IJOLAE
Indonesian Journal on Learning and Advanced Education
p-ISSN 2655-920x
e-ISSN 2656-2804

Indonesian Journal on Learning and Advanced Education (IJOLAE)

Indonesian Journal on Learning and Advanced Education (IJOLAE) is an open-accessed and peer-reviewed scholarly international journal published by **Universitas Muhammadiyah Surakarta (/)** Indonesia in collaboration with Indonesian Educational Expert Association.

IJOLAE focuseson:

- Advanced Education and Learning;
- Challenging Education and Learning;
- Character Education and Learning;
- Distinctive Education and Learning;
- Education Management Inovations;
- Enterpreneurship Education and Learning;
- Innovative Learning Design;
- Learning Methods on Teaching Values;
- Literacy of Education, Sains, Learning Technology;
- Political Legacies and Critical Education;

- Professional Development Teaching;
- Progressive Education and Learning; and
- Other Issues Innovations Education from an Excellent International Educational.

IJOLAE aims to promote creativity, innovation, and entrepreneurship in education in order to face global challenges such as education in the disruption era, internet of things in education, child-friendly education, HOTS-based education, STEAM Education, blended learning, humanity literation education, life-skill learning, digital class, and other educational innovations.

Submit your manuscripts today (in English) through our online system (/index.php/ijolae/about/submissions)! The authors should refer to the Author Guidelines (/index.php/ijolae/about/submissions#authorGuidelines) in writing the manuscript with attached Declaration of Originallity (DoO) (https://drive.google.com/file/d/1Gyc9NG1gwsIPZUracgQD4HeaYqH2NUH-/view?usp=sharing) (download the DoO Form here (https://drive.google.com/file/d/1Gyc9NG1gwsIPZUracgQD4HeaYqH2NUH-/view?usp=sharing)), attach the CTA and DoO on the "Supplementary Files" attachment when submitting. The authors are also encouraged to use citation manager software such as Mendeley, Zotero, or any other software in writing the manuscript.

The journal has been indexed and abstracted in various indexing databases: DOAJ (https://doaj.org/toc/2656-2804) | Google Scholar (https://scholar.google.co.id/citations?&user=NrFstBcAAAAJ) | Garuda (http://garuda.kemdikbud.go.id/journal/view/14412) | Crossref (https://search.crossref.org/?q=2656-2804&from_ui=yes) | ROAD (https://portal.issn.org/api/search?search[]=MUST=default=ijolae&search_id=3853217) | BASE (https://www.base-search.net/Search/Results?type=all&lookfor=Indonesian+Journal+on+Learning+and+Advanced+Education+%28IJOLAE%29&ling=1&oa | Scientific Indexing Services (http://www.sindexs.org/JournalList.aspx?ID=5957) | Researchbib (http://journalseeker.researchbib.com/view/issn/2656-2804) | One Search (http://onesearch.id/Search/Results?filter[]=repoId:IOS6925) |

f&st1=%22ijolae%22&st

TEMPLATE MANUSCRIPT

(https://drive.google.com usp=sharing)

Recommended Tools

MENDELEY

turnitin

grammarly

in Collaboration With

(https://drive.google.com id=1rd_IY21h4ksxiJmBlW uTGSKe-E4jN)

Indonesian Educationist Association

Ikatan Sarjana Pendidikan Indonesia(ISPI)

(http://www.ispi.or.id/)

ALPTK PTMA

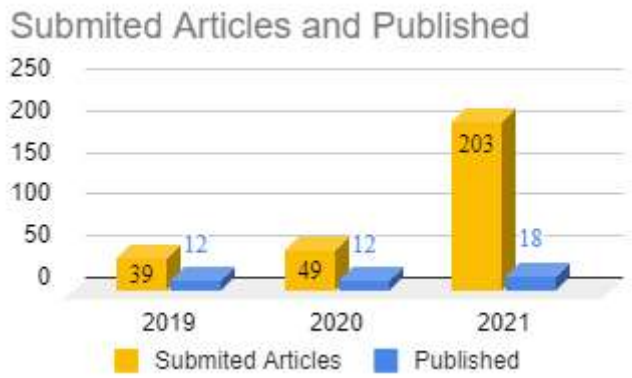
(https://alptkptm.org/)

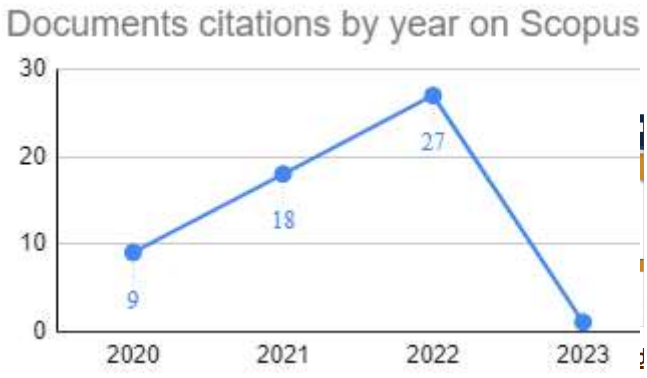
The Association of Educational Institution of Muhammadiyah-Aisyiyah

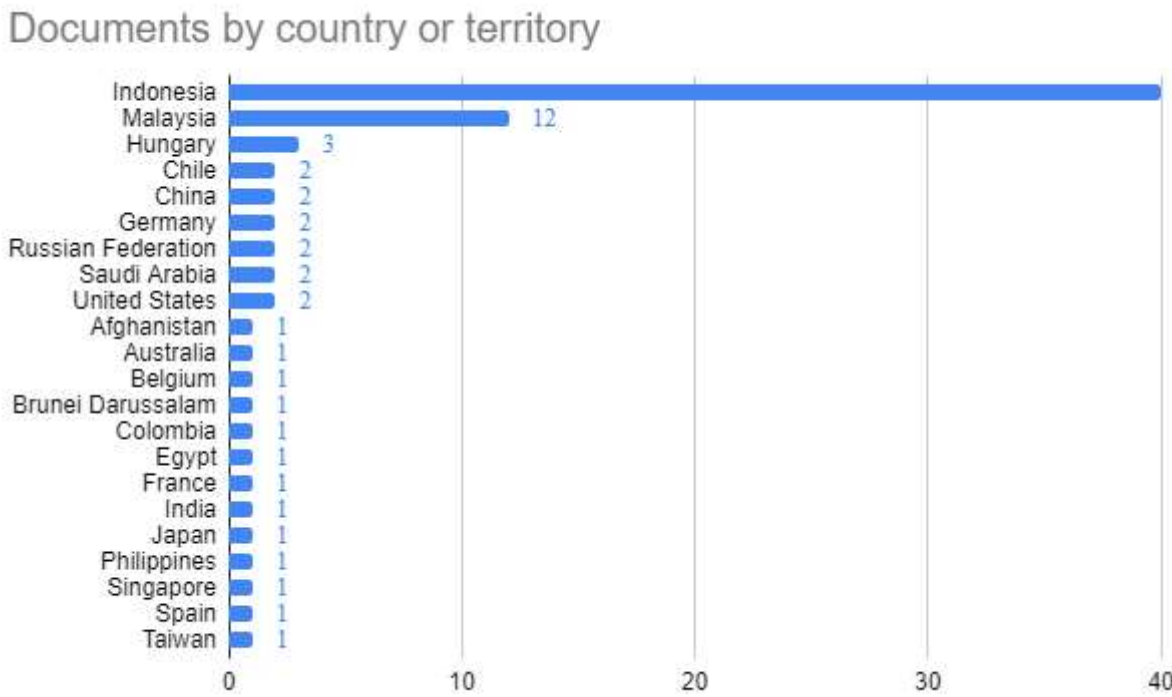
Dimension (https://app.dimensions.ai/discover/publication?and_facet_source_title=jour.1366109) |

Statistics

(Source: scopus.com (https://www.scopus.com/term/analyzer.uri?sid=8ec73932f8375f5e30f2909db1edb659&origin=resultslist&src=s&s=REF%28%22ijolae%22%29&sort=f&sdt=b&sot=b&sl=13&count=48&analyzeResults=Analyze+results&txGid=00a7a4e1a625b0aee31968a4f
)







Universities (ALPTK-PTMA)

Asosiasi LPTK PTMA (https://alptkptm.org/)

