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An Analysis of the Digital Transformation-Based Learning Implementation System in the Era of Disruption

Adrianus Nabung¹, Laurentius Ni², Ambros Leonangung Edu^{3✉}

Universitas Katolik Indonesia Santu Paulus Ruteng, Indonesia^{1,2,3}

E-mail: adrianusnabung@gmail.com¹, st.pauluslaurentiusni@gmail.com², ambros.leonangung@gmail.com³

Abstrak

Tujuan dari penulisan ini adalah menganalisis pelaksanaan pembelajaran digital, tantangan dan solusi terhadap diskrepansi pembelajaran di era disrupsi ini. Dalam upaya mencari alternatif solusi yang lebih efektif, penelitian ini berupaya menganalisis dan mengkaji bagaimana pendidik mentransformasikan diri untuk menghadapi berbagai tantangan dalam semangat zaman. Adanya disrupsi pendidikan belum diikuti dengan penekanan pada pentingnya pendidikan transformatif berbasis digital dan penguatan kompetensi pendidik sebagai landasan transformasi yang semakin ideal. Tulisan ini dilatarbelakangi oleh argumentasi bahwa sekuat apapun pengaruh laju perkembangan teknologi informasi digital yang cenderung disrupsi, upaya kreatif dan dinamis akan semakin menemukan momentumnya selama dan pasca Pandemi Covid-19. Dengan demikian, pendidik terus memainkan peran vital dalam proses pendidikan yang tidak bisa begitu saja digantikan oleh kecanggihan teknologi. Dalam batasan pengertian tersebut, pada dasarnya semua capaian kemajuan ilmu pengetahuan dan teknologi berakar pada proses pendidikan dengan menempatkan basis transformasi digital sebagai titik tolak perubahan ke arah yang lebih baik, beradab dan berkualitas.

Kata kunci: pelaksanaan pembelajaran, transformasi digital, disrupsi

Abstract

The purpose of this paper is to complete the shortcomings of previous studies related to the challenges of implementing learning in the current era of disruption. To find alternative and more effective solutions, this study seeks to analyze and examine how educators transform themselves to face various challenges in education in accordance with the spirit of the times. The existence of educational disruption has not been followed by an emphasis on the importance of digital-based transformative education and strengthening the competence of educators as an increasingly ideal basis for transformation. This paper is based on the argument that no matter how strong the influence of the pace of development of digital information technology, which tends to be disruptive, the spillover of which has shaken the education sector, creative and dynamic efforts will increasingly find momentum during and after the Covid-19 pandemic. Thus, educators continue to play a vital role in the educational process that cannot simply be replaced by technological sophistication. Within the limits of this understanding, all achievements of scientific and technological progress are rooted in the educational process by placing the basis of digital transformation as a starting point for change to a better, civilized, and quality direction.

Keywords: learning implementation, digital transformation, disruption

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✉ Corresponding author :

Email : ambros.leonangung@gmail.com

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INTRODUCTION

The industrial revolution has changed the way humans work into automation/digitalization through innovations. Industry players play an active role as organizational entities that have the vision to achieve profit. The industrial revolution is based on a mental revolution where in this paradigm there is a major change in the mental structure that is built on three things, namely the way of thinking, believing, and acting. The mental revolution is balanced with the education system and increasing self-potential through training to respond to the era of globalization which has the character of the industrial revolution 4.0 wherein this era new literacy is needed by using comprehensive data analysis and making conclusions related to communication skills, collaboration, critical thinking, creative and innovative.

The current reflection of digital-based learning governance systems confirms disruptive sentiments in various approaches and implementation strategies. Fundamental changes in some dimensions show that the elements of space and time are not the main benchmarks in achieving the effectiveness of educational directive processes. The creativity and innovation that underlie the pace of invention of digital devices have greatly changed learning management systems at all levels. Several alternative learning strategies and mediation will certainly be very helpful in finding and creating an increasingly open interaction space, but at the same time, it becomes a challenge for the learning quality monitoring system on the other hand. However, the necessity to transform into a governance system according to the demands of the times is a necessity. Indeed, a very strong disruptive sentiment was born by a quite radical paradigm shift in the product of the industrial revolution 4.0; including the style of social dynamics to the formation of a social revolution within the framework of society 5.0 (Rhenal Kasali, 2017).

The industrial revolution provides benefits in increasing savings and minimizing consumption because in this case there are e-commerce opportunities and digital economy developers for industry players. The synthesis of the industrial revolution 4.0 is expected to have logical consequences for the birth of a digitally literate prosperous society (society 5.0). This certainly supports mental revolution programs to produce quality and superior human beings (Sunarsi et al., 2020). In light of this synthesis of thought, some transformative studies will continue to develop in the social humanities discourse, including efforts to find a systemic format for education and learning curriculum with rich dimensional perspectives for the preparation of Indonesia's future demographic bonus.

