. Interestingly, there were 4 respondents who chose *disagree*.

ii. Research Question 2: Kinds of technology forms the participants use

To reveal the data of the kinds of technology forms the participants use, there were three main question categories given to them. They were questions related to capability in working with learning applications, frequency of using learning website/applications, and frequency in using web services.

1. Capability in working with learning applications

In terms of participants' capability in working with application, there were five questions asked under this category. These five questions referred to the idea of how the participants perceived themselves regarding their capability in working with various learning applications on internet. Specifically, these five questions were related to the capability in operating some specific application categories such as word processor, spreadsheet, presentation, video editing, and photo editing.

Based on the data collected, it was found out that, in general, the participants perceived themselves to be in "high (capable)" category with the average mean score reaching 40.15. Meanwhile, when viewed more closely, it appears that among the five learning application categories asked, the participants were most confident with application category number three i.e., presentation (power point presentation, keynote) and least confident with application category number four i.e., video editing (iMovie, Movie maker) with the average mean score of 45.25 and 32.75 respectively.

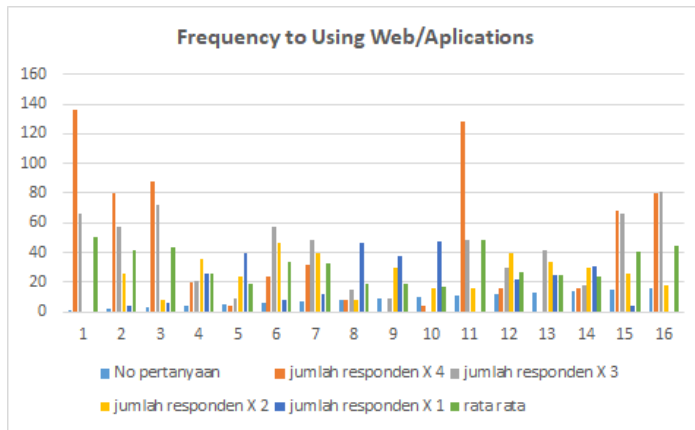*Frequency of using learning website/applications*

Fig. 5. Frequency of using website/applications

Figure 5 shows the results of the data analysis regarding the types of applications used by participants in the learning processes they have conducted. Among 16 applications asked, the top three most used applications chosen by the participants were You tube, Google Classroom, and Zoom with average mean score of 50.5, 48 and 44.75 respectively. Meanwhile, the least used application was Cousera as it only reached the average mean score of 16.75.
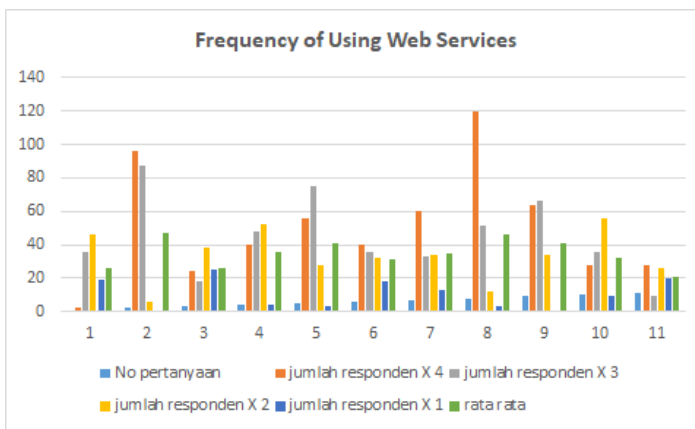
Frequency in using web services

Fig. 6. Frequency of using website services

Figure 6 provides information related to data about the services available on websites/applications that the participants often used. Under this category, there were 11 questions asked about the website services which were most frequently used by the participants in their daily teaching practices. Among these 11 questions, question number two topped the survey with the average mean score reached 47.25. Most participants stated that they most often accessed websites such as online dictionaries and content specific websites as they considered these types of websites helped them in finding out references and contents for their classes. The second most accessed website type was the one which was related to social media such as Facebook, Instagram, twitter, etc. with the mean score of 46.5. The participants said that they often used these kinds of social media for their teaching.

iii. Question 3: Reasons of using applications for academic purposes

In regards to the research question 3, there were four issues found. They comprised the reasons for using the application for learning English, the reasons for using the applications for teaching, the language skills and the language teaching skills developed while using the applications.

When asked the questions about the reasons the participants had in using the application for learning and improving their English, 62.69% of the participants interviewed declared that the applications were user friendly**.** Furthermore, they stated that they did not have any difficulties in using them. In other words, the applications were easy-to-use applications. Meanwhile, 13.23% of the participants answered that the application provided them with sufficient facilities for them to use for teaching. For that, they said that they could post the pdf material, audio and audiovisual material quite easily. The rest 24.48% of the participants trusted the that application were the safe ones.