(http://profunedu.id/colla

Progressive and Fun Education

ProfunEdu International Conference

(http://profunedu.id/collaborati

Accredited

q8F24rWwU15872-

urnal

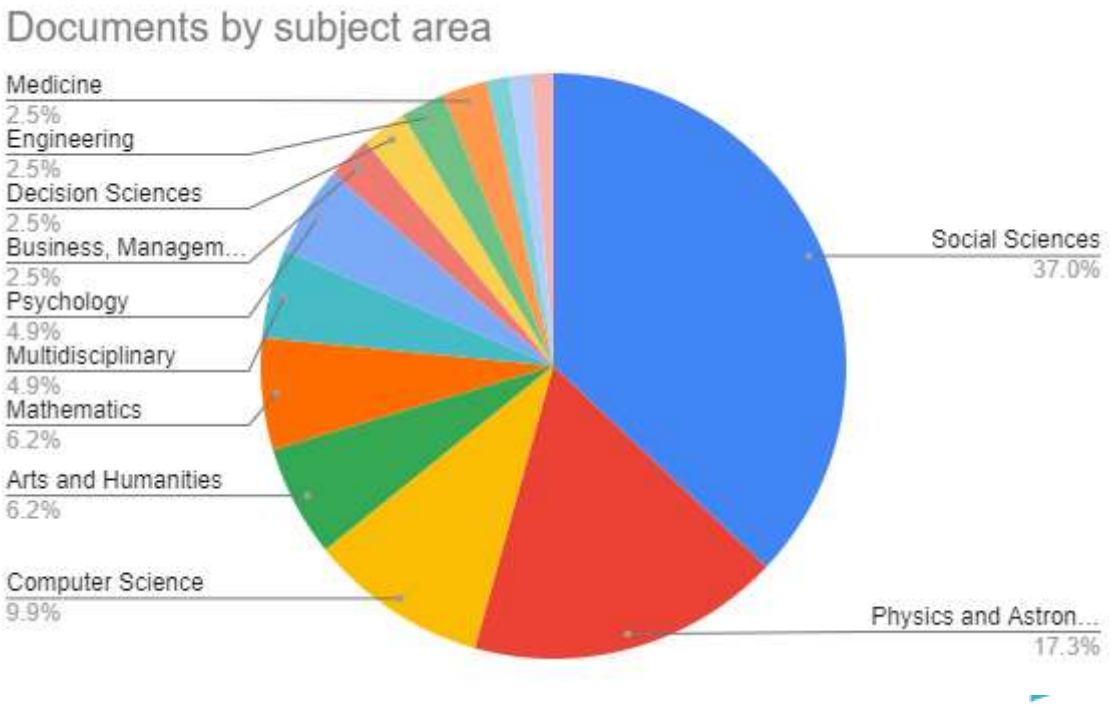
sia

jurnal.id)

By

DUAJ

(https://doaj.org/toc/2652804?



Journal Identity

Journal Name	:	**Indonesian Journal on Learning and Advanced Education (IJOLAE)**
Journal Abreviation	:	**IJOLAE**
Printed ISSN	:	2655-920X (https://issn.brin.go.id/terbit/detail/1547086963)
Online ISSN	:	2656-2804 (https://issn.brin.go.id/terbit/detail/1547087624)
Publisher	:	Universitas Muhammadiyah Surakarta, Indonesia (/)
Editorial Addres	:	Jl. Ahmad Yani Pabelan Kartasura 57162 Sukoharjo, Central Java, Indonesia
National Accreditation	:	SINTA 2 (https://sinta.kemdikbud.go.id/journals/profile/6734) (Nationally Accredited by Indonesian Minister of Research & Technology, Number

%22query%2
2C%222656-
D%7D%7D%
ristekbrin.go
734)
lar.google.co
NrFstBcAAA
da.kemdikbu
(https://search.crossref.or
q=IJOLAE)
(https://portal.issn.org/ap
search[]=MUST=default=ij
(https://www.base-
search.net/Search/Results
type=all&lookfor=Indones
(http://www.sindexs.org/
ID=5957)
(http://journalseeker.rese
2804)
(http://onesearch.id/Sear
filter[]=repoId:IOS6925)

148/M/KPT/2020, August 3rd 2020) | Vol. 1, No.1, 2019 - Vol. 5, No. 2, 2023

Telephone : +6271717417 ext 2197 | 2130

Email : ijolae@ums.ac.id

First Publication Year : 2019

Publication Frequency : Starting 2021 (January, May, September)

Vol. 5, No. 1, January 2023

(https://journals.ums.ac.id/index.php/ijolae/issue/current)

Volume 5 Number 1 issued 7 articles contributed from 8 countries. The articles has been online published since 13 December 2022. **The authors geographical coverage: Indonesia, USA, Canada, Malaysia, Philippines, Hungary, Lao People's Democratic Republic, and Brunei Darussalam**

Table of Contents

Research Articles

IJOLAE
Indonesian Journal on Learning and Advanced Education
p-ISSN 2655-920x
e-ISSN 2656-2804

Editorial Team

Editor In Chief

Associate Editor

f&st1=%22ijolae%22&st

TEMPLATE MANUSCRIPT

(https://drive.google.com/...
usp=sharing)

Recommended Tools

MENDELEY

turnitin

grammarly

in Collaboration With

(https://drive.google.com
id=1rd_IY21h4ksxiJmBlW
uTGSKe-E4jN)
Indonesian Educationist Association
Ikatan Sarjana Pendidikan Indonesia(ISPI)
(http://www.ispi.or.id/)

ALPTK PTMA
(https://alptkptm.org/)
The Association of Educational Institution of Muhammadiyah-Aisyiyah

, (SCOPUS ID: 57218893299) Faculty of Education, National University of Malaysia (UKM), Malaysia

» Fauziah Abdul Rahim (javascript:openRTWindow('https://journals.ums.ac.id/index.php/ijolae/about/editorialTeamBio/448035'))
, (SCOPUS ID: 56038202600) Faculty of Education, Universiti Utara Malaysia, Malaysia

» Assoc. Prof. Dr Mohd Zailani Mohd Yusoff (javascript:openRTWindow('https://journals.ums.ac.id/index.php/ijolae/about/editorialTeamBio/108528'))
, (SCOPUS ID: 55604384200), Universiti Utara Malaysia,, Malaysia

» Charles Olubode Olumorin (javascript:openRTWindow('https://journals.ums.ac.id/index.php/ijolae/about/editorialTeamBio/465885'))
, University of Ilorin, Nigeria

» Prof. Dr. Anam Sutopo (javascript:openRTWindow('https://journals.ums.ac.id/index.php/ijolae/about/editorialTeamBio/108491'))
, (SCOPUS ID: 57201580362, Sinta ID: 6105260) Faculty of Teacher Training and Education, Universitas Muhammadiyah Surakarta, Indonesia

» Laili Etika Rahmawati (javascript:openRTWindow('https://journals.ums.ac.id/index.php/ijolae/about/editorialTeamBio/184'))
, (SCOPUS ID: 57202219184) Universitas Muhammadiyah Surakarta, Indonesia

» Yulia Maftuhah Hidayati (javascript:openRTWindow('https://journals.ums.ac.id/index.php/ijolae/about/editorialTeamBio/604'))
, (SCOPUS ID: 57203591147, SINTA ID: 5988139) Department of Elementary School Teacher Education, Universitas Muhammadiyah Surakarta, Indonesia

» Anatri Desstya (javascript:openRTWindow('https://journals.ums.ac.id/index.php/ijolae/about/editorialTeamBio/991'))
, (SCOPUS ID 57209619245) Department of Elementary School Teacher Education, Faculty of Teacher Training and Education, Universitas Muhammadiyah Surakarta, Indonesia, Indonesia

Section Editor

Universities (ALPTK-PTMA)

Asosiasi LPTK PTMA

(https://alptkptm.org/)

(http://profunedu.id/colla

Progressive and Fun

Education

Conference

(http://profunedu.id/collaborati

Accredited

Certificate

(https://drive.google.com/file/d

q8F24rWwU15872-

usp=sharing)

Relawan Jurnal

Indonesia

(https://relawanjurnal.id)

Indexed By

(https://doaj.org/toc/265

2804?