The most prominent feature of today's society is connectivity through virtual relationships. Innovation in the field of high technology gadgets with their variants such as smartphones, laptops, computers, and apples, allows the creation of a new social reality called "digital society" (digital society) (Indah Lestari et al., 2020). During the pandemic, every individual can implement projects within limited social contacts. During the pandemic, there were far fewer complaints about loss of social contact than complaints about socio-economic problems. The effects of digitization are even felt in the context of state politics. Democracy has undergone a modification from the old Athenian forms to a new digital-based model. Technological interventions encourage digital democracy to increase public participation in controlling public policies. Technology can increase the public's ability to build opinions that can influence policy (Siska Sasmita, 2011).

The ease of technology is also experienced in learning at school. In schools, face-to-face lessons can be replaced easily through online lessons. When compared with traditional learning mechanisms, students during a pandemic can easily browse the Internet, and link it to a server via a network, to search and select teaching materials quickly and instantly. Learning evaluation can also be done quickly to control the learning process virtually. The government and businesses continue to research and develop digital learning platforms so that students can easily access teaching materials. Educators are invited to teach more effectively and efficiently, make students comfortable and happy even though they do not meet in person, and develop a variety of

interesting methods. We are facing a new era where students must be critical, creative, and rational along with the massive use of gadgets (Ming-Hung Lin, n.d.).

Unfortunately, developing countries such as Indonesia face the problem of the digital gap that enables digitalization projects. Children and adolescents, for example, who are a vulnerable group in the process of self-identification towards socialization have not been able to use the internet for various productive activities. Reginasari in her research confirms that our children and youth prefer to be involved in chat wars (82 percent) and unproductive chats rather than accessing quality content (Annisa Reginasari, 2018). This phenomenon has implications for a complicated situation, not only at the level of state democracy but also in related sectors, such as education. In this context, educators find it difficult to fight the habits of the new generation, such as gadget addiction, which is more engrossed in surfing the internet than hearing direct notifications. This paper is a critical study of disruption in the era of technology and practical examples experienced in the world of learning.

METHOD

Contextual analysis in this study uses the literature study method. In this procedure, the most important thing in designing idea development is to review the literature on this topic extensively. In the context of research, this study uses advanced steps to set priorities for reviewing books, documents or articles with term problems. Of course, by seriously considering the literature that is relevant to the topic in developing the ideas of this paper. With a literature review approach, which includes action on quality and new findings, scientific work is dissected and analyzed based on digital transformation as the latest perspective of learning development. The literature review activity is carried out in 4 steps, including; 1) formulating the problem; 2) searching and exploring the literature; 3) data evaluation; 4) and analyze and interpreting it (Creswell & Creswell, 2018). All these steps are then carried out according to the applicable stages. The data analysis techniques used are; 1) compare (look for similarities); 2) contrast (looking for dissimilarities); 3) criticize (give views); 4) synthesize (compare); and 5) summarize.

The purpose of this paper is to complement the shortcomings of previous studies by examining how educators transform themselves to face various challenges in education in accordance with the spirit of their era. The existence of educational disruption has not been followed by an emphasis on the importance of transformative educators and strengthening educator competencies as the ideal basis for transformation. This paper is based on the argument that no matter how strong disruptive technology permeates education, which is increasingly finding its momentum during the Covid-19 pandemic, educators still play a vital role in the educational process that cannot simply be replaced by technological sophistication because all the achievements of scientific and technological progress are rooted in the educational process that places transformative educators as agents of change. In addition, the meaning of education is not limited to the transfer of knowledge. But it includes other aspects such as values, culture, and religiosity which are integrally oriented towards the realization of humanism, humanizing students as human beings (Sayyidi Sayyidi & Muhammad Abdul Halim Sidiq, 2020).

RESULT AND DISCUSSION

The Conception of Transformation and Disruption

Every society experiences social change. Social change can cover all aspects of people's lives, namely changes in the way of thinking and interacting with fellow citizens to become more rational; changes in attitude and orientation of economic life to become more commercial; changes in daily work procedures which are increasingly marked by a sharper division of labor in the specialization of activities; Changes in community institutions and leadership that are increasingly democratic; changes in the procedures and tools of activities that are more modern and efficient, and others (Fitriani, 2019). In terminology (term) the word transformation

has multiple interpretations. This diversity is due to different points of view and studies. As a study material, several opinions and views of experts are offered.

