

Transformation of Educational Traditions: Foundations of Educational Management and Evaluation in the Future Covid-19 Pandemic

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Abstract: Problem fundamental management - evaluation Education in Indonesia is unprepared for the transformation of educational traditions. Educational institutions are slow to anticipate changes that occur in 21st century learning which are strongly influenced by information and communication technology. Covid-19 is accelerating full use of ICT in the process Learning includes face-to-face shifts to technology-based distance learning. This paper aims to show something different by looking at the unpreparedness of management (change) and evaluation education. As a result, online learning becomes something difficult. This research data comes from a survey in sixteen private and public junior high schools in JABODETABEK via Google-Forms and in-depth interviews via WhatsApp involving teachers and supervisors. While secondary data is obtained from the results of previous research and online news that are directly related to this study. The data was analyzed through the stages of restatement, description, and interpretation. The results of the study show that the basic difficulties of online education are caused by an inappropriate understanding of the essence of technology-based learning. Online learning needs to be seen as an educational paradigm shift that aims to create student independence. The change in the tradition of modern education management and evaluation is a precondition for successful learning during a pandemic. This paper suggests the need for further research with accommodate a larger sample and involve more representative informants to enable a comparative analysis. In management and evaluation, it is necessary to be in line with the times. With this understanding, problem solving efforts can be formulated with the right target. Therefore, modern education management and evaluation is a precondition for learning success during the pandemic. This writing recommended accommodate a larger sample and involve more representative informants to enable a comparative analysis. need research advanced with

Keywords: measurement, evaluation, performance, principal, primary school

1. INTRODUCTION

One thing that escapes the awareness of people in general is that the COVID-19 pandemic, apart from affecting humanity, is also at the same time shaping and transforming human civilization, including in the aspect of education. As of September 30, 2020, 150 countries have closed schools and more than a billion students have been affected (UNESCO, 2020). This condition requires the management and evaluation of education to be reconstructed in order to avoid the nation's bankruptcy in the future (Fuad, 2020). Because the quality of the learning process is significantly influenced by management and evaluation in education (Siregar, 2020). The learning process in Indonesia has completely changed from an offline system of face-to-face meetings in the classroom to an online distance learning system based on internet technology (Abidah et al., 2020; Churiyah et al., 2020; Muassomah & Abdullah, 2021). This sudden, holistic change creates

difficulties and obstacles due to the unpreparedness of management design and evaluation in education that has not been inline with the developments of the 21st century (Anduvare & Holmner, 2020; Bokolo et al., 2020). The characteristic of this century is the very fast development of digital internet information technology (Fitriyah, 2019; Prayogi & Aesthetics, 2019; Sitompul et al., 2019). This condition requires skills in using digital information technology in the learning process so as to improve the quality of education (Anggraeni, 2019; Arintina & Yaarti, 2019; Sujana & Rachmatin, 2019). All stakeholders, government, educational institutions and educators and education personnel need to change the pattern of how education management and evaluation works by design Information and Communication Technology (ICT). Thus the diffusion of technology in human life in particular in education is something that is inevitable.

So far, there are three trends in the literature that examines management in online education. First, the study examines the competence of teachers who are not yet qualified in implementing the 21st century learning process which requires the skills of teachers and students to use digital technology to improve the quality of the learning process (Ngurah & Laksana, 2018; Rahmah & Irianto, 2020; Sujana & Rachmatin, 2019; Zubaidah, 2018). , 2019). Second, the literature that examines the unpreparedness of online education infrastructure management so that the distance learning process does not run smoothly, the quality of education is low and students' academic achievement decreases (Abidah et al., 2020; Bhavya Bhasin, Gautam Gupta, & Sumedha Malhotra, 2021; Pratiwi, 2020; Sadikin & Hamidah, 2020). Third, The literature examines the urgency of using the internet and digital information technology in the learning process in accordance with the times because it can improve academic achievement (Anyamene, Anyachebelu, Anemelu, & Bernardino, 2012; Feizabadi, Aliabadi, & Ahmadabadi, 2016). The literature has not been able to show the basic problems of online learning management and evaluation to be disastrous in learning during a pandemic. This happens because the response given is simply due to the unpreparedness of teachers and online education infrastructure. Whereas the substance of the problem lies in the unpreparedness of the Indonesian education world to make a change in tradition: a change in the management paradigm and evaluation in modern education.

This study aims to complete the existing literature shortage by showing that the world of education today urgently needs a change in management by first changing the tradition. In line with this problem, three questions are answered in this paper. (1) How is online education going during the COVID-19 pandemic? (2) How does education management and evaluation affect difficulties in online education? (3) What are the implications and solutions for education management and evaluation on online learning today? This paper is based on the argument that the difficulties experienced in online learning today are not primarily due to the unpreparedness of teaching staff and online education infrastructure. The basic problem is that management design and evaluation in education have not been in-line with the progress of the 21st century with the characteristics of the sophistication of digital technology and informatics (Herteno, 2016). This happens as a consequence of the lack of cultural awareness that COVID-19 in addition to afflicting humanity has also caused a change in tradition towards social transformation so that it is responsive to the demands of 21st century learning.

Literature Review

21st Century Learning

UU no. 20 of 2003 concerning the National Education System states that learning is a process of interaction between students and educators and learning resources in a learning environment. Another definition states learning is a process of interaction and exchanging information between students and educators and learning resources in a learning environment (Mutiani et. al 2019). Meanwhile, Komalasari (2013) states that learning is a process of educating students

by teachers that is planned, implemented and evaluated systematically, so that learning objectives can be achieved effectively and efficiently. live interaction which is done consciously, systematically and planned between teachers, students and learning resources in the environment conducive education. Thus, learning aims to build character through cognitive, affective and psychomotor development and coaching of students so that later they become mature human beings and are able to work positively for the nation and state.

Learning is not carried out in a vacuum but always exists in actual situations and conditions here and now (*hic et nunc*). This means that quality learning must be aligned and responsive to the needs of the 21st century. Student-centered, contextual, collaborative and integrated learning with the community (Wijaya et al., 2016; Zubaidah, 2016). Teachers become role models, facilitators, mentors, authors and evaluators of student progress (Hadisaputra et al., 2018). In addition, learning uses the advancement of the internet and digital information technology as a characteristic of the 4.0 industrial revolution era. Therefore, the success of educators in the learning process depends on their skills in utilizing information and communication technology in designing learning materials so that they become more attractive (Novalia et al., 2018; Soemantri, 2019). In summary, it can be said that to be able to respond to the needs of the 21st century, four intelligences are needed, namely (a) critical thinking and problem solving, namely the ability to think systematically, analytically, critically in order to produce problem solutions (b) creativity and innovation skills), the ability to create and find solutions. something new by making a breakthrough that is different from what is generally happening (c) collaboration skills, namely the ability to build cooperation with various parties. This is necessary as a consequence of advances in digital information and communication technology which results in the complexity of problems in reality that require cooperation. (d) communication skills, namely the ability to communicate at both local and global levels because the world is increasingly unified without boundaries due to technology (Septikasari & Frasandy, 2018; S. Widodo & Wardani, 2020).