» Naufal Ishartono (javascript:openRTWindow('https://journals.ums.ac.id/index.php/ijolae/about/editorialTeamBio/1378'))
, (ID SINTA: 5998805, Scopus ID: 57209476650), Department of Mathematics Education, Faculty of Teacher Training and Education, Universitas Muammadiyah Surakarta, Indonesia

» Koesoemo Ratih, Ph.D. (javascript:openRTWindow('https://journals.ums.ac.id/index.php/ijolae/about/editorialTeamBio/1185'))
, (SCOPUS ID: 100640250, ID SINTA: 6020516) Faculty of Teacher Training and Education, Universitas Muhammadiyah Surakarta, Indonesia

» Dipa Nugraha (javascript:openRTWindow('https://journals.ums.ac.id/index.php/ijolae/about/editorialTeamBio/1[illegible]'))
, (ID SINTA = 6684674) (SCOPUS ID = 56054682300) Universitas Muhammadiyah Surakarta, Indonesia, Indonesia

» Wibowo Heru Prasetiyo (javascript:openRTWindow('https://journals.ums.ac.id/index.php/ijolae/about/editorialTeamBio/104564'))
, (ID SINTA : 6042199) (SCOPUS ID : 57190020806) (Researcher ID : N-4711-2017), Department of Civics Education, Universitas Muhammadiyah Surakarta, Indonesia

» Muhammad Fahmi Johan Syah (javascript:openRTWindow('https://journals.ums.ac.id/index.php/ijolae/about/editorialTeamBio/101054'))
, (ID SINTA: 6012448) (ID SCOPUS:57208753381). Department of Accounting Education, Faculty of Teacher Training and Education, Universitas Muhammadiyah Surakarta

Administration

» Muhammad Syahriandi Adhantoro (javascript:openRTWindow('https://journals.ums.ac.id/index.php/ijolae/about/editorialTeamBio/[illegible]'))
, (SCOPUS ID: 57213146074) Education Faculty, Universitas Muhammadiyah Surakarta, Indonesia

» Farizky Rahman (javascript:openRTWindow('https://journals.ums.ac.id/index.php/ijolae/about/editorialTeamBio/120701'))
, Office of Publication and Text-book Development, Universitas Muhammadiyah Surakarta

source=%7B%22query%2
920X%22%2C%222656-
2804%22%5D%7D%7D%

(http://sinta.ristekbrin.go
id=6734)

(https://scholar.google.co
hl=en&user=NrFstBcAAA

(https://garuda.kemdikbu

(https://search.crossref.or
q=IJOLAE)

(https://portal.issn.org/ap
search[]=MUST=default=ij

(https://www.base-
search.net/Search/Results
type=all&lookfor=Indones

(http://www.sindexs.org/
ID=5957)

(http://journalseeker.rese
2804)

(http://onesearch.id/Sear
filter[]=repoId:IOS6925)

» Agam Akhmad Syaukani (javascript:openRTWindow('https://journals.ums.ac.id/index.php/ijolae/about/editorialTeamBio/101065'))
, (ID SINTA: 6677676), Department of Sports and Recreation Education, Faculty of Teacher Training and Education, Universitas Muhammadiyah Surakarta, Indonesia

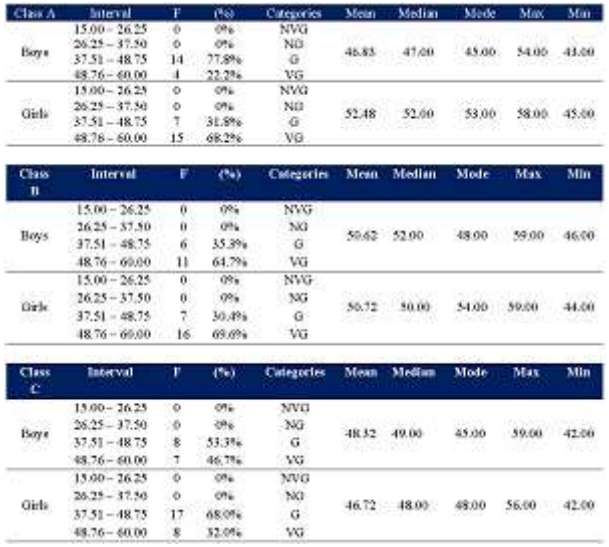
IJOLAE
Indonesian Journal on Learning and Advanced Education
p-ISSN 2655-920x
e-ISSN 2656-2804

Vol. 4, No. 2, May 2022

Volume 4 Number 2 issued 6 articles contributed from several countries. The articles has been online published since 01 May 2022. **The author geographical coverage: Australia, Indonesia, Malaysia, Nigeria, Saudi Arabia**

Table of Contents

Research Articles



Class A	Interval	F	(%)	Categories	Mean	Median	Mode	Max	Min
Boys	15.00 – 26.25	0	0%	NVG	46.83	47.00	45.00	54.00	43.00
	26.25 – 37.50	0	0%	NG					
	37.51 – 48.75	14	77.8%	G					
	48.76 – 60.00	4	22.2%	VG					
Girls	15.00 – 26.25	0	0%	NVG	52.48	52.00	53.00	58.00	45.00
	26.25 – 37.50	0	0%	NG					
	37.51 – 48.75	7	31.8%	G					
	48.76 – 60.00	15	68.2%	VG					

Class B	Interval	F	(%)	Categories	Mean	Median	Mode	Max	Min
Boys	15.00 – 26.25	0	0%	NVG	50.62	52.00	48.00	59.00	46.00
	26.25 – 37.50	0	0%	NG					
	37.51 – 48.75	6	35.3%	G					
	48.76 – 60.00	11	64.7%	VG					
Girls	15.00 – 26.25	0	0%	NVG	50.72	50.00	54.00	59.00	44.00
	26.25 – 37.50	0	0%	NG					
	37.51 – 48.75	7	30.4%	G					
	48.76 – 60.00	16	69.6%	VG					

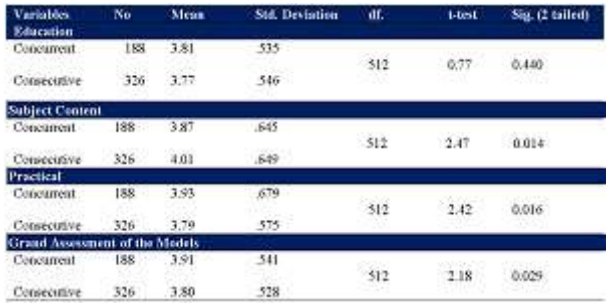
Class C	Interval	F	(%)	Categories	Mean	Median	Mode	Max	Min
Boys	15.00 – 26.25	0	0%	NVG	48.32	49.00	45.00	59.00	42.00
	26.25 – 37.50	0	0%	NG					
	37.51 – 48.75	8	53.3%	G					
	48.76 – 60.00	7	46.7%	VG					
Girls	15.00 – 26.25	0	0%	NVG	46.72	48.00	48.00	56.00	42.00
	26.25 – 37.50	0	0%	NG					
	37.51 – 48.75	17	68.0%	G					
	48.76 – 60.00	8	32.0%	VG					

(https://journals.ums.ac.id/index.php/ijolae/article/view/16610)

Innovative Learning: Gender Perception of e-Module Linear Equations in Mathematics and Physics (https://journals.ums.ac.id/index.php/ijolae/article/view/16

Dwi Agus Kurniawan (https://sinta3.kemdikbud.go.id/authors/profile/6126143) Faculty of Tea Training and Education, Universitas Jambi, Indonesia,
Astalini Astalini (https://sinta3.kemdikbud.go.id/authors/profile/6646381) Faculty of Tea Training and Education, Universitas Jambi, Indonesia,
Darmaji Darmaji (https://sinta3.kemdikbud.go.id/authors/profile/6646279) Faculty of Tea Training and Education, Universitas Jambi, Indonesia,
Tanti Tanti (https://sinta3.kemdikbud.go.id/authors/profile/613154 Faculty of Tarbiyah and Teacher Training, Universitas Islam Negeri Su Thaha Saifuddin Jambi, Indonesia,
Shella Maryani (http://orcid.org/0000-0002-5043-4830) Faculty Teacher Training and Education, Universitas Jambi, Indonesia

10.23917/ijolae.v4i2.16610 (http://dx.doi.org/10.23917/ijolae.v4i2.16610



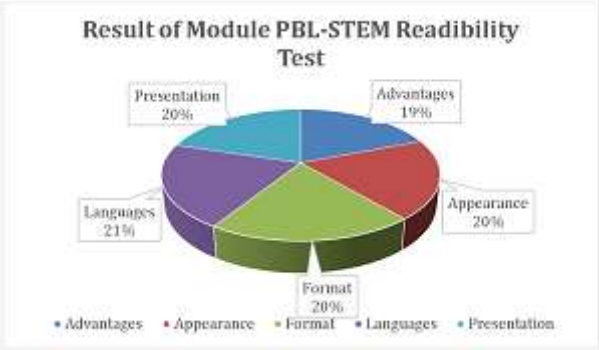
Variables	No	Mean	Std. Deviation	df.	t-test	Sig. (2 tailed)
Education						
Concurrent	188	3.81	.535	512	0.77	0.440
Consecutive	326	3.77	.546			
Subject Content						
Concurrent	188	3.87	.645	512	2.47	0.014
Consecutive	326	4.01	.649			
Practical						
Concurrent	188	3.93	.679	512	2.42	0.016
Consecutive	326	3.79	.575			
Grand Assessment of the Models						
Concurrent	188	3.91	.541	512	2.18	0.029
Consecutive	326	3.80	.528			