The definition of the term transformation is expressed by Dawam Raharjo, as explained briefly by Bakhtiar Effendi (Bakhtiar Effendi, 1999). According to him, there are two main trends of transformation in social discourse. *First*, Transformation relates to the notion that involves large-scale fundamental changes in world society, which move from the stage of an industrial society to an information society. *Second*, the notion of the occurrence of this transformation arises from historical studies, which conclude that during the last two or three centuries there has been a fundamental change from a traditional agrarian society to modern industrial society. While the word "social" is related to society (A Lysen, 1981). So social transformation can be understood as changes that occur in a society. Society can be understood as a social unit that is incorporated in the form of parts in a society or in an understanding called the social environment, the association of human life (A Lysen, 1981). Social transformation can mean the process of changing or renewing the social structure, while on the other hand, it means the process of changing or renewing values. According to Macionis (2009), as quoted by PiotrSztompka (2011), social change is a transformation in the organization of society, in the mindset, and behavior at a certain **time** (Piotr Sztompka, 2011).

Changes like this occur in all sectors of life in a society that is changing and developing various theories of social change that form the basis of science such as the theory of *Unilinear* theories of evolution view that humans and society develop according to certain stages, starting from simple forms. The pioneers of this theory were August Comte, Herbert Spencer, and Pitirim A. Sorokin. From the perspective of the Universal theory of evolution, it is stated that the development of society does not need to go through certain fixed stages (I Gede Sadana Suci, 2020). This theory suggests that human culture has followed a certain evolutionary line. These principles are widely described by Herbert Spencer. Terminologically, the word transformation has multiple interpretations in its concept and implementation depending on the subjective sectoral point of view of its use.

The Importance of Digital Technology Mastery Base

Mastery of technology is not everything for effective blended learning. Technology is a potential learning enabler if it collaborates with the right pedagogical design (Dani Anwar Hadi, Luthfatul Umayah, 2021). In the digital era, teachers are challenged to be able to close the gap between knowledge about technology and the integration of technology in learning. According to Sampson (2019), technology has a significant impact on creating an electronic-based learning environment (*e-learning*). A learning model that requires commitment and time from teachers to improve technology mastery skills, create technology-based classes and present relevant and appropriate learning materials for students (*customized education*) (H Wijoyo et al., n.d.).

The Ministry of Education and Culture, through a Joint Decree (SKB) of 4 ministers, has just issued a learning guide for the new school year during the COVID19 pandemic. One of the points in the guideline is the prohibition of conducting face-to-face teaching and learning activities in 94% of Indonesia's territory which is in the red, orange, and yellow zones. In these areas, learning can only be done online. This is why the new 2020 school year is no longer the same as the previous years. There is no interaction between teachers, students, and parents in the same room. Meanwhile, schools must orchestrate the educational ecosystem from the virtual world (H Wijoyo & I Indrawan, 2020). Ideally, online learning solutions should not only be a literacy center, but also a platform that can accommodate the learning system in schools. That way, online learning can be a solution, because it complies to be used during covid-19 or after, for this reason, this pandemic condition is an opportunity to improve and improve the world of education, namely, *first*, starting with infrastructure improvements to run online (long-distance learning) because not all students have a smartphone or laptop. In addition, data packages and internet networks must also be prepared to enter digital learning (Setyowati Lestari, 2020). *Second*, structured information, namely the learning management system that is currently available in the form of the Ministry of Education and Culture's Learning House platform. Third, info culture is a digital

pedagogy that is very different from traditional pedagogy. This is because the digital concept recognizes the term anytime, anywhere, and on any device so that Indonesia recognizes an asynchronous education.

Education as a Pillar of Civilization

Education is one of the most decisive pillars in the historical process of the progress of civilization. If this civilization wants to progress and develop, then education cannot be separated from factors that must be considered by policymakers (stakeholders) (Zainal Arifin, 2011). Departing from this, the world of education, including educators must make adjustments and creative innovations to the challenges of change and development of the times. Otherwise, as the era of disruption promises, education will become outdated and context-dried. In simple terms, disruption can be understood as a form of change that seeks to bring the future into the present (Rhenal Kasali, 2017).

In line with that, a few researchers stated that disruption is not just a change, but a big change that can change the order or system, such as replacing the old system with a new system; conventional-digital where creative innovation and target market are the keywords to win the competition (Eriyanto, 2018). Educational disruption can be seen from the strengthening of various uses of digital technology in the education and learning process such as the emergence of the use of massive open online courses (MOOCs), namely learning platforms massive, open, and online as a form of distance learning with a wider scope. Next is the emergence of Artificial Intelligence (AI), namely artificial intelligence which was created to replace the role of humans in obtaining knowledge effectively and efficiently (Fitriani, 2019).