Online learning Online learning is a learning solution for all educational units from kindergarten to college during the Covid-19 pandemic (Lily et al., 2020). The Covid-19 outbreak has rapidly and completely changed the education system from offline to online, from face-to-face systems in school classrooms to virtual spaces based on internet networks. Conceptually, online learning is an educational process that is based on structured information technology (Buselic 2012; Bozkurt et al. 2015), using the internet network with connectivity, and flexibility (W. Ali, 2020; Sadikin & Hamidah, 2020), the ability to use facilities technology (Kebritchi et al., 2017; Luschei & Zubaidah, 2012). Face-to-face meetings in the classroom become virtual meetings in the form of pictures, videos, 2019). Online learning requires two key elements, namely human ability as the subject of technology users and technology infrastructure (Gikas & Grant, 2013). For example google class, Edmodo, schoology, whatsapp, zoom, microsoft teams, facebook and Instagram (Alvin S. Sicut, 2015; Enriquez, 2014; Iftakhar Shampa, 2016; Kumar & Nanda, 2019; So, 2016). The teacher's ability to choose and use it is in accordance with the characteristics of

the learning material (Hsieh & Tsai, 2017; Kebritchi et al., 2017). Thus, internet and multimedia technology-based education creates a new culture in distance learning (Al Lily et al., 2020; Kalimullina et al., 2021).

To ensure that online education practices in Indonesia can continue during the pandemic, the Ministry of Education and Culture has developed an Android-based distance learning application: the "learning home portal" (Kemendikbud, 2020). This portal can be accessed on learning.kemdikbud.go.id. Some of the excellent features for students and teachers include: learning resources, digital classes, virtual laboratories, and question banks. Learning centers can be utilized by students and teachers (Abidah et al., 2020). The Ministry of Education and Culture has collaborated with several online learning platforms, namely: smart classes, Google Indonesia, your school, Microsoft, Quipper, and Zenius. Each platform provides facilities that can be accessed by the public for free (Abidah et al., 2020). Thus online learning becomes an opportunity and opportunity for students to learn independently, actively, collaboratively, and self-reflection (Husnul et al., 2020; Widianti & Park, 2020).

Management

The term management is derived from the old French word management. It means the art of implementing and managing. In English "to manage", means to take care of, to drive, to manage, to foster, to run and to lead. In Latin it is a combination of two words, namely "manus" meaning hand and "agere" meaning action. The two words are combined into "managiere" which means to do, carry out, take care of something. Then into management translated into Indonesian. Etymologically, management can be formulated as an art process of acting, regulating, organizing, managing, directing and supervising dynamically to move the organization in order to achieve its goals (Subali et al., 2020). In general, management is a process of utilizing existing resources by implementing management functions: planning, organizing, implementing and monitoring in order to achieve the goals that have been set effectively and efficiently (Mulyadi, 2020).

In the context of education, education management is a determining factor in realizing educational goals optimally, effectively, and efficiently (Herawati et al., 2020; Saifulloh & Darwis, 2020). In this case, management is interpreted as a process to achieve the target of educational institutions maximally and comprehensively by implementing management functions: planning, organizing, actuating, and controlling (Delubom et al., 2020; Yusuf, 2020). Planning as the first step in the management function becomes the foundation and guide for action. Planning is manifested in determining actions, resources, decisions about learning activities. Including preparing alternative options if the anticipation step is to reach the goal (Saifulloh & Darwis, 2020). Next, organizing is grouping and assigning tasks, determining the main tasks and functions that are clear to the teacher. The principal acts as a manager. Organizing becomes the total measure of learning activities so that the direction and responsibility are clear (Khikmah, 2020). The third step of actuating is the implementation of what has been conceptually compiled in the previous two phases. The role of the leader is

very vital in this regard. The leader's ability to encourage, mobilize, influence so that all parties work according to plan is needed. In other words, actuating is the implementation of planning and organizing that has been determined through consideration of comprehensive analysis in realizing optimal learning and learning conducive (Khairiah & Sirajuddin, 2019; Wibowo, 2013). To measure the implementation in accordance with the objectives, and determine the causes of deviations and take corrective steps, controlling is carried out. Supervision includes supervision and assessment of the achievement of learning objectives (Delubom et al., 2020; Fiqry et al., 2017).

Evaluation

Etymologically the word evaluation is taken from the English word "valor": value or price. Edwin in Alim, (2011) defines evaluation as a process to determine the value of something. Meanwhile, Dima (2016) stated that evaluation is a tool used to assess the success of the program and become feedback for formulating strategies in the future. Evaluation is broadly understood as the collection and use of information to make decisions about a program (Phillips, 2018). In the context of education, evaluation is an assessment that must be carried out by teachers, schools and the government to ensure the teaching and learning process runs well and is of high quality (Alamsyah et al., 2020). This evaluation is decisive and foundational so that managers can find out objectively how a program or policy has been implemented. Therefore, the evaluation field is very broad, including program evaluation, personnel evaluation, assessment evaluation, and student testing, and evaluation of relevant materials (Phillips, 2018). Thus, the main focus of evaluation is to assist decision making, making an actual assessment of the value of the program.

The world of education really needs an evaluation of educational programs in order to obtain relevant information, namely: improvement of the learning process, the actual condition of students, and administrative regulations (Phillips, 2018). The results of educational evaluations are needed to formulate various policies that will be taken by educational institutions. Thus, educational evaluation is a necessity in educational institutions. Law Number 20 of 2003 concerning the National Education System Chapter I Article 1 paragraph 21 explains that educational evaluation is an activity of controlling, guaranteeing, and determining the quality of education for various components of education at every path, level, and type of education as a form of accountability for education. Evaluation principle: refers to the objectives, is carried out objectively, comprehensive and continuous. Impact evaluation in educational institutions is urgently needed because of evidence-based governance and an innovative need and force in modern education (Leiber et al., 2018). Thus evaluating the education quality management process is something substantial to reveal key factors related to effectiveness, efficiency, equity, responsiveness, relevance, reflexivity and sustainability (Adams et al., 2020; Fiqry et al., 2017; Lucie et al., 2019; Supadiet., 2020; Junaidi, 2020). Thus, briefly, evaluation can be formulated as an act of assessing, carefully observing something that is done in order to make correct and appropriate decisions. Evaluation fulfills

a multifunctional role because of its centrality, because it is the main source of information that takes into account performance based on the criteria of legality, efficiency and effectiveness. (Suárez et al., 2020).

2. METHOD

Research on education management and evaluation during this pandemic involved sixteen public and private junior high schools in JABODETABEK. The two types of schools were deliberately chosen because there are differences in policies. Public schools school policies are strongly influenced by government decisions and regulations. Meanwhile, private schools are relatively independent in deciding the curriculum and education policy. The two categories of schools are expected to provide a comparative perspective on their response to the pandemic. The implementation of online education requires a lot of financial and infrastructure support. The two schools face different obstacles. Public schools have more financial support, but they don't have the flexibility to spend outside of the applicable regulations. On the other hand, although private schools are facing financial difficulties in responding to the pandemic in providing educational infrastructure, they have authority and are free to make decisions. Different school statuses are expected to provide a different picture of changes in management and evaluation of online learning during the pandemic.