(https://journals.ums.ac.id/index.php/ijolae/article/view/17599)

Teachers Evaluation of Concurrent and Consecutive Teacher Education Models in South-west, Nigeria (https://journals.ums.ac.id/index.php/ijolae/article/view/1

Hamdallat Taiwo Yusuf (https://scholar.google.com/citations?user=4RIYOKEAAAAJ&hl=en) University of Ilorin, Nigeria

10.23917/ijolae.v4i2.17599 (http://dx.doi.org/10.23917/ijolae.v4i2.17599



(https://journals.ums.ac.id/index.php/ijolae/article/view/15980)

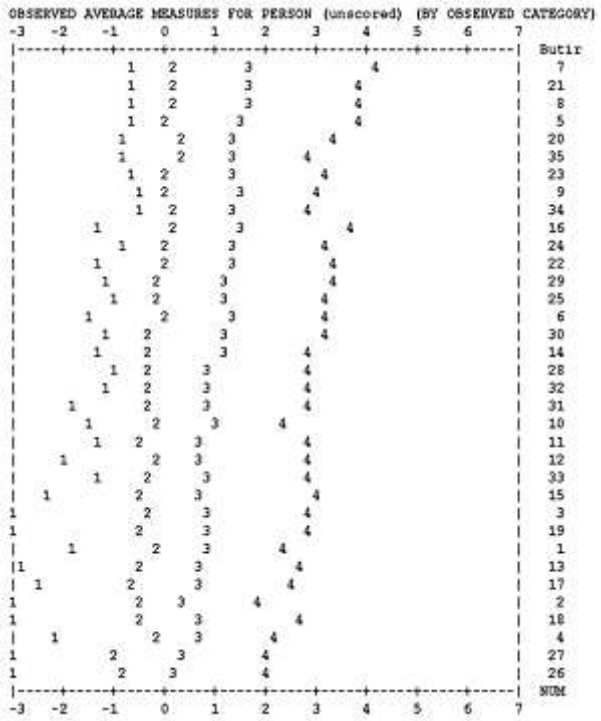
PBL-STEM Modul Feasibility Test for Preservice Biolc Teacher

(https://journals.ums.ac.id/index.php/ijolae/article/view/15

Endang Setyaningsih (https://sinta3.kemdikbud.go.id/authors/profile/6603319) Faculty of Tea Training and Education, Universitas Muhammadiyah Surakarta, Indonesia, Indonesia,
Putri Agustina (https://sinta3.kemdikbud.go.id/authors/profile/598 Faculty of Teacher Training and Education, Universitas Muhammadiy Surakarta, Indonesia, Indonesia,
Sofyan Anif (https://sinta3.kemdikbud.go.id/authors/profile/59871 Faculty of Teacher Training and Education, Universitas Muhammadiya Surakarta, Indonesia, Indonesia,
Che Nidzam Che Ahmad (https://www.scopus.com/authid/detail.u authorId=55130203600) Faculty of Science and Mathematics, Univers Pendidikan Sultan Idris, Malaysia,
Iyan Sofyan (https://sinta3.kemdikbud.go.id/authors/profile/6194 Faculty of Teacher Training and Education, Universitas Ahmad Dahlan, Indonesia,
Alanindra Saputra (https://sinta3.kemdikbud.go.id/authors/profile/5978390) Faculty of Tea Training and Education, Universitas Sebelas Maret, Indonesia,
Wan Nasriha Wan Mohamed Salleh Faculty of Science and Mathematics, Universiti Pendidikan Sultan Idris, Malaysia,
Destama Einstein Shodiq Faculty of Teacher Training and Educat Universitas Muhammadiyah Surakarta, Indonesia, Indonesia,
Sania Rahayu Faculty of Teacher Training and Education, Univers Muhammadiyah Surakarta, Indonesia, Indonesia,
Muhammad Luthfi Hidayat (https://www.scopus.com/authid/deta

authorId=57211269706) Faculty of Computer and Information Techno
King Abdulaziz University, Saudi Arabia

10.23917/ijolae.v4i2.15980 (http://dx.doi.org/10.23917/ijolae.v4i2.15980



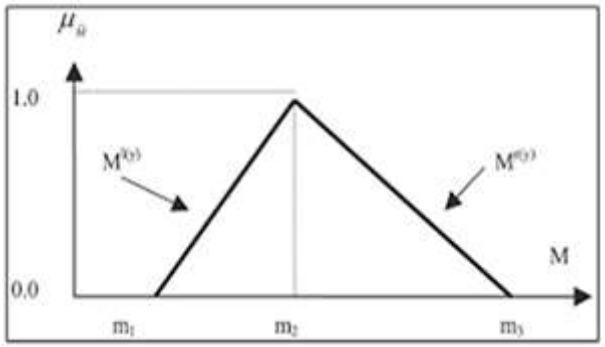
(https://journals.ums.ac.id/index.php/ijolae/article/view/17113)

The Innovation and the Transformation of Indonesian Schools Accreditation Management System (https://journals.ums.ac.id/index.php/ijolae/article/view/17

Budi Susetyo (https://sinta3.kemdikbud.go.id/authors/profile/617
Faculty of Mathematic and Science, IPB University, Faculty of Teacher
Training and Education, STKIP Muhammadiyah Bogor, Indonesia,
Sylvia P. Soetantyo Faculty of Education, STAK Negeri
Kupang, Indonesia,
Muhammad Sayuti
(https://sinta3.kemdikbud.go.id/authors/profile/23073) Faculty of Teach
Training and Education, Universitas Ahmad Dahlan, Indonesia,
Darfiana Nur Faculty of Science and Engineering, Curtin
University, Australia

(https://drive.google.com/file/d/1IMP5Sd
q8F24rWwU15872-OEdqNOr_Q8/view?
usp=sharing)

10.23917/ijolae.v4i2.17113 (http://dx.doi.org/10.23917/ijolae.v4i2.17113



(https://journals.ums.ac.id/index.php/ijolae/article/view/16930)

The Methodology of Developing the Urban Heat Islar module on the Achievements and Collaboration Skills High School Students in Surakarta (https://journals.ums.ac.id/index.php/ijolae/article/view/1

Siti Azizah Susilawati
(https://sinta3.kemdikbud.go.id/authors/profile/6709539) Faculty of Tea
Training and Education, Universitas Muhammadiyah Surakarta, Fakult
Sains Kemanusiaan, Universiti Pendidikan Sultan Idris, Malaysia,
Mohd Hairy Ibrahim (https://www.scopus.com/authid/detail.uri?

authorId=55497320300) Fakulti Sains Kemanusiaan, Universiti Pendic
Sultan Idris, Malaysia,
Nor Kalsum binti Mohd Isa (https://www.scopus.com/authid/deta
authorId=56800348900) Fakulti Sains Kemanusiaan, Universiti Pendic
Sultan Idris, Malaysia,
Norwaliza Abdul Wahab (https://www.scopus.com/authid/detail.u
authorId=57192986602) Fakulti Sains Kemanusiaan, Universiti Pendic
Sultan Idris, Malaysia,
Muhammad Musiyam
(https://sinta3.kemdikbud.go.id/authors/profile/6124010) Faculty of Tea
Training and Education, Universitas Muhammadiyah Surakarta, Indon
Agus Herianto (https://sinta3.kemdikbud.go.id/authors/profile/60
Faculty of Teacher Training and Education, Universitas Muhammadiy
Mataram, Indonesia,
Nurin Rochayati
(https://sinta3.kemdikbud.go.id/authors/profile/6766722) Faculty of Tea
Training and Education, Universitas Muhammadiyah Mataram, Indone

10.23917/ijolae.v4i2.16930 (http://dx.doi.org/10.23917/ijolae.v4i2.16930

Category									
Interval	Attitude	Gender		Total	Mean	Min	Max	Median	%
56 – 58	Very Not Good	1F	-	1					4,34
59 – 62	Bad	2F	1M	3					13,04
63 – 65	Enough	3F	1M	4	65.8	56	71	64.7	17,39
66 – 68	Good	4F	4M	8					34,78
69 – 71	Excellent	4F	3M	7					30,43
Total		14	9	23					100

Category									
Interval	Attitude	Gender		Total	Mean	Min	Max	Median	%
62 – 67	Very Not Good	1F	1M1M	2					
68 – 73	Bad	1F	1M	2					
74 – 79	Enough	1F	3M	2	86.5	62	91	83.32	
80 – 85	Good	3F	5M	6					
86 – 91	Excellent	4F		9					
Total		10	11	21					100