In this case, Rahmadi and Hayati emphasized that the existence of MOOCs must be balanced with strengthening students' digital literacy so that they have increased competence in line with the demands of 21st-century educational competence (Rahmadi & Eti Hayati, 2020). This implies that educators must continue to develop their competencies to deal with disruptive changes in education so that they can harmonize the rhythm with the development of digital technology and their students. Because basically competence is progressive so it needs to be continuously upgraded and adapted according to the developments and needs of the times (Radinal, 2021). This means that the competence of educators continues to experience dynamics and optimistically positions educators to continue learning and teaching. So far, studies on the relationship between educators and educational disruption; the Covid-19 pandemic tends to see the impact of the dilemma of online learning methods and the consequences of a pessimistic view of it, not yet emphasizing strengthening holistic-integrative educator competencies as an optimistic alternative step to revitalize the substantive role of educators.

The strengthening of online learning in the era of the Covid-19 pandemic is a global fact that almost occurs in all parts of the world, as Muhammad Faisal's findings regarding educational disruption during the Covid-19 pandemic in Africa that the pandemic problem caused the closure of some learning centers including universities. This is the key factor in the introduction of online teaching, various educational platforms, and applications as alternative methods of providing educational content (Muhamad Faizal, 2021). In general, this reality is also no different from the condition of education in Indonesia during the Covid-19 pandemic. The results of Muninggar et al's research found that educational disruption in the pandemic era had an impact on the entire series of learning processes that could not be carried out normally as learning before the Covid-19 pandemic occurred because online learning eliminates interaction between educators and students (Dani Anwar Hadi, Luthfatul Umayah, 2021). This is also reinforced by Hermawan's findings which confirm that in the digital era, the existence of educators plays a vital role not only in terms of knowledge transfer but also in value transfer (Per Engzell, 2021).

Furthermore, educational disruption also affects the sustainability of specific education. For Priatmoko, an alternative step that can be taken to strengthen the existence of specific education is to do self-disruption starting with a disruptive mindset (change the mindset), do self-driving (become a driver, not a passenger), and reshape/create. This is important so that specific education can face various challenges of the times, overcome its internal problems in terms of improving the quality of education and other latent problems, and prove itself

capable of competing in the era of disruption (Sigit Priatmoko, 2018). The era of disruption is an inseparable part of globalization as well as a consequence of digitalization and technological evolution which has a double meaning, namely as a threat as well as an opportunity.

Therefore, the revolution in the role of educators is important in transforming various shifts in the components of education and learning, starting from the learning approach to teaching and learning. In this context, efforts need to be made to continue to innovate in education, including through 21st-century skills oriented to problem-based learning (Amir T.M, 2009). So that future education graduates can be realized who have competitive advantages and especially digital creativity and independence, especially entering the era of society 5.0 who can seize opportunities for digitizing education in response to various disruptions and their associated impacts (Agung Anggoro Seto, n.d.). In the future, the hope for the birth of a generation that is technology literate but at the same time adaptive to the development of information has become the momentum of education as a pillar of civilization.

CONCLUSION

The existence of the disruption era has logical consequences for the learning implementation system. The need for change in the education system and strengthening the competence of educators become the ideal basis for transformation. There are various perspectives related to the education system in the era of disruption. The usage of digital technology that affects the choice of learning systems brings some effective alternatives for all education stakeholders. Therefore, all the ideas born from this analysis are important endeavors in organizing the more effective and creative education administration systems now and in the future. From this point of view, there is real optimism for the development of an adaptive learning delivery system with disruptive conditions in the current pace of development of digital information technology. Thus, this thought will provide a wider discussion space to give birth to more discourses that have an impact on improving the current education system. In this way, educators continue to play a vital role in the educational process that cannot simply be replaced by technological sophistication. Within the limits of this understanding, all achievements are rooted in the educational process as a starting point for change to a better future for the learning implementation system.

There are various perspectives related to the education governance system in the era of disruption. Disruption of digital technology that affects the choice of learning systems brings a dilemma. On the one hand, the disruption of digital technology provides creative and innovative opportunities for education stakeholders to optimize their use in developing learning strategies and approaches. On the other hand, the disruptive sentiment marked by the overturning of the systemic order of conventional learning, which is suspected of the lack of basic skills in using learning technology media, becomes a complicated problem that allows the learning process to be ineffective, boring and tends to lack creativity.

Therefore, all the ideas born from the analysis of the literature above are an important endeavor in organizing a more effective and creative education administration system now and in the future. The problem of learning loss caused by the lengthy online learning system during the COVID-19 pandemic is one of the many problems that should be resolved immediately through practical, measurable, and effective solutions. From the point of view of digital transformation, there is real optimism for the development of an adaptive education delivery system with disruptive conditions in the current pace of development of digital information technology. Hopefully, this thought will provide a wider discussion space to give birth to more discourses that have an impact on improving the current education governance system.

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