For the issue related to the reasons why the participants used the applications for teaching, 56% of the participants said that that the applications were easy to use and they did not have significant problems in using them for teaching. Meanwhile, 24% of the participants said that the applications had supporting facilities to help them teach online. This reason was supported by the other 20% of the participants who agreed that the applications provided them with the resources needed in teaching. They further said that having these applications in hand, they did not have to develop their own teaching material.

In dealing with the language skills developed during the use of the internet applications, 32.26% participants said that their listening skill improved significantly. Furthermore, 27.96% participants agreed that the use of applications could improve their reading skill and 20.43% participants believed that the use of applications could improve their speaking ability. Meanwhile 19.35% participants conceived that by using the applications, their writing ability would improve.

In regard to the teaching skills developed during the use of the application, 52.28% participants believed that their material management skill improved and 27.49% of them cerebrated that their skill in learning and teaching method improved. Meanwhile, the total of 8.33% participants agreed that their skill in class management developed well during the use of the application and 7.94% participants believed that all their teaching skills improved well by using the application. Surprisingly, there's only 3.96% conceived that their language mastery improved because of the applications use.

iv. Research Question 4: Problems in using technology

In terms of weaknesses of the applications, the participants identified such weaknesses of the applications they used as: quota of data provided (28.57%), advertisement distraction (4.76%), too many resources to select (11.90%), need of parental and teacher's guide (26.19%), availability of learning facility on the application (9.52%), and internet signal or connection (19.05%).

As the research applied the interview technique in order to dig out more deeply about the issue, the following sub sections will discuss the findings of it. In regards to the problems faced by the participants when making use of the applications, there were three main problems found out i.e., lack of IT knowledge and facility, cellphone management, and problems with new applications.

Lack of IT knowledge and facility

Among the participants, lack of IT knowledge and facility became one of the prominent problems in using applications. One of the participants said that he did not have enough knowledge of the information technology and there's lack of facility in his mobile phone and laptop and the problem with the internet connection as well. This situation prevented him to join a teacher professional development upgrading program and workshops, including the one which was aimed at improving the teachers' capacity in using the IT.

> *...lack of knowledge on IT and lack of facility, for example the capacity of the cell phone or laptop that needs to be upgraded. Another problem emerges if we have to do our activity from home which is without wi-fi. There is unstable connection here, too. We have never joined workshops related to the use of application in teaching our students...*

> *...I never join workshop on using application to teach. Workshop where teachers can learn how to use applications to teach are needed. Also, it is necessary to have a sharing forum among teachers about what application feasible to teachers and students...*

Moreover, he explained that due to his insufficient knowledge on IT and capacity of his cellphone, he preferred using the teaching materials available on YouTube to developing the materials on his own.

...I prefer using videos from YouTube because of my time limitation as a teacher and facility or memory of my cellphone. I don't make my own video, either. I have to spend lots of time to take the picture and audio, and also for editing it. If my students have problems in pronunciation, I ask them to send me a personal message, and to respond to it, I send them a voice note to give an example of how to say words or sentences.

One of the participants said that the use of online teaching application will only benefit the teacher who is familiar with the application, but the students will not get any benefit from it because they are not familiar with the platform. This is due to the fact that the application is only installed in the teacher's laptop.

A relatively new application may result in teaching and learning problems. Only the teacher knows how to use it, the students have not yet been familiar with it, or the application is only installed in the teacher's laptop. I usually make a backup material or manual of the material from the application. This is for face-to-face meeting in my class...

Cellphone use management

In terms of the cellphone management issue, it arises because of the fact that as children/students are not supposed to have their own cellphones, they depend on their parents to access their assignments from their teachers. If any of their parents always stay at home and do not have to go out to work, it will not be a big deal. But if both of the parents have to work, they will have to wait until their parents get home from work to learn the materials or do the assignments.

For online learning, we use two applications i.e., WhatsApp and Gform. There is a problem when the students share the cell phone with other family members. Sometimes when the parents arrived home, they forgot to tell their child. Further, the technical problem also occurs when the connection is not stable.

Using WhatsApp application, there often many messages posted so that some students often miss certain tasks. As a teacher, I remind them about the assignment to accomplish. I understand that the online learning environment or atmosphere is quite different from learning in the classroom. Monitoring and guidance are much more needed here.