(https://journals.ums.ac.id/index.php/ijolae/article/view/17068)

The Influence of Application of Local-wisdom-based Modules toward Peace-loving Characters of Element School Students (https://journals.ums.ac.id/index.php/ijolae/article/view/17

Asrial Asrial (https://sinta3.kemdikbud.go.id/authors/profile/6024
Faculty of Teacher Training and Education, Universitas Jambi, Indones
Syahrial Syahrial
(https://sinta3.kemdikbud.go.id/authors/profile/6025937) Faculty of Tea
Training and Education, Universitas Jambi, Indonesia,
Dwi Agus Kurniawan

(https://sinta3.kemdikbud.go.id/authors/profile/6126123) Faculty of Teacher Training and Education, Universitas Jambi, Indonesia
Alirmansyah Alirmansyah (https://sinta3.kemdikbud.go.id/authors/profile/6126123) Faculty of Teacher Training and Education, Universitas Jambi, Indonesia
Muhammad Sholeh (https://sinta3.kemdikbud.go.id/authors/profile/6779033) Faculty of Teacher Training and Education, Universitas Jambi, Indonesia
Muhammad Dewa Zulkhi Faculty of Teacher Training and Education, Universitas Jambi, Indonesia

10.23917/ijolae.v4i2.17068 (http://dx.doi.org/10.23917/ijolae.v4i2.17068)

IJOLAE Indonesian Journal on Learning and Advanced Education

http://journals.ums.ac.id/index.php/ijolae

The Innovation and the Transformation of Indonesian Schools Accreditation Management System

Budi Susetyo[1], Sylvia P. Soetantyo[2], Muhammad Sayuti[3], Darfiana Nur[4]
[1]Faculty of Mathematic and Science, IPB University, Indonesia
[1]Faculty of Teacher Training and Education, STKIP Muhammadiyah Bogor, Indonesia
[2]Faculty of Education, STAK Negeri Kupang, Indonesia
[3]Faculty of Teacher Training and Education, Universitas Ahmad Dahlan, Indonesia
[4]Faculty of Science and Engineering, Curtin University, Australia

DOI: 10.23917/ijolae.v4i2.17113
Received: January 12nd, 2022. Revised: April 20th, 2022. Accepted: April 23rd, 2022
Available Online: May 1st, 2022. Published Regularly: May 1st, 2022

Abstract

All schools at the primary and secondary education levels in Indonesia must be accredited. An independent body called the National Accreditation Board for Schools/Madrasah (BAN-S/M) as an external quality assurance agency, accredits schools throughout Indonesia. Since 2005, the percentage of schools accredited in levels A and B has always increased from year to year based on the accreditation results. However, the improvement of school quality based on accreditation did not strongly correlate with the national exam and PISA results. This article discusses the facts of the experience of implementing accreditation for 15 years which became the basis for accreditation reform in Indonesia. BAN-S/M started the reformation in 2020 with three fundamental changes. First, the change in the accreditation instrument from compliance-based to performance-based. Second, the recruitment of new assessors based on cognitive competence and personality. Third, the changes of the accreditation business process through the dashboard monitoring system that will select schools with automatic accreditation extensions without visitation and schools that assessors must visit. Implementation of innovation and accreditation management reform can reduce accreditation costs by more than 60% and is expected to increase the accuracy of school quality assessment results. The findings strengthen the current transformation to the new, more efficient, rational accreditiation management system for schools/madrasah.

Keywords: cognitive competence, dashboard monitoring system, educational accreditation management system, innovation management reform

Corresponding Author:
Budi Susetyo, Faculty of Mathematic and Science, IPB University, Indonesia
Email: budisu@apps.ipb.ac.id

1. Introduction

The Indonesian constitution guarantees that every citizen has the same right to obtain quality education in accordance with the national education standards set by the government. One of the tools to measure the quality of schools at the primary and secondary education levels is the result of accreditation carried out by an independent body called the National Accreditation Board for Schools and Madrasahs (BAN-S / M). BAN-S / M is established by the government and all activities are financed by the government, but it is independent in determining policies and the results of accreditation.

In Indonesia's regulation, it is mentioned that the government is obliged to accredit all schools, both public and private schools, including madrasas, Islamic religious schools, that provide formal education. Since the

accreditation program was implemented in early 2000 until 2020, the number of schools that had been accredited was 271,654 (98.79%) from a population of 274,979 existing schools (Research, Development, and Books, Ministry of Education and Culture, 2020).

Currently, the certificate of accreditation results is valid for five years, then after the expiration date, schools must be re-accredited. If the accreditation business process goes according to plan, then all schools should have been accredited, some even have been accredited twice or more. However, in reality there are still many schools whose certificates have expired but have not been re-accredited, even more than 1% of schools have never been accredited. Limited budget available to the government is the main reason for this problem.

From 2015 to 2019, the percentage of schools accredited with good (B) and excellent (A) predicate increased (Research & Development, 2018; Research & Development, 2019; Research, Development, and Books, 2020; National Accreditation Board for Schools/Madrassas, 2018; National Accreditation Board for Schools/Madrassas, 2019). However, the increase in the percentage of schools that are ranked A and B is not parallel with both national and international indicators of school quality. The average result of the Indonesian standardized computer-based exam (UNBK) for the final grade of junior and senior high school students has decreased from 2015 to 2018. Besides that national exam, the results of the Program for International Student Assessment (PISA) showed that the achievement scores for the last 20 years have been very fluctuating, with a weak increasing trend. The 2018 PISA results showed that the science achievement scores in the period of 2000-2018 have practically not improved. The literacy component has increased with a peak in 2009, which then fell back in 2018 (Figure 1).

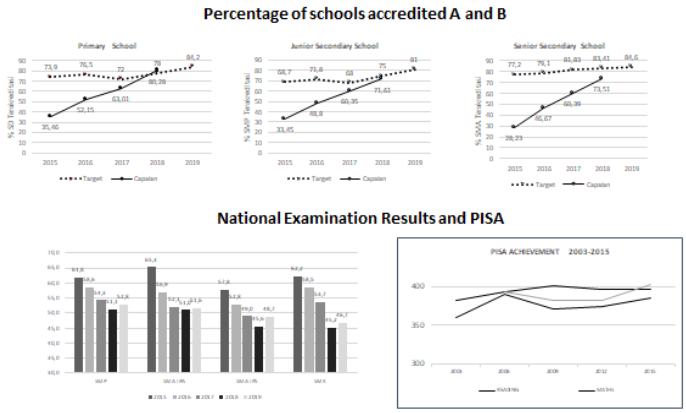


Figure 1. Accreditation Progress, National Exam, and PISA Results

The inconsistency between the results of the accreditation with the results of UNBK and PISA, as well as the inefficient and ineffective implementation of the accreditation process raised up some questions are: (a) how is the validity of accreditation instrument; (b) how are the credibility and qualification of the assessors (Hendarman, 2013); and (c) how can the accreditation process be more efficient and effective, but still accountable.

Based on those facts above, the National Accreditation Board for Schools and Madrassas concludes that it is necessary to reform the business process of accreditation. An in-depth analysis of: (i) the relationship between the results of accreditation and other quality

indicators, (ii) the validity and reliability of accreditation instrument used, and (iii) the effectiveness and efficiency of ongoing accreditation implementation should be done first. The method used is through literature studies, empirical data analysis, and focus group discussions with experts in the field of education.

In this article, the results of a literature review and analysis of empirical data that underlie the accreditation reformation were discussed, then the concept of school accreditation reformation will be presented at the end.

2. Method

a. Accreditation Versus National Examination

The results of accreditation and national examinations are used by the Indonesian government to map the quality of school education. As part of the quality assurance system, the results of accreditation can be used to map quality between regions, between levels of education and between school statuses. Ferezagia et al (2015) concluded that the average quality of senior high schools (SMA) in the provinces of DI Yogyakarta, DKI, West Java, Central Java and East Java was better than other provinces, while the quality of SMA in the provinces of North Maluku, West Papua, West Sulawesi, NTT, and Jambi was low in quality. Nationwide public SMAs and public senior high Madrassas (MA) had good quality on average, private SMAs had medium quality, while private MAs had low quality. Lase et al (2016) in their research concluded that vocational schools (SMK) in the provinces of Bali, DKI, DI Yogyakarta, West Java and Riau on average had good quality, while SMKs in West Sulawesi, West Kalimantan and NTT were low in quality. This study also concluded that public SMKs were better in quality than private ones. For the primary (SD) level, Novidtri (2015) concluded that private SD and public primary Madrassas (MI) on average had better quality than public SDs and private MIs. Results of the mapping of the quality of education between provinces and between school status based on this research seemed to be in accordance with the general view of the community and education observers.