Research Type

This research combines surveys with in-depth interviews to enable viewing the problems faced by students, teachers and educational institutions from two perspectives. Survey data is used as the basis for building question items in in-depth interviews. The data needed regarding the management and evaluation used in online education carried out during the pandemic: (a) the availability of supporting infrastructure in schools; (b) teaching and learning process that involves teachers and students; (c) types of difficulties for teachers and students in dealing with online learning; (d) evaluation of online learning; (f) patterns of supervision, communication and coordination of education during the pandemic.

Participants: Selection of respondents or informants

There were sixteen respondents involved in this research consisting of teachers and supervisors from sixteen private and public junior high schools in JABODETABEK. They were randomly selected according to their individual willingness. In all, ten informants were interviewed from private and public schools.

Research Process

The research begins with a desk review reviewing writings that present learning experiences during a pandemic from various countries. The resume of the research results becomes the basis for mapping the central issues of this research. These materials are used as the basis for writing a literature review. The survey was conducted in conjunction with in-depth interviews which took place from April to June

2021. The survey was conducted through Google-Forms. In-depth interviews with teachers and supervisors took place online, via whatsapp communication. Interviews took place several times to complete any data that were considered lacking.

Data analysis technique

The data is processed through the stages of data reduction, data display and data verification, as done by Huberman (2010). The data that has been collected is reduced to a summary based on thematic and narrative stories from respondents. The writing contains data in the form of interview quotes and thematic narratives obtained from data reduction. The data were then analyzed through three stages of analysis. First, restatement of the data obtained, especially through interviews to maintain the authenticity of the field data. Second, a description technique is used to show the patterns and trends of the data, both interview and survey data. In the third stage, interpretation is carried out to draw meanings, both express and implied, from the data. The entire data is read in a contextual framework to be able to analyze the significance of the data obtained.

3. RESULTS

1. The study of online education management and evaluation during the Covid-19 period found that although educational practices had changed with the online system, the change had not been followed by changes in the education management and evaluation system. This is evidenced by the following data:

School management that is not ready to anticipate and face the tradition of online-based learning. This can be seen in three things based on the respondents' confessions: a) coordination in the preparation and evaluation of the education process is still ongoing; b) educational documents that regulate education administration are still in print-out form; c) the learning system and learning evaluation carried out by the school still uses an offline system. In online distance learning, knowledge-based competencies may be measured, but aspects of attitudes and skills cannot be measured because the online education management and evaluation system is not ready. Meanwhile, learning outcomes (learning outcomes) of each material that has been formulated in the semester learning plan (RPS) is no longer considered.

2. Low literacy of teachers and students: this can be showing in the following three ways:

2.1 Ownership of technological devices among teachers and students is inadequate or uneven

"Teachers are very enthusiastic to carry out learning with videos which they feel can explain the material better. But it turned out to be experiencing problems, consuming a lot of quota" (R1, R2, R5, R7, R8, 12 May 2021).

"Children's online assignments are late, even after a new day is sent, because their parents bring their cellphones to work, or their house is in a blank spot, which is difficult to signal" (R3, R4, R6, 15 June 2021).

"Using zoom, the data and network are not maximized, often break up when using Zoom, and the children don't have cellphones" (R9, R10).

2.2 Low technological literacy among teacher-students

The low technological literacy of both teachers and students also contributes to *problems* in online learning. This happens because teachers are never prepared to carry out the teaching and learning process using technology. Although the world of education today has entered the digital era. When the pandemic came and forced the change of the education system to be online, there was a huge difficulty because everything was not ready. One of them can be seen from this respondent's expression:

"It is difficult to use Google Classroom, Zoom, etc. as a means of online learning because previously they were not prepared and there was no training to use the internet as a more effective and efficient learning tool". (R3, R7, R8, R10, R11, R16), May 7, 2021.

3. Curriculum and teaching materials that are still offline have not been supported by an online-based curriculum. This is indicated by curriculum and learning issues: a) there are major difficulties in developing a curriculum by determining competencies, materials and assessment systems according to the characteristics and developmental needs of students and resources within a limited time span; b) the educational calendar and student learning load, the teacher's teaching load is difficult to arrange which has an impact on the difficulty of assigning and scheduling teachers; c) there is saturation of online learning experienced by both teachers and students which has an impact on the decline in student learning motivation and teacher teaching motivation; d) difficulties in evaluating learning achievement. It is very difficult for teachers to measure the achievement of attitude and moral competence, emotional, linguistic, social and emotional skills interpersonal. Evaluation of learning outcomes that are still ambiguous: between online and offline. This is due to management and evaluation not being inline with online learning practices. e) Difficulty in evaluating and monitoring performance, controlling teacher attendance, and measuring the quality of online teaching; f) limited educational supervisors closing schools (not opening normally); g) limited communication between the principal and educators/educational staff;

4. DISCUSSION

Studies discussing the management and evaluation of online education during a pandemic show that the main problem lies in the "transformation of educational culture". Online learning is not seen as a shift in educational traditions. There are three levels that need to be adapted to suit online learning. First, make changes in education management and evaluation into e-management and e-evaluation. Second, improving the digital technology literacy skills of teachers and

students so that technology-based education can be more effective and interesting. Third, various sources of teaching materials that support the online learning process are not available. The materials still use printed books.

The unpreparedness of education management and evaluation for online education causes difficulties in online learning. This happens because there has not been a transformation in the world of education. This transformation is important

because conventional learning traditions are very different from online learning. Conventional learning is teacher centered (teacher centered learning), while the new tradition of technology-based learning requires students' independence. Students become the center (student center learning). The absence of educational transformation reflects the strong influence of conventional learning traditions. The ideals of independent learning required in online learning are not well developed. Students still depend on the help of others in learning matters.

Difficulties in online learning actually will not happen if the world of education quickly changes in line with the context of the 21st century. 21st century learning in the digital era is strongly colored by the inclusion of technology in the teaching and learning process. Network technology and information technology are the main means in developing learning systems in schools with online learning models. As has been forced to take place at this time due to the global Covid-19 pandemic. This sudden change caused problems because of unpreparedness in all lines of education: educational institutions, teachers, students, parents, and education-evaluation management. As a result, there has not been a proper understanding of the essence of online learning, namely students who have to play an important role in achieving learning success (Lasfeto & Ulfa, 2020). This requires at least four aspects, namely: equipment capability, technological literacy, independent learning skills and motivation (SFA Widodo, Wibowo, & Wagiran, 2020). Meanwhile, the assessment still takes into account the cognitive, affective, and psychomotor aspects (Purnomoet al., 2021). Thus, online learning does not eliminate learning achievements as occurs in offline learning.