We use user friendly applications, word for the materials and ppt including the video or voice note to explain the materials. The exercises are taken for the textbook. This is to anticipate the problems

Problem with new application

Problems with new applications became another kind of problem faced by participants when using internet applications. For common applications which are popular among teacher and students, most of the teachers do not have any problem. The problem emerges when they have to use a new application. It is not only that they have to learn on their own, they have to teach their students on how to use the application too.

Problems in online learning especially exists with relatively new applications...this does not happen on the use of google form, g classroom, zoom, quizzes. For the relatively new or unfamiliar one, the teacher needs to train the students to be familiar and able to use the learning application. A complicated application especially for 'senior' teachers is also a problem, there must be a workshop.

In my opinion, complicated here can be the activity that requires the teachers to install before using the application in the mobile phone or laptop, or complexity in inputting the data or materials in the application, or the data cannot be copied and pasted from word document to the application used. Another case is on the application using certain codes.

The workshop is to anticipate or to overcome students' boredom and it is to drive students' motivation to learn online.

Not all of us-the teacher are able to use the application, for example G-meet. But we do our best to do that, we learn from tutorials from YouTube.

This interview excerpt is very interesting. It was found not all teachers in her school was familiar with the online teaching platforms such as G-meet. But this pandemic situation could motivate them to learn on their own, such as from you tube. It has proved that this pandemic forced them to be an independent learner in the use of online teaching platform.

4.3 Discussion

The findings of this study shows that the participating primary and secondary English teachers perceive that they are quite digitally literate as the average score reaches the category of "high" level. This result sparks some intriguing points to discuss further. From the positive side, this result is

acceptable and relevant especially when it is related to the condition when this research was carried out i.e., during the Covid19 pandemic which had made all learning processes be conducted online. This is also the case with the participants in this study. Practically, due to the pandemic, these participants have been implementing online learning since the beginning of 2020. It means since then they have been working with technology intensively and using it in their teaching and learning process. Since then, they have been demanded to be able to adapt quickly to the existing situation. As a result, they learned quickly from any possible sources and implemented the teaching and learning process online. Long story short, online learning due to covid19 pandemic has forced teachers, including the participants in this study, to make themselves be familiar with technology and be more competent in using it as well. In fact, the use of online distance learning (ODL) is mushrooming as the effect of the pandemic. Zuraina et al. (2022) conducted a study in the use of Telegram as the alternative to support learning when the disease was widespread. The study found that its use promoted ease in teaching and learning, enhance communication between students-teachers by providing prompt responses, and be used to share information between students and teachers. The researchers concluded that Telegram as an ODL was very relevant during the crisis.

Furthermore, in terms of the form and type of technology the participants used, they have made their own milestone with their digital literacy development process during this pandemic. Starting from using *WhatsApp* more frequently and for teaching, they now, slowly but surely, have been moved to a higher level by applying more complex applications such as *YouTube, Google Classroom, Zoom, Quizizz* and some other types of online learning platform. Meanwhile, in terms of content, they also experienced a kind of quantum leaping regarding the use of educational technology. Searching and browsing various learning materials through internet, compiling them and packing them in media that are fully supported by technology, such as video, audio, or power point presentation and then presenting them in online settings via *Google Classroom, YouTube channel, LMS (Learning Mobile System)*, etc. are things that become very close to their lives and they do it daily in their classrooms. Of course, all these processes of learning, adapting, adopting and developing technology in their daily teaching practices have made them be more digitally literate and more confident in working with technology, and thus made them perceive that they have high level of digital literacy hierarchy.

However, seen from a different perspective, the result of the study rings a bell to a need of more discussions and further research in the field. As part of the questionnaire which asks about participants' digital literacy is based on the participants' personal perception plus due to the fact that perception is subjective in nature, the result this research collects may be influenced by several factors from the participants themselves. Personal characteristics might possibly affect perception the most such as a person's attitudes, personality, motives, interests, past experiences, and expectations. Therefore, additional research of the same topic but different research method is needed in order to balance the information.

The study also reveals that the top three most used applications chosen by the participants were You tube, Google Classroom, and Zoom. This result is in line with the findings of other researches in the field (see for example Tamim, 2013; Bardaki, 2019; Kabooha & Elyas, 2018). One of the factors is the fact that YouTube is very popular among teachers, including the participants in this study. One of the indicators is that there have been many researchers in the field of ELT and learning media who have conducted researches on the use of YouTube in education, including English education. Many studies have confirmed that teachers use You Tube quite often to support their daily teaching needs (Tamim, 2013; Bardaki, 2019; Kabooha & Elyas, 2018). Regarding the advantages of using YouTube, in general, it is an accepted fact that the use of YouTube can improve students' involvement and participation in the classroom and improve their learning strategies (Callow & Zammit, 2012). Furthermore, the use of YouTube videos is greatly effective especially for introductory courses as it can facilitate difficult concepts, and attract the attention of weak students as well as visual and special students (Kabooha, & Elyas, 2015; 2018; Heriyanto, 2015).