The correlation between accreditation results and national examinations has also been widely studied. Setiawan et al (2018) and Fadhillah (2019) concluded that the correlation between the accreditation results of eight national standards (SNP) with the results of four subjects in the national exam (UNBK) at the junior high schools (SMP)/junior high madrassas (MTs) ranged between 0.27 and 0.52. Only the standard of facilities and infrastructure (SSP) had a correlation of above 0.4 (Table 1).

Table 1. Correlation between 8 National Standards (SNP) with Computer-Based National Exam Scores (UNBK)

	BIN	ING	MAT	IPA
SI	0.430	0.310	0.320	0.359
SPR	0.446	0.368	0.357	0.396
SKL	0.469	0.397	0.375	0.413
SPT	0.342	0.290	0.292	0.324
SSP	0.518	0.421	0.414	0.453
SPL	0.450	0.363	0.360	0.403
SB	0.358	0.266	0.269	0.301
SPN	0.421	0.360	0.351	0.376

Although the correlation between the accreditation results and the national examinations for the four subjects was low, there was a positive trend between the accreditation rank (A, B, C, Not Accredited) and the average UN score. The lower the accreditation rank, the lower the UNBK average score (Figure 2). Based on research by Ardiana et al (2019) at the SMA/MA, it even showed that the correlation between the eight SNPs and the UNBK scores of the three subjects tested (Indonesian, English and Mathematics) was lower than that of the SMP/MTs, which ranged from 0.18 and 0.50. Thus, with the empirical facts from the results of the data analysis, it is reasonable to ask which of the two indicators is more accurate in describing the quality of school education.

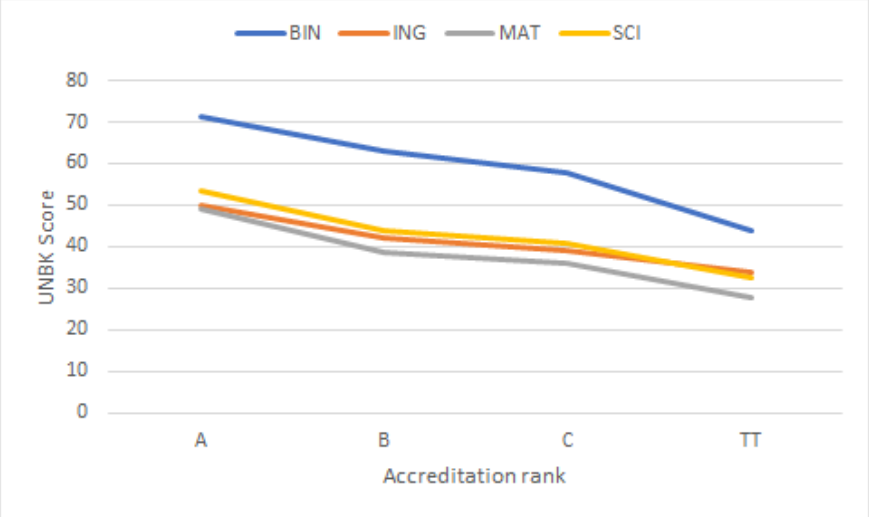


Figure 2. Trend of Accreditation Ranks and Average UNBK Scores for SMP/MTs

b. Accreditation Instrument Validity

The accreditation instrument used by the National Accreditation Board for Schools and Madrassas (BAN-S/M) has undergone several changes. The last accreditation instrument used until 2019 had 119 items for SD/MI, 124 items for SMP/MTs, 129 items for SMA/MA) and 133 items for SMK. The assessment of the results of the accreditation of each school was carried out by two assessors through direct visitations to the school for two days. The characteristics of the statement items in the accreditation instrument were mostly quantitative and compliance based.

The research results of Setiawan (2018) and Setiawan et al (2018) concluded that there were 11 invalid statements in the SMP's/MTs' accreditation instrument. In fact, Susetyo's and Rezy's research (2021) states that there were 15 invalid statements. Ramadhan et al (2021) concluded that only 15 items in the accreditation instruments had a very big influence on classifying the quality of SMA/MA education. Hijrah et al (2018) concluded that there were 3 invalid statements in the vocational schools'/ SMKs' accreditation instrument.

Based on the results of analysis and discussions with education experts, BAN-S/M decided to carry out accreditation reformation. One of the implications of this reformation is the refocusing of accreditation, namely shifting the focus of accreditation to ensure follow-up on accreditation results can be carried out effectively to improve the quality of learning in schools. Efforts to refocus accreditation have several policy implications. First, it must change the accreditation instrument from a compliance-based measurement to a performance-based measurement. Second, selecting and improving the competence of quality and credible assessors. Third, make changes to the accreditation system business process so that it emphasizes and prioritizes follow-up aspects of the accreditation results rather than administrative activities in preparation for accreditation.

c. The Change of Accreditation Instrument

The formulation of new accreditation instruments for schools in Indonesia is based on philosophical, sociological, legal and public policy foundations. Blind (2017) and Sallis (2011) state that schools as educational institutions must provide accountable services to 3 types of customers, namely: primary customers (teachers and education personnel), secondary (students) and tertiary (parents and public). The expectations of parents and society are that schools can produce graduates who are honest, smart, tough, and caring (Duckworth, 2017; Evidiasari et al, 2019; Lim Siong Guan, 2018). Regarding services to students, schools are expected to provide a good educational process, namely the teaching-learning process and school culture. Th school culture is a dominant factor in shaping student character (Lickona, 2007; Zampetakis 2008). Teachers' and other staff's satisfaction can be achieved if school leaders can build up a common vision, mission, and increase motivation in working so that the educational services can be done well (Senge, 2012). An important sociological foundation is the understanding that schools are a social system, because there is a close relationship between school goals and community expectations (Turkkahraman, 2015). Therefore, the accreditation instrument should gather information from community whether or not their expectations have been done by the school. Heywood (2007) in his research on university accreditation concluded that measuring quality through a performance-based approach guarantees the continuity of quality improvement, while rule-based (compliance based) does not. BAN-S/M believes that the results of Heywood's research at the tertiary level are suitable to be applied in primary and secondary schools.

Based on various references and discussions with educational experts, BAN-S/M determines four main components that are used as the basis for evaluating performance indicators in school accreditation, namely: (i) quality of graduates, (ii) learning process, (iii) quality of teachers and (iv) school management. Several indicators classified as compliance are also

measured, but they have relatively small weight compared to the four performance indicators in determining the final result of the accreditation ranking. The framework and the relationship between the components in the new accreditation instrument (hereinafter referred to as IASP 2020) is presented in Figure 3. Based on this framework, further compilation of statement items is carried out based on theory, research results, and justification from educational experts.

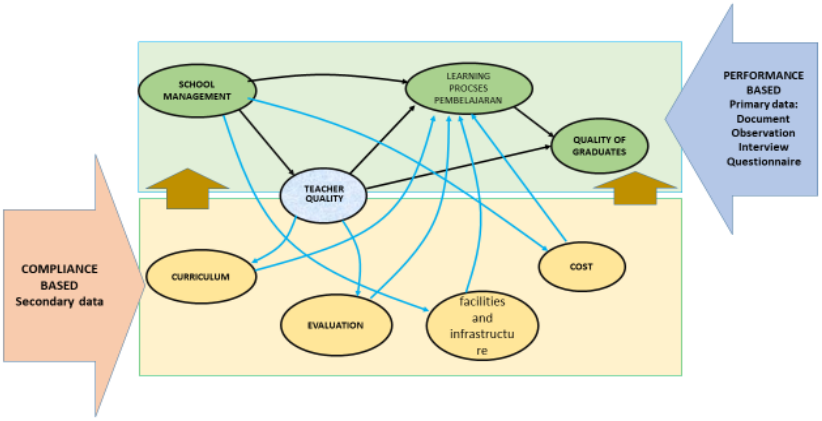


Figure 3. The Framework of IASP 2020

Darling-Hammond and Adamson (2010) indicated that in the era of the development of information technology, the needs of students not only add information and knowledge, but also how they are able to manage it, have the ability to analyze, synthesize, apply what they have learned, solve problems, design solutions, and communicate effectively. Likewise, Bialik et al (2015) stated that the quality of 21st century graduates must have abilities in four domains, namely knowledge, skills, charac-ter, and metacognition.

In the component of teacher quality and the learning process, Jan (2017) argued that to produce qualified graduates according to the 21st century, teachers need knowledge, skills, and behavioral approaches that are different from the past. Apart from fulfilling the quality of being effective teachers, they are also required to develop a global mindset; have sensitive attitudes to cultural differences and diversity; able to use technology; build relationships outside the classroom; and be able to build mutual learning attitudes with their students. Various studies have shown that the quality of teaching determines the quality of learning achieved by students. The teacher as the learning leader must always have the opportunity for self-development.