The implications of this technology-based learning impact on indicators of success based on competence: critical thinking, using information to solve complex problems, adapting, innovating, communicating, and collaborating (Prayogi & Aesthetics, 2019; Sitompul et al., 2019; Wijaya et al., 2016). Schools are challenged to be able to cultivate these skills in students so that they will be able to contribute and be useful in the world of work in the future. In this context, the role of the teacher in the 21st century has shifted from being a "knowledge grower" pattern to being a mentor, directing discussion and measuring student learning progress (Hampson et al., 2012). In other words, the teacher's role has completely changed from the traditional classroom teacher as a "knowledge cultivator" to a "learning coach". This means that teachers provide guidance and support to assist students in developing skills so that students are able to achieve their goals. Teachers create interactive learning and encourage students to be able to develop critical thinking skills, creative-

innovative, collaborate and communicate in solving problems (Sumar et al., 2020).

In summary, it can be formulated that the world of Indonesian education must be held compatible with the context of the 21st century learning era which emphasizes "digital technology literacy (Jansen & Merwe, 2015). Therefore, the management of governance and educational support facilities to achieve literacy is the government's obligation. The use of digital technology can also be applied in the management and assessment of students so that it is easier to use and flexible (Dinatha, 2017). In fact, according to informants, management and evaluation of education still use the traditional manual method so that when the COVID-19 pandemic hit the world of education, it was very difficult to learn online.

The experience of online learning during a pandemic that takes place in an EMERGENCY situation shows two important meanings. First, the current learning process requires a socio-cultural transformation that allows the transition to an online education system to be accepted as a new value that applies today. These changes are basically a consequence of advances in information and communication technology in the 21st century which have penetrated almost all dimensions of human life. But with the Covid-19 pandemic, a total change in the education system is inevitable. As a result, the socio-cultural foundation has not been built so that the paradigm shift and learning tradition cannot be carried out properly and smoothly. Second, The problem of implementing online learning provides an affirmation of the necessity to make changes in management and evaluation of education that is built based on technology. This is important so that it is inline and compatible with current online education practices. Along with changes in the pattern of human life due to the presence of technology, education must also be transformed to become more technology-based. Because work in the 21st century is global, multicultural and interconnected. In this century there has been a significant shift from manufacturing services to services that emphasize information and knowledge (Scott, 2015).

Shared decision making, sharing information, collaborating, innovating, independent learning, and work speed are very important aspects at this time. Students must have digital literacy. E-management is urgently needed to ensure the quality of education and transform people as a resource. E-management will support school management and administration functions, including data management, information, evaluation, electronic record maintenance and information flow (Laudon & Laudon, 2014). The use of the internet in education management, the activities of educational institutions can be supported by the latest and continuous information, which can be monitored at any time and the principal as the manager receives an early warning if an anomaly is found (Ali et al., 2020; Gunawan et al., 2012). With emangement, 2019). In addition, it has also been proven that in practice e-management provides many benefits. As Yalcin & Kutlu have shown, (2019) e-management has succeeded in making student learning more successful.

E-management is a governance system for educational institutions that is flexible and open to exchange and share

influence with the internal and external environment (Kurniady, 2021). The world of education must be carried out in the context of its era and must be responsive to the demands and needs of the times. In today's digital era, apart from the coercion of the pandemic, management is a necessity. This means that e-management has become an essential need today. The demands of efficiency, collaboration, global communication and innovation are the main considerations for designing better management and evaluation efficient, and fast by utilizing technological developments. Based on this research, it is proven that currently online learning is still managed by traditional management. Teachers are still not sure how to carry out appropriate supervision patterns, and how to assess student attitudes and character in the online learning process. The teacher doubts when evaluating with a test that is done by the child himself. Meanwhile, supervision and supervision are also carried out by school principals and education supervisors still with the old pattern. Teachers are asked to fill out a form, then send it to the principal and supervisor. There is also a school principal who supervises by entering Zoom every day. According to the teacher, this method is less effective and even makes the teacher feel disturbed, because the principal sometimes interrupts when the teacher is teaching students. Thus, it can be said that although the learning system has been based on technology, the management pattern is still ambiguous, between traditional and modern. In this context, e-management becomes a choice of strategic approach in the future oriented governance of educational institutions.

So far the existing studies have focused on the following three areas. First, the obstacles faced in online learning are related to the availability of infrastructure and technological devices that do not support it. This has been seen as a precondition for successful online education (Adducul & Gumabay, 2020; Okoye et al., 2021; Tadesse et al., 2021; Unger & Meiran, 2020). Second, a study that emphasizes students' unpreparedness in accepting changes from classroom to home learning. Teacher absence has been considered a problem in learning (Churiyah et al., 2020; Marek et al., 2021; Nadeak, 2020; Widodo et al., 2020). Third, a study that measures the performance of education and educational institutions during a pandemic (de Souza et al., 2021; Husnul et al., 2020; Mujahidin et al., 2020; Oguguo et al., 2021; Simamora, 2020; Widyanti & Park, 2020).

This study differs from the three trends of the study. This article does not look at the issue of online learning management and evaluation from a technological perspective but from a socio-cultural perspective. Technology-based learning is nothing but a transformation of the learning culture tradition that requires adjustments at various levels, including educational management and evaluation. Integration of technology-based systems into current education governance is a condition sine qua non Therefore, it must be supported by an e-management and e-evaluation system so that the quality of online education can be guaranteed. De facto the carrying capacity of information and communication technology governance in schools is still weak in terms of planning, organizing, implementing and evaluating systems. Management of ICT systems for teaching in schools has not

been designed. Everything takes place simultaneously without planning.

Based on the problem of management and evaluation of education that is not compatible with online learning as a result of not transforming the learning culture tradition, three "action plans" can be formulated as an effort to improve the situation. First, making policies to encourage the acceleration of transformational implementation in the world of education. The success of technology-based learning must be supported by policy and budget commitments. Second, it is urgent to conduct trainings to improve professional competence such as: the use of ICT in learning, being an attractive learning presenter, and designing online learning. By involving educators and education staff in the context of institutional adaptation to the implementation of online education. Third, designing learning outcomes, teaching materials essential materials for online education, compiling digital-based learning assessments, and enabling learning loads to be achieved in a limited time. The three action plans are oriented towards assistance in encouraging the realization of a complete change in the educational tradition that is integrated with modern education management and evaluation.

5. CONCLUSION

It turns out that the fundamental problem that is happening in the management and evaluation of education is an incorrect understanding of the essence of online learning. In fact, changes in educational traditions are taking place during a pandemic. Covid19 is a momentum for changing educational traditions and shifting the learning paradigm from teacher center learning to student center learning. Technology-based learning requires students' independence in learning. This means that students have authority in seeking and producing knowledge. These changes have consequences for changes in the management and evaluation of modern technology-based education. Information and communication technology has changed the way of learning, consequently the management and evaluation of education must be transformed significantly by using technology. Management and Evaluation are a necessity to be in line with learning practices that are fully technology-based. This is urgent to do because management and evaluation are basic elements and determine the quality of educational practice.

The use of the concept of "transformation of educational culture traditions" in this study has provided a new horizon in education management and evaluation. This provides space to understand the difficulties and constraints encountered in online learning beyond technology-centric reasons. The conceptual shift has a direct impact on a more essential understanding of educational issues. Technology has created students' independence in learning by shifting the learning paradigm. Online learning requires students' independence to ensure success in learning. This study, in addition to gaining a broader understanding of the substance of online education management and evaluation, also allows the formulation of an action plan that can encourage the transformation process in the world of education to occur.