In addition, YouTube is a multidimensional resource that offers videos in all fields of knowledge that can be accessed effortlessly (Kabooha & Elyas, 2018). As videos on YouTube are limited in length, this makes them suitable for the tight classroom's time. Studies have also examined the effect of YouTube on autonomous learning (Hafner & Miller, 2011). Berk (2009) argues that the verbal and visual elements

provided by the online video clips match the idiosyncrasies of the Net Generation of learners and address their different learning styles.

This study has found that in regard with the use of application for learning most of the participants considered the applications were user-friendly. It suggests that most of the teachers have high level of digital literacy as reflected in their ability to use the digital technologies (Martin's, 2005; Ng, 2012). This is very important in making the online teaching successful. With the skill of using digital technologies, the teachers can create, develop or select the materials suitable and appropriate with the level of the students. They will ensure that the materials are within the students' reach to learn. This will help the students acquire the content of the subject more easily. In other word, the teachers help prepare the students to face a globalized and multilingual world (Godwin-Jones, 2016). Nevertheless, teachers are required to employ various techniques in class to boost motivation, in particular intrinsic motivation, among students. In the use of Canva; an online graphic design tool, Ali (2022) found the infographics enabled language learners to be creative due to the interesting features that are available in the application. Therefore, teachers should not be teaching writing by merely asking students to write sentences. Yet, teachers could also ask their students to use infographics to express their thoughts and ideas.

The most serious problem faced by the teachers is their IT knowledge and the facility in their communication devices, such as mobile phone. Their skill in using the online teaching platforms is crucial and reflect the level of digital literacy of the teachers (see Godwin-Jones, 2016; Martin's, 2005; Ng, 2012). This finding also shows that the IT facility of the teachers cannot guarantee the effectiveness of the online teaching due to the internet connection, which is sometimes interrupted and down. This confirms the finding of the study conducted by Huerta and Sandoval-Almazán (2016).

1. Conclusion

Covid-19 pandemic has forced the policy makers to close all the schools and apply work from home for all teachers. This affects the way how the students learn. Therefore, the students have to learn also from home. The online teaching is not an option anymore, it is mandatory due to the school closure. To make this online teaching and learning process run effectively and successful, the teachers have to be digital literate. This study was implemented, among others, was to assess how digital literate the Indonesian Primary and Secondary school teachers were. This finding could be used as a consideration for the policy makers to make rules and regulations related to online teaching and learning process Indonesian school system.

In general, the level of digital literacy of the teachers is in high category, suggesting that the teachers know very well how to use the online teaching application or platforms without any problems. They know how to prepare and or select the material from online resources, deliver it through the application to the students, assess and give feedback to the students, work etc. In term of the capability in working with the learning application, it was found that most of the participants capable, suggesting that they did not have any issues with the complexity of the application. They knew all the icons and their functions very well. This suggests that they could maximize the use of the application by the facilities provided. This affects the effectiveness and success of online teaching during the pandemic.

Among the available online learning resources and applications, YouTube was still the most frequently accessed as the learning resource. It is understandable as YouTube provides almost everything including the teaching and learning resources for all subject matters in the forms of interesting videos. Meanwhile, Google Classroom was the most favorite application for teaching, followed by Zoom. These two applications are user friendly and the ways how to use them are just so simple. They also provide upload and download facility which they can use for sharing and using the learning resources. Among the online resources available in the websites, online dictionary is the most popular among the teachers, followed by content specific websites. The online dictionary suggests more complete translation and examples of how words are used in sentences. This is so helpful for the teachers. The content specific websites such as British Council is very rich and so resourceful not only for teachers but also for students. Among the social media, Facebook was still the champion, followed by Instagram and twitter. This suggest that teachers still need media to socialize themselves and at the same time search for teaching resources in those social media platforms. In terms of the problems, most of the teachers encountered issues with the lack of IT knowledge and facility including their unfamiliarity with the online learning

platforms and internet connection and cell phone availability. These three issues became the major problems faced by primary English teachers in teaching online classes.

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Subject: [ELTEJ] Editor Decision

Bambang Widi Pratolo:

We have reached a decision regarding your submission to English Language Teaching Educational Journal, "INVESTIGATING DIGITAL LITERACY OF ENGLISH TEACHERS IN YOGYAKARTA".

Our decision is to: Accept Submission

Dr. Dat Bao

Editor in Chief