Eyal & Kark (2004), Leithwood & Day (2008), Kuratko (2007) and Gupta et al (2004) described the importance of management in schools on the quality of graduates. Eyal & Kark (2004) stated that the entrepreneurial competence of school principals allows them to make big changes in school. Leithwood & Day (2008) explained that the principal has a great influence on the quality of students, either directly or indirectly. The principal must have a proactive, innovative attitude and the ability to take risks. This indicates the need for the concept of entrepreneur at the personal and organizational level (Kuratko, 2007; Gupta et al., 2004). Proactive behavior is actively taking action for the benefit of the future. Innovative attitude is the ability and potential to always think creatively and develop new ideas related to identifying opportunities, exploiting resources and

solving problems (Chen, 2007; Gupta et al., 2004; Samsudin et al, 2022).

Based on theories, research results, discussions with education and trial experts, BAN-S/M established 35 core statements in IASP 2020 for all levels of education. On top of that, there were some special statements for primary, special needs, and vocational schools. For primary school and madrassa, there was only one additional special statement. Vocational schools have 9, and special needs schools have 5 additional special statements. The 35 core statements consists of 11 items of graduate quality components, 7 items of learning process components, 4 items of teacher quality components and 13 items of management components.

3. Result and Discussion

a. Results of the analysis of the validity and reliability of the IASP2020

Before it was officially ratified, BAN-S/M conducted a trial of the IASP2020 draft in 561 schools in 34 provinces. Samples were selected by multi-stage stratified random sampling, covering all levels, and varying according to status (public / private) and location (urban / rural). Analysis of the experimental data was carried out using the classical method item analysis method and the Rasch model (Crocker & Algina, 1986, Blanchin & Hardouin, 2011). The results of the analysis produced a total reliability index of 0.967, while the reliability per component was 0.886 for the graduate quality component, 0.891 for the learning process component, 0.836 for the teacher quality component and 0.932 for the school management component. So it can be concluded that the IASP 2020 instrument is very reliable. All items have a different power that is above the expected value (r> 0.30), meaning that all items have a fairly good performance in differentiating school performance.

From the Rasch model, the INFIT index value is obtained from 0.5 to 1.50, which indicates that all items have high accuracy. In addition, the Rasch model evaluates the order of performance levels (1,2,3,4) for each item whose results are shown in Figure 4. From this figure it can be concluded that all IASP 2020 items have a performance level in accordance with the sequence. In Figure 4, it can be seen that all items have four answer choices as indicated by the scores level 1 to 4, where level 1 is always on the left end, while level 4 is located on the far right. This shows that schools that get level 1 are schools that have low performance while schools that have a score of level 4 have high performance. However, it is recognized that on certain points, assessors have difficulty distinguishing between level 1 and level 2. From the Rasch model obtained item reliability r = 0.99 and school reliability r = 0.96. It can be interpreted that the IASP 2020 items are stable (r> 0.9). The results of school reliability show consistent results, meaning that schools that have good quality will still produce the same conclusions even though the measurements are made at different times, assuming that school conditions remain.

Based on the analysis of the trial results which concluded that the IASP 2020 draft was valid and reliable, then the Ministry of Education and Culture determined that the 2020 IASP was a new instrument for school accreditation to be used starting in 2020.

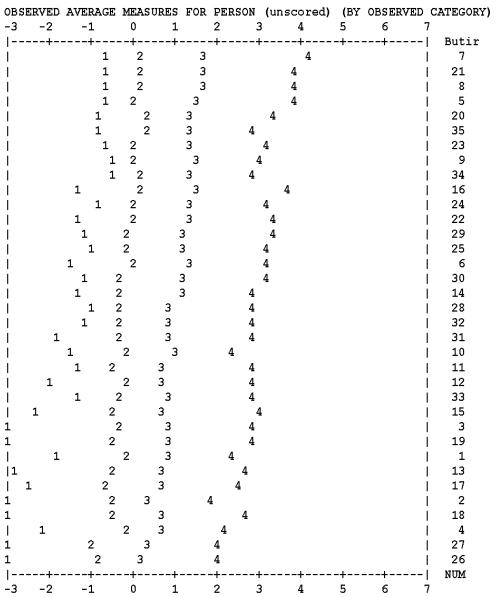


Figure 4. IASP 2020 Item Performance Level Sequence Distribution

b. Assessors Competencies Selection and Improvement

The characteristic of IASP 2020 is to assess the quality of schools based on their performances, so assessors with better competencies are needed. The criteria for assessors include having good skills in gathering information during a visitation through interviews, observations, document reviews and questionnaires. From the information obtained, assessors should be able to draw an accurate conclusion about the description of a school, to make professional judgment in determining the performance level, and eventually to provide good quality of recommendations for school.

At the end of 2019, the number of assessors owned by BAN S/M was around 18 thousand people spread throughout Indonesia. This number is quite a lot compared to 50,000 schools that must be accredited every year. However, it is believed that the existing assessors did not fully meet the criteria in accordance with IASP 2020. As part of the accreditation's reformation, BAN-S/M selected the existing assessors in a 3-step screening process. The first step was the so-called administration screening which was based on health, age, previous performance, and work background. Out of 18,000 assessors, there were 10,700 of them who passed the first step. For the second step, the 10,700 assessors should take a personality, an integrity, IT skills, and a scholastic aptitude test. The result was 38.5% of them passed. After passing those tests, the prospective assessors should do the third stage of screening process which was a five-day training and a final exam at the end of the training. At the end, BAN S/M got 3,721 assessors who passed the 3-step screening process and were eligible to assess schools using IASP2020.

c. Reformation of the Accreditation Business Process

Another reformation of accreditation is the change of the accreditation business process for efficiency and effectiveness. The results of the accreditation data analysis for the last 15 years had also become one of the reasons of changes in the accreditation business process. In the new accreditation, not all schools should follow the reaccreditation process anymore when their

accreditation certificate has expired. The analysis results of 63,934 schools from 2005 to 2019 that had been accredited more than once, showed:

a. Schools that received level A in the first accreditation, 67.6% were still on level A, while 32.4% were below A.
b. Schools that received level B in the first accreditation, 72.8% were still on level B while 19.0% increased to level A, and 8.2% were below level B.
c. Schools that received level C in the first accreditation, 35.5% were still on level C, while 63.1% increased to level A or B, and 1.4% were below level C.
d. Schools that did not pass the accreditation process in the first accreditation, 13.2% remained unaccredited and 86.8% increased to level A, B or C.

Overall, it can be concluded that there were 64.2% of schools whose accreditation results remained the same as the previous results, 22.3% increased and 13.5% decreased (Table 2). This finding was one of the arguments that the results of the next five years of accreditation can be predicted with a statistical model based on the development of school performances after the previous accreditation. The challenge is how to obtain a model that is accurate enough to produce a school performance scorecard every year based on data from schools that have been entered into the current system.

Table 2. The change from the first accreditation status to the second one

1st Accred	2nd Accred (next 5 years)				Total (%)	Total (schools)
	A	B	C	NA		
A	**67.6%**	28.1%	4.0%	0.3%	100.0%	17337
B	19.0%	**72.8%**	7.8%	0.4%	100.0%	35139
C	4.6%	58.5%	**35.5%**	1.4%	100.0%	9929
NA	2.7%	31.9%	52.2%	**13.2%**	100.0%	1529
Total (schools)	**18884**	**36743**	**7759**	**548**	**63934**	**63934**

Note: NA: Not accredited
Source: processed from BAN-S/M data

Based on the empirical data analysis and several other considerations to run effectively and efficiently, the accreditation business process in the future will be carried out through a dashboard monitoring system. The dashboard monitoring system will detect school performance every year after accreditation is carried out. The dashboard system will issue a quality performance index (score card) per year predicted from statistical models using data/indicators that are routinely reported by schools. The dashboard monitoring process is carried out with an automatic mechanism and does not involve assessors to prevent conflicts of interest. The dashboard will automatically show schools with an indication of an increase, decrease or constant in quality based on performance indicators every year. If the dashboard results show that the school's performance is steady, then its accreditation status will be automatically renewed with the same rating as the previous result. Schools that have been accredited can be re-accredited for three reasons: (1) a request from the school that believes its performances have improved and have been verified based on the dashboard; (2) verified community reports of a decline in school performances; and (3) warning from the dashboard system that there has been a decline in school performances.

With those changes in the accreditation process, most schools can be accredited automatically without should be visited by the assessors. Furthermore, it will be more efficient and effective, and avoid backlog problems like what is happening today.