This study was limited to a small sample so comparative analysis was not possible. For this reason, further research is needed involving a larger number of respondents so that a comprehensive-comparative analysis can be carried out. In line with that, this study suggests that it is necessary to conduct a survey that accommodates various types of schools by involving many parties other than the school, such as stakeholders, community leaders, religious leaders, educational leaders, and observers of the world of education. In addition, it is also necessary to conduct a study in the field of education administration as an effort to obtain an explanation of the important aspects of technology application in administration and management. In this way, a complete, holistic and in-depth portrait of education management and evaluation during a pandemic can be obtained.

REFERENCES

- [1] Abidah, A., Hidaayatullaah, H. N., Simamora, R. M., Fehabutar, D., & Mutakinati, L. (2020). The Impact of Covid-19 to Indonesian Education and Its Relation to the Philosophy of "Merdeka Belajar." *Studies in Philosophy of Science and Education*, 1(1), 38–49. <https://doi.org/10.46627/sipose.v1i1.9>
- [2] Adams, L., Church, M., Hanson, M., & Larsen, A. (2020). Challenges of Collection Management: Analysis, Staffing, and Space. *Serials Librarian*, 78(1–4), 155–161. <https://doi.org/10.1080/0361526X.2020.1704173>
- [3] Adducul, R. B., & Gumabay, M. V. N. (2020). Crowdsourcing technology for classroom learning. *International Journal of Advanced Trends in Computer Science and Engineering*. <https://doi.org/10.30534/ijatcse/2020/133942020>
- [4] Al Lily, A. E., Ismail, A. F., Abunasser, F. M., & Alhajhoj Alqahtani, R. H. (2020). Distance education as a response to pandemics: Coronavirus and Arab culture. *Technology in Society*, 63(April), 101317. <https://doi.org/10.1016/j.techsoc.2020.101317>
- [5] Alamsyah, N., Syah, N., & Suparno. (2020). Needs assessments analysis on online & real-time learning assessment. *International Journal of Scientific and Technology Research*, 9(3), 4813–4817.
- [6] Ali, E. Y., Munir, M., Permana, J., & Kurniady, D. A. (2020). Academic Service Quality in Education Management in Higher Education. *400(Icream 2019)*, 455–461. <https://doi.org/10.2991/assehr.k.200130.221>
- [7] Ali, W. (2020). Online and Remote Learning in Higher Education Institutes: A Necessity in light of COVID-19 Pandemic. *Higher Education Studies*, 10(3), 16. <https://doi.org/10.5539/hes.v10n3p16>
- [8] Alim, M. (2011). *Islamic Education: The Effort on the Moslem's Character Building*. Bandung: PT. Remaja Rosdakarya.
- [9] Alvin S. Sicat, M. A. E. (2015). Enhancing College Students' Proficiency in Business Writing Via Schoology. *International Journal of Education and Research*, Vol. 3 No.(1 January 2015), 159–178.
- [10] Anduware, E. M. mbon., & Holmner, M. (2020). Innovative use of technologies to enhance knowledge management. *Library Management*, 41(6–7), 503–514. <https://doi.org/10.1108/LM-03-2020-0038>