4. Conclusion

Based on analysis of empirical data, education experts' opinions, literatures, and IASP2020 try out, BAN-S/M has carried out the innovation and reformation of school accreditation. The reformation included an instrument change from compliance to performance-based instrument, selection and training of assessors who have good competence, personality and integrity, and changes to more efficient and effective accreditation business processes.

For making this accreditation reformation happen, it is necessary to have consistency between BAN-S/M and the Ministry of Education and Culture to continuously control the reformation's agenda and to improve the current system, because this accreditation reformation certainly cannot be perfect directly in the few years of implementation.

5. Acknowledgement

Thank you to all BAN-S/M members who have helped provide lots of references and data. Thanks also to the ministry of education and culture for providing funds for IASP piloting.

6. References

Agustine, P. Y. (2019). Penerapan Random Forest Ordinal dalam Menentukan Mutu Penciri Akreditasi SMA Berdasarkan Indikator Pemetaan Mutu Pendidikan [Application of Ordinal Random Forest in Determining the Quality of High School Accreditation Characteristics Based on Education Quality Mapping Indicator]. Bachelor degree's thesis. IPB University.

Ardiana, A.S, Indahwati, Susetyo, B (2019). Multivariate Random Forest to Identify the Importance Variable of 8 National Education Standards toward National Examination of Student High School in Indonesia. International Journal of Sciences: Basic and Applied Research (IJSBAR). Global Society of Scientific Research and Researchers (GSSRR). 48(6), 174-183.

Balitbang Kemendikbud. Badan Penelitian dan Pengembangan, Kementerian Pendidikan dan Kebudayaan. (2019). Laporan Kinerja Balitbang Kemendikbud Tahun 2019.

Balitbang dan Perbukuan Kemendikbud. Badan Penelitian Pengembangan dan perbukuan, Kementerian Pendidikan dan Kebudayaan. 2020. Laporan Kinerja Balitbang dan Perbukuan,Kemendikbud Tahun 2020.

BAN-S/M. Badan Akreditasi Nasional Sekolah/Madrasah. 2018. Pedoman Akreditasi Sekolah/Madrasah Tahun 2018.

BAN-S/M. Badan Akreditasi Nasional Sekolah/Madrasah. 2019. Pedoman Akreditasi Sekolah/Madrasah Tahun 2019.

BAN-S/M. Badan Akreditasi Nasional Sekolah/Madrasah. 2020. Pedoman Akreditasi Sekolah/Madrasah Tahun 2020.

Bialik, Maya & Fadel, Charles & Trilling, Bernie & Nilsson, Peter & Groff, Jennifer. (2015). Skills for the 21st Century: What Should Students Learn?.

Blanchin, M., & Hardouin, J.-B. a. (2011). Comparison of CTT and Rasch-based approaches for the analysis of longitudinal Patient Reported Outcomes. Statistics in medicine, 30(8), 825--838. doi:10.1002/sim.4153

Blind, Peride K. (2017). Accountability in Public Service Delivery: A Multidisciplinary Review of the Concept. Retrieved on http://unpan1.un.org/intradoc/groups/pu

blic/ documents/un-dpadm/ unpan046363.pdf.

Crocker, L., & Algina, J. (1986). Introduction to Classical and Modern Test Theory. New York: Harcourt Brace Jovanovich College Publishers.

Darling-Hammond, L & Adamson, F (2010). Beyond basic skills: The role of performance assessment in achieving 21st century standards of learning. Stanford, CA: Stanford University, Stanford Center for Opportunity Policy in Education.

Duckworth, Angela. (2017. Grit: The Power of Passion and Perseverance. New York: Penguin Random House.

Evidiasari, S., Subanji, S., & Irawati, S. (2019). Students' Spatial Reasoning in Solving Geometrical Transformation Problems. *Indonesian Journal on Learning and Advanced Education (IJOLAE),* *1*(2), 38-51. doi:https://doi.org/10.23917/ijolae.v1i2.8703.

Eyal, O., & Kark, R. (2004). How do transformational leaders transform organizations? A study of the relationship between leadership and entrepreneurship. Leadership and Policy in Schools, 3(3), 211–235

Fadhillah, A, F. (2019). Identifikasi Indikator Mutu Penciri Akreditasi Sekolah Jenjang SMP dengan Metode CART dan Regresi Logistik Ordinal [Identification of Quality Indicators for Middle School Accreditation with CART Method and Ordinal Logistics Regression]. Bachelor degree. IPB University.

Ferezagia, D.V., Susetyo, B., Indriyanto, B., & Pajajaran, J. (2015). Generalized Structured Component Analysis (GSCA) for National Education Standards (NES) of secondary school in Indonesia. Global Journal of Pure and Applied Mathematics, 11(4), 2441–2449.

Gupta, V., et.al. (2004). Entrepreneurial leadership: Developing andmeasuring a cross -cultural const ruct. Journal of Business Venturing19: 241–60

Hendarman (2013). Pemanfaatan Hasil Akreditasi dan Kredibilitas Asesor Sekolah/Madrasah: Jurnal Pendidikan dan Kebudayaan [Utilization of Accreditation Results and Credibility of School/Madrasah Assessors. Journal of Education and Culture]. 19(4), 532-542.

Heywood, L.H. (2007). Principles-based accreditation. The way forward? MJA, 186(7), 31-32.

Hijrah, M., Susetyo, B., & Sartono, B. (2018). Structural equation modeling of national standard education of vocational high school using partial least square path modeling. International Journal of Scientific Research in Science, Engineering and Technology, 4(4), 1418–1422.

Jan, H. (2017). Teacher of 21 st Century: Characteristics and Development. Research on Humanities and Social Sciences. 7. 50-54.

Kuratko, D. (2007). Entrepreneurial Leadership in the 21st Century. Journal of Leadership and Organizational Studies, 13(4), 1-11.

Lase, R.L., Susetyo, B., Syafitri U. (2016). Application of Multivariate Exploration Analysis of the Vocational High School Accreditation Data in Indonesia. International Journal of Scientific & Engineering Research, 7(12)

Leithwood, K & Day, C. (2008) The impact of school leadership on pupil outcomes, School Leadership & Management: Formerly School Organisation, 28:1, 1-4, DOI: 10.1080/13632430701799718n

Lickona, Thomas. (2007). Educating Character: How Our Schools Can Teach Respect and Responsibility.

Lim Siong Guan. (2018). Can Singapore Fall: Making the Future of Singapore. Singapore: Institute of Policy Studies.

Novidtri, I (2015). Analisis Korespondensi AKreditasi Sekolah Berdasarkan Status Sekolah dan Wilayah Provinsi [School Accreditation Correspondence Analysis Based on School Status and Province Region]. Bachelor degree. IPB University.

Ramadhan, A., Susetyo, B , Indahwati (2021). Classification Modelling of Random Forest to Identify the Important Factors in Improving the Quality of Education. International Journal Advanced Science engineering Information Technology, 11(2), 501-507.

Sallis, Eduard. (2011). Total Quality Management in Education. London: Kogan Page Ltd.

Samsudin, M., Shodiq, S., Manan, N., Jannah, W., Wachidi, W., Rusdarti, R., & Dasuki, M. (2022). Developing Management and Leadership Training Innovation Program for Higher Education at Muhammadiyah Universities. *Indonesian Journal on Learning and Advanced Education (IJOLAE),* *4*(1), 57-70. doi:https://doi.org/10.23917/ijolae.v4i1.16544

Senge, Peter. (2012). School That Learn: A Fifth Discipline Resources. London: Nicholas Barely Publishing.

Setiawan, I.A. (2018). Penerapan Generalized Structured Component Analysis untuk Melihat Hubungan antara Hasil Akreditasi dan Ujian Nasional [Application of Generalized Structured Component Analysis to See the Relationship between Accreditation Results and National Examinations]. Master thesis. IPB University.

Setiawan, I.A., Susetyo, B, Fitrianto A. (2018). Application of Generalized Structural Component Analysis to Identify Relation between Accreditation and National Assessment. International Journal of Scientific Research in Science, Engineering and Technology, 4(10), 93–97

Susetyo, B., Rezy,W (2021). Application of the fuzzy clusterwise generalized structured component method to evaluate implementation of national education standard in Indonesia. Management Science Letter, 11(4), 1379-1384.

Turkkahraman, M. 2015. Education, teaching and school as A social organization. Procedia - Social and Behavioral Sciences, Vol 186 (2015) 381–387

Zampetakis LA. (2008). The role of creativity and proactivity on perceived entrepreneurial desirability. Thinking Skills and Creativity, 3(3):154-162.