- [11] Anggraeni, R. (2019). IMPROVEMENT OF DIGITAL LITERATION IN ASPECTS OF CREATIVITY THINKING PARTICIPANTS EDUCATION THROUGH PROJECT BASED LEARNING (PBL) IN SOCIAL STUDIES (A Class Action Research Study in SMPN 30 Bandung). *International Journal Pedagogy of Social Studies*, 4(1), 17–22. <https://doi.org/10.17509/ijposs.v4i1.15387>
- [12] Anyamene, A., Anyachebelu, F., Anemelu, V. C., & Bernardino, S. (2012). Effect of Computer-Assisted Packages on the Performance of Senior Secondary Students in Mathematics in Awka, Anambra State, Nigeria. 2(7), 61–65.
- [13] Arintina, I., & Yarti, R. N. (2019). Menumbuhkembangkan Human Digital Skill Pendidik Di Abad Ke 21. *Prosiding Seminar Nasional Pendidikan*, 356–363.
- [14] Bhavya Bhasin, Gautam Gupta, & Sumedha Malhotra. (2021). IMPACT OF COVID-19 PANDEMIC ON EDUCATION SYSTEM. *Epra International Journal of Environmental Economics, Commerce and Educational Management*. <https://doi.org/10.36713/epra6363>
- [15] Bokolo, A., Kamaludin, A., Romli, A., Mat Raffei, A. F., A/L Eh Phon, D. N., Abdullah, A., ... Baba, S. (2020). A managerial perspective on institutions' administration readiness to diffuse blended learning in higher education: Concept and evidence. *Journal of Research on Technology in Education*, 52(1), 37–64. <https://doi.org/10.1080/15391523.2019.1675203>
- [16] Bozkurt, A., Akgun-Ozbek, E., Yilmazel, S., Erdogdu, E., Ucar, H., Guler, E., ... Aydin, C. H. (2015). Trends in distance education research: A content analysis of journals 2009-2013. *International Review of Research in Open and Distance Learning*, 16(1), 330–363. <https://doi.org/10.19173/irrodl.v16i1.1953>
- [17] Buselic, M. (2012). Distance Learning – concepts and contributions. *Oeconomica Jadertina*, 1, 23–34.
- [18] Churiyah, M., Sholikhan, S., Filianti, F., & Sakdiyyah, D. A. (2020). Indonesia Education Readiness Conducting Distance Learning in Covid-19 Pandemic Situation. *International Journal of Multicultural and Multireligious Understanding*, 7(6), 491. <https://doi.org/10.18415/ijmmu.v7i6.1833>
- [19] de Souza Rodrigues, M. A., Chimenti, P., & Nogueira, A. R. R. (2021). An exploration of eLearning adoption in the educational ecosystem. In *Education and Information Technologies* (Vol. 26). <https://doi.org/10.1007/s10639-020-10276-3>
- [20] Delubom, N. E., Marongwe, N., & Buka, A. M. (2020). Managers' challenges on implementing inclusive education. *Cypriot Journal of Educational Sciences*, 15(6), 1508–1518. <https://doi.org/10.18844/cjes.v15i6.5294>
- [21] Dinatha, N. M. (2017). Pemanfaatan Media Sosial Facebook Untuk Menilai Sikap Ilmiah (Afektif) Mahasiswa. *Journal of Education Technology*, 1(3), 211. <https://doi.org/10.23887/jet.v1i3.12507>
- [22] Enriquez, M. A. S. (2014). Students' Perceptions on the Effectiveness of the Use of Edmodo as a Supplementary Tool for Learning. *DLSU Research Congress*, 6–11. <https://doi.org/10.1017/CBO9781107415324.004>
- [23] Eraslan Yalcin, M., & Kutlu, B. (2019). Examination of students' acceptance of and intention to use learning management systems using extended TAM. *British Journal of Educational Technology*, 50(5), 2414–2432. <https://doi.org/10.1111/bjet.12798>
- [24] Feizabadi, N., Aliabadi, K., & Ahmadabadi, M. (2016). The impact of English learning software Moodle. *International Journal of Humanities and Cultural Studies (IJHCS)* ISSN 2356-5926, 1(1), 1427–1437.
- [25] Fiqry, R., Sarjono, & Mu'allimah, H. (2017). Supervisi Pendidikan Untuk Meningkatkan Profesionalisme Guru pada Era Pembelajaran Abad 21. *Universitas Ahmad Dahlan*, 1–4. Retrieved from <http://eprints.uad.ac.id/7188/>
- [26] Fitriyah, R. N. (2019). Pengembangan Kompetensi Guru di Era Revolusi Industri 4.0 melalui Pendidikan dan Pelatihan. 2019: Seminar Nasional Multi Disiplin Ilmu Dan Call for Papers, (1), 359–364. Retrieved from <https://www.unisbank.ac.id/ojs/index.php/sendu/article/view/7302>
- [27] Fuad, N. (2020). Manajemen Persekolahan Era Pandemi Covid: Masalah dan Solusi. *Jurnal FIP Universitas Negeri Jakarta*, 211–217.
- [28] Gikas, J., & Grant, M. M. (2013). Mobile computing devices in higher education: Student perspectives on learning with cellphones, smartphones & social media. *Internet and Higher Education*, 19, 18–26. <https://doi.org/10.1016/j.iheduc.2013.06.002>
- [29] Griffiths, B. (2016). A Faculty's Approach to Distance Learning Standardization. *Teaching and Learning in Nursing*, 11(4), 157–162. <https://doi.org/10.1016/j.teln.2016.04.004>
- [30] Hadisaputra, S., Hakim, A., Muntari, Gito, H., & Muhlis. (2018). Pelatihan Peningkatan Keterampilan Guru IPA sebagai Role Model Abad 21 dalam Pembelajaran IPA. *Jurnal Pendidikan Dan Pengabdian Masyarakat*, 1(2), 274–277.
- [31] Hamid Darmadi. (2015). Tugas, Peran, Kompetensi dan Tanggungjawab Menjadi Guru Profesional. *Edukasi*, 13(2), 14.
- [32] Hampson, M., Patton, A. and Shanks, L. (2012). Tens ideas for 21st century education. *Cadernos de Pesquisa*, 42(147), 848–867. <https://doi.org/10.1590/S0100-15742012000300011>
- [33] Herawati, S., Arafat, Y., & Puspita, Y. (2020). Manajemen Pemanfaatan Sarana Dan Prasarana Pembelajaran. *Attractive: Innovative Education Journal*, 2(3), 21. <https://doi.org/10.51278/aj.v2i3.68>
- [34] Herteno, R. (2016). Visualisasi Secara Spasial Cluster Kerusakan Sarana dan Prasarana Sekolah. *Speed – Sentra Penelitian Engineering Dan Edukasi*, 8(2), 61–68.
- [35] Hsieh, W. M., & Tsai, C. C. (2017). Taiwanese high school teachers' conceptions of mobile learning. *Computers and Education*, 115, 82–95. <https://doi.org/10.1016/j.compedu.2017.07.013>
- [36] Husnul et al. (2020). E-learning application Madrasah online learning solution in the middle of pandemic Covid-19 in Ma Negeri Insan Cendekia, Kendari. *Technium: Social Science Journal*, 10(6), 107–114.
- [37] Iftakhar Shampa. (2016). Google classroom: What works and how? *Journal of Education and Social Sciences*, 3, 12–18.
- [38] Jansen, C., & Merwe, P. van der. (2015). Teaching Practice in the 21st Century: Emerging Trends, Challenges and Opportunities. *Universal Journal of Educational Research*, 3(3), 190–199. <https://doi.org/10.13189/ujer.2015.030304>

- [39] Kalimullina, O., Tarman, B., & Stepanova, I. (2021). Education in the context of digitalization and culture: Evolution of the teacher's role, pre-pandemic overview. *Journal of Ethnic and Cultural Studies*, 8(1), 226–238. <https://doi.org/10.29333/ejecs/629>
- [40] Kebritchi, M., Lipschuetz, A., & Santiago, L. (2017). Issues and Challenges for Teaching Successful Online Courses in Higher Education. *Journal of Educational Technology Systems*, 46(1), 4–29. <https://doi.org/10.1177/0047239516661713>
- [41] Kemendikbud. (2020). Cegah Sebaran Covid-19 di Satuan Pendidikan, Kemendikbud Gandeng Swasta Siapkan Solusi Belajar Darin. Retrieved April 12, 2021, from Kemendikbud website: <https://www.kemdikbud.go.id/main/blog/2020/03/cegah-sebaran-covid19-di-satuan-pendidikan-kemdikbud-gandeng-swasta-siapkan-solusi-belajar-darin>
- [42] Khairiah, K., & Sirajuddin, S. (2019). The Effects of University Leadership Management: Efforts to Improve the Education Quality of State Institute for Islamic Studies (IAIN) of Bengkulu. *Jurnal Pendidikan Islam*, 7(2), 239–266. <https://doi.org/10.14421/jpi.2018.72.239-266>
- [43] Khikmah, N. (2020). Manajemen Sarana Dan Prasarana Untuk Mengembangkan Mutu Pendidikan. *Jurnal Administrasi Dan Manajemen Pendidikan*, 3, 123–130. <https://doi.org/10.17977/um027v3i22020p123>
- [44] Komalasari, K. (2013). *Pembelajaran Kontekstual*. Bandung: Refika Adiatama.
- [45] Korucu, A. T., & Alkan, A. (2011). Differences between m-learning (mobile learning) and e-learning, basic terminology and usage of m-learning in education. *Procedia - Social and Behavioral Sciences*, 15, 1925–1930. <https://doi.org/10.1016/j.sbspro.2011.04.029>
- [46] Kumar, V., & Nanda, P. (2019). Social media in higher education: A framework for continuous engagement. *International Journal of Information and Communication Technology Education*, 15(1), 109–120. <https://doi.org/10.4018/IJICTE.2019010108>
- [47] Kurniady, M. S. A. K. T. T. R. D. A. (2021). The Implementation of E-Management Overview in Higher Education. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, 12(6), 1581–1594. <https://doi.org/10.17762/turcomat.v12i6.2734>
- [48] Lasfeto, D. B., & Ulfa, S. (2020). The relationship between self-directed learning and students' social interaction in the online learning environment. *Journal of E-Learning and Knowledge Society*. <https://doi.org/10.20368/1971-8829/1135078>
- [49] Laudon, K. C., & Laudon, J. P. (2014). Management information systems: managing the digital firm. In *Revista de Administração Contemporânea* (Vol. 7). <https://doi.org/10.1590/s1415-65552003000100014>
- [50] Leiber, T., Stensaker, B., & Harvey, L. C. (2018). Bridging theory and practice of impact evaluation of quality management in higher education institutions: a SWOT analysis. *European Journal of Higher Education*, 8(3), 351–365. <https://doi.org/10.1080/21568235.2018.1474782>
- [51] Lucie Vnoučková, H. U. H. S. (2018). Internal Quality Process Management Evaluation in Higher Education by Students. *Internal Quality Process Management Evaluation in Higher Education by Students*, 9(2), 63–80. <https://doi.org/10.2478/danb-2018-0005>
- [52] Luschei, T. F., & Zubaidah, I. (2012). Teacher training and transitions in rural Indonesian schools: A case study of Bogor, West Java. *Asia Pacific Journal of Education*, 32(3), 333–350. <https://doi.org/10.1080/02188791.2012.711241>
- [53] Marek, M. W., Chew, C. S., & Wu, W. C. V. (2021). Teacher experiences in converting classes to distance learning in the covid-19 pandemic. *International Journal of Distance Education Technologies*, 19(1), 89–109. <https://doi.org/10.4018/IJDET.20210101.oa3>
- [54] Muassamah, M., & Abdullah, I. (2021). Learning with Technology: New Experiences for Indonesian Children During COVID-19. *529(Iconetos 2020)*, 840–846.
- [55] Mujahidin, E., Hartono, R., Profesor, A., & Bogor, K. (2020). The Role of Leader Assessment in Developing Teacher Teams in the Industrial Revolution 4.0. *International Journal of Innovation, Creativity and Change*. *Www.Ijicc.Net*, 13(11), 2020. Retrieved from www.ijicc.net
- [56] Mulyadi, A. (2020). DAMPAK MANAJEMEN SARANA PRASARANA TERHADAP MUTU PENDIDIKAN. *SELL Journal*, 5(1), 55.
- [57] Mulyadi, T. S. P. M. M. K. (2020). *Pengantar Manajemen*. Malang: Publisher: POLINEMA PRESS.
- [58] Mutiani Subiyakto, Bambang; Jumriani; Aslamiah; Afrina, A. (2019). RELEVANSI MODAL SOSIAL DALAM PEMBELAJARAN IPS (Studi Kasus Dalam Sistem Zonasi Di SMP Negeri Kota Banjarmasin). المنهل, (0009025606).
- [59] Nadeak, B. (2020). The effectiveness of distance learning using social media during the pandemic period of covid-19: A case in universitas kristen indonesia. *International Journal of Advanced Science and Technology*, 29(7), 1764–1772. Retrieved from <https://www.scopus.com/inward/record.uri?partnerID=HzOxMe3b&scp=85085285142&origin=inward>
- [60] Ngurah, D., & Laksana, L. (2018). Pendidikan Berkualitas Dan Berkelanjutan Di Era Pembelajaran Abad 21. 5(1), 1–5.
- [61] Novalia, M., Ismanto, E., Vitrian, V., Darni, R., Alrian, R., & Herlandi, P. B. (2018). Google Apps for Education (Gafe) Demi Peningkatan Kualitas Pembelajaran Era Digital Di Smk Dar-El Hikmah Pekanbaru. *Jurnal Pengabdian UntukMu NegeRI*, 2(2), 7–11. <https://doi.org/10.37859/jpumri.v2i2.1094>
- [62] Oguguo, B. C. E., Nannim, F. A., Agah, J. J., Ugwuanyi, C. S., Ene, C. U., & Nzeadibe, A. C. (2021). Effect of learning management system on Student's performance in educational measurement and evaluation. *Education and Information Technologies*, 26(2), 1471–1483. <https://doi.org/10.1007/s10639-020-10318-w>
- [63] Okoye, K., Rodriguez-Tort, J. A., Escamilla, J., & Hosseini, S. (2021). Technology-mediated teaching and learning process: A conceptual study of educators' response amidst the Covid-19 pandemic. *Education and Information Technologies*. <https://doi.org/10.1007/s10639-021-10527-x>
- [64] Phillips, D. C. (2018). The many functions of evaluation in education. *Education Policy Analysis Archives*, 26, 1–18. <https://doi.org/10.14507/epaa.26.3811>
- [65] Pirni, A., Giampellegrini, P. P., & Raffini, L. (2019). Digital transformation and egovernment. For a research agenda on the Liguria region. *Obets*, 14(2), 471–490. <https://doi.org/10.14198/OBETS2019.14.2.07>

- [66] Pratiwi, E. W. (2020). DAMPAK COVID-19 TERHADAP KEGIATAN PEMBELAJARAN ONLINE DI SEBUAH PERGURUAN TINGGI KRISTEN DI INDONESIA Ericha Windhiyana Pratiwi Universitas Kristen Satya Wacana THE IMPACT OF COVID-19 ON ONLINE LEARNING ACTIVITIES OF A. *Perspektif Ilmu Pendidikan*, 34(1), 1–8. <https://doi.org/http://doi.org/10.21009/PIP.341.1>
- [67] Prayogi, R. D., & Estetika, R. (2019). Kecakapan Abad 21 : Kompetensi Digital Pendidik Masa Depan. *Jurnal Manajemen Pendidikan*, 14(2), 144–151. Retrieved from <http://journals.ums.ac.id/index.php/jmp/article/download/9486/5193>
- [68] Purnomo, D., Rosidin, U., & Herlina, K. (2021). Standardized physics practice e-assessment instrument for senior high school. *IOP Conference Series: Earth and Environmental Science*. <https://doi.org/10.1088/1742-6596/1796/1/012090>
- [69] Rabiah, S. (2019). Manajemen Pendidikan Tinggi Dalam Meningkatkan Mutu Pendidikan. *Sinar Manajemen*, 6(1), 58–67. Retrieved from <https://jurnal.unismuhpalu.ac.id/index.php/JSM/article/view/551>
- [70] Rahmah, K., & Irianto, S. (2020). Pengembangan media videoscribe tematik berbasis kompetensi abad 21 kelas v sekolah dasar. 6(2), 214–218.
- [71] Sadikin, A., & Hamidah, A. (2020). Pembelajaran Daring di Tengah Wabah Covid-19. *Biodik*, 6(2), 109–119. <https://doi.org/10.22437/bio.v6i2.9759>
- [72] Sahlström, F., Tanner, M., & Valasmo, V. (2019). Connected youth, connected classrooms. Smartphone use and student and teacher participation during plenary teaching. *Learning, Culture and Social Interaction*, 21(April 2018), 311–331. <https://doi.org/10.1016/j.lcsi.2019.03.008>
- [73] Saifulloh, A. M., & Darwis, M. (2020). Manajemen Pembelajaran dalam Meningkatkan Efektivitas Proses Belajar Mengajar di Masa Pandemi Covid-19. *Bidayatuna: Jurnal Pendidikan Guru Mandrasah Ibtidaiyah*, 3(2), 285. <https://doi.org/10.36835/bidayatuna.v3i2.638>
- [74] Scott, C. L. (2015). THE FUTURES OF LEARNING 1: WHY MUST LEARNING CONTENT AND METHODS CHANGE IN THE 21st CENTURY? *UNESCO Education Research and Foresight*, 22, 24–37. Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000234807>
- [75] Septikasari, R., & Frasandy, R. N. (2018). Keterampilan 4C Abad 21 dalam Pembelajaran Pendidikan Dasar. *Tarbiyah Al-Awlad*, VIII(2), 112–122.
- [76] Simamora, R. M. (2020). The Challenges of Online Learning during the COVID-19 Pandemic: An Essay Analysis of Performing Arts Education Students. *Studies in Learning and Teaching*, 1(2), 86–103. <https://doi.org/10.46627/silet.v1i2.38>
- [7] Siregar, S. H. A. M. T. (2020). DINAMIKA METODE MENGAJAR GURU MENGGUNAKAN SARANA DAN PRASARANA SEKOLAH. *EEJ*, 2(2), 62–67.
- [78] Sitompul, N. C., Rufi'i, R., Leksono, I. P., & Rejeki, H. W. (2019). Meningkatkan Kompetensi Pendidik di Era Pembelajaran Abad 21 dengan Menjadi Guru Blogger. *JPM (Jurnal Pemberdayaan Masyarakat)*, 4(1), 330–338. <https://doi.org/10.21067/jpm.v4i1.3131>
- [79] So, S. (2016). Mobile instant messaging support for teaching and learning in higher education. *Internet and Higher Education*, 31, 32–42. <https://doi.org/10.1016/j.iheduc.2016.06.001>
- [80] Soemantri, S. (2019). Pelatihan Membuat Media Pembelajaran Digital. *AKSIOLOGIYA: Jurnal Pengabdian Kepada Masyarakat*, 3(1), 64. <https://doi.org/10.30651/aks.v3i1.2372>
- [81] Suárez-Landazábal, N., & Espinosa, A. B. (2020). Effects of the evaluation and accreditation processes on academics. A case study of a colombian higher education institution. *Education Policy Analysis Archives*, 28, 1–34. <https://doi.org/10.14507/epaa.28.5353>
- [82] Sujana, A., & Rachmatin, D. (2019). Literasi Digital Abad 21 Bagi Mahasiswa PGSD: Apa, Mengapa, dan Bagaimana. *Conference Series Journal*, 1(1), 1–7. Retrieved from <https://ejournal.upi.edu/index.php/crecs/article/view/14284>
- [83] Sumar, W. T., Lamatenggo, N., & Intan, R. (2020). Strategi Guru dalam Implementasi Pembelajaran Abad 21 Melalui Model Pembelajaran Daring untuk Meningkatkan Kompetensi Guru. *JAMBURA Elementary ...*, 1(1), 100–110. Retrieved from <https://ejournal-fip-ung.ac.id/ojs/index.php/jeej/article/view/143>
- [84] Supadi, Soraya, E., Rifqy Ash-Siddqy, A., Kurnia Robby, D., & Erfan, D. (2020). Supervision of Teachers and Leadership of the School Head in the 4.0 Industrial Revolution. 381(CoEMA), 70–72. <https://doi.org/10.2991/coema-19.2019.16>
- [85] Tadesse, A., Allen, W. R., & Mitchell-Kernan, C. (2021). Integrating educational technology in East Africa: One size does not fit all. *Monitoring Obshchestvennogo Mneniya: Ekonomicheskije i Sotsial'nye Peremeny*, 1(1), 91–108. <https://doi.org/10.14515/MONITORING.2021.1.1895>
- [86] UNESCO. (2020). COVID-19 Educational Disruption and Response. Retrieved May 11, 2021, from Unesco website: <https://en.unesco.org/node/320920>
- [87] Unger, S., & Meiran, W. (2020). Student Attitudes Towards Online Education during the COVID-19 Viral Outbreak of 2020: Distance Learning in a Time of Social Distance. *International Journal of Technology in Education and Science*. <https://doi.org/10.46328/ijtes.v4i4.107>
- [88] Uttman Junaidi, S. D. (2020). IMPLEMENTASI MANAJEMEN SARANA DANPRASARANAPENDIDIKAN DI SMA NEGERI 10 BENGKULU SELATAN. *Manajer Pendidikan*, 14(3).
- [89] Walle, A. G. * M. A. . W. Y. P. K. B. Van de. (2012). Can e-management improve the Indonesian SMEs ? 5.
- [90] Wibowo. (2013). *Manajemen Perubahan*, (Jakarta: Jakarta: RajaGrafindo Persada).
- [91] Widodo, S. F. A., Wibowo, Y. E., & Wagiran, W. (2020). Online learning readiness during the Covid-19 pandemic. *Journal of Physics: Conference Series*. <https://doi.org/10.1088/1742-6596/1700/1/012033>
- [92] Widodo, S., & Wardani, R. K. (2020). Mengajarkan Keterampilan Abad 21 4C (Communication, Collaboration, Critical Thinking And Problem Solving, Creativity And Innovation) Di Sekolah Dasar. *MODELING: Jurnal Program Studi PGMI*, 7(2), 185–197. Retrieved from <https://www.researchgate.net/publication/348742516>
- [93] Widyanti, A., & Park, J. (2020). e-Learning readiness and perceived learning workload among students in an Indonesian university. *Knowledge Management & E-Learning: An International Journal*, 12(1), 18–29. <https://doi.org/10.34105/j.kmel.2020.12.002>

- [94] Wijaya, E. Y., Sudjimat, D. A., & Nyoto, A. (2016). Transformasi Pendidikan Abad 21 Sebagai Tuntutan. *Jurnal Pendidikan*, 1, 263–278. Retrieved from <http://repository.unikama.ac.id/840/32/263-278>
Transformasi Pendidikan Abad 21 Sebagai Tuntutan Pengembangan Sumber Daya Manusia di Era Global .pdf. diakses pada; hari/tgl; sabtu, 3 November 2018. jam; 00:26, wib.
- [95] Yuliana, K. D. (2016). Evaluasi Pelaksanaan dan Strategi Keberlanjutan Program Padat Karya Pangan. *Jurnal Ilmiah Administrasi Publik (JIAP)*, 2(4), 171–176.
- [96] Yusuf, U. A. (2020). KEBUTUHAN ILMU MANAJEMEN PENDIDIKAN ISLAMIS DALAM MENJAWAB TANTANGAN ERA REVOLUSI 4.0. *Islamic Management: Jurnal Manajemen Pendidikan Islam*, 3(01), 93–108. <https://doi.org/10.30868/im.v3i01.688>
- [97] Zhang, D., Zhao, J. L., Zhou, L., & Nunamaker, J. F. (2004). Can e-learning replace classroom learning? *Communications of the ACM*, 47(5), 75–79. <https://doi.org/10.1145/986213.986216>
- [98] Zubaidah, S. (2016). Keterampilan Abad Ke-21: Keterampilan Yang Diajarkan Melalui Pembelajaran. Seminar Nasional Pendidikan Dengan Tema “Isu-Isu Strategis Pembelajaran MIPA Abad 21, 10(Desember), 1–17.
- [99] Zubaidah, S. (2019). Keterampilan Abad Ke-21: Keterampilan Yang Diajarkan Melalui Pembelajaran. Seminar Nasional Pendidikan Dengan Tema “Isu-Isu Strategis Pembelajaran MIPA Abad 21, (Desember), 1–17