Journal of Applied Linguistics

EDUCATION TRANSFORMATION IN THE DIGITALIZATION AGE AS THE FUTURE OF THE NATION

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Abstract

Technology-based education is expected to be able to improve the quality of education and also in the long term improve the welfare of a nation. The case study approach in several countries and using the results of existing studies in those countries shows a significant influence on digital technology-based learning and teaching. This was emphasized by UNDP regarding the importance of using technology in learning. Studies in England, Turkey and in Asean countries and specifically in Indonesia show that improving the welfare of the nation is possible because more advanced education and the use of learning technology are able to shape students' thinking, learning attitudes and of course their independence in the future. This is certainly encouraging in the midst of the Government's spirit to promote education with an independent learning corps as a complementary to education for all.

Keywords: education, technology, welfare, nation, learning and teaching.

1. INTRODUCTION

The use of the word 'pedagogy' in the digital era that excites the world of education requires the need for a new dialogue between teaching and learning. This dialogue is very significant in the midst of academic debates that place teaching and learning at two poles that influence each other, even contradict each other. The priority is related to the future of this nation. Indeed, the digital era in learning apart from being an acceleration agent also carries smart technology that provides a stimulus to students. Its importance is to prepare them as the next generation of a heterogeneous nation in innovation and in many lines of national life to be useful.

Referring to the phenomenon of change due to the presence of similar capable technology, other scholars have a more specialized vocabulary with the label of digital learning instead of analog learning'. Baird, and Mercedes (2010) proposed the term blend pedagogy to refer to the combination of old pedagogy and new media platforms by educators. Its benefits are to create new pedagogies in the 21st century in an all-digital learning environment. In addition to improving the competence of educators, their interests are in embracing digital technology for creative, collaborative and rich learning with even more diverse content

Looking at the presence of digital technology and millennials as students who are technology literate, it is not impossible that the learning movement will become more dynamic. The point is that educators can provide space for the content of teaching materials to be enriched by these millennial participants and their role becomes much more active than the educators themselves. The description goes further that millennial participant will act as informal educators, while native educators become informal participants. This explosion of progress in learning content is possible because millennial educators and participants are open to working together on various possible directions and concrete findings of the material, the expertise and sensitivity of educators to listen to them encourages original educators to immediately change the purpose of the material. This fact will enable changes in the scope of the learning process. By considering that possibility, the current educational goals will move away from conventional methods. The painting is as follows.
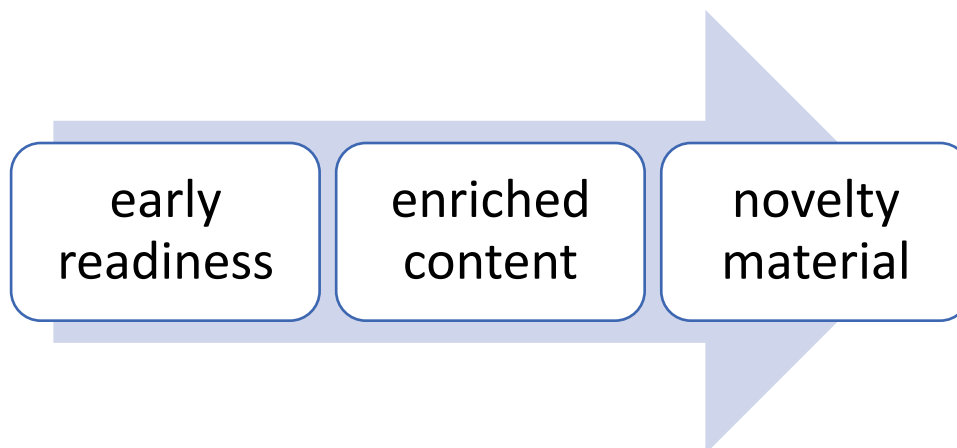
Figure 1: Incorporate Education

Conventional pedagogy understands the three items as input-process-output. Now in learning in the digital era, there is a dynamic movement in learning with the presence of technology in learning that enriches the content which was originally a product of educators' thoughts. Now in the spirit of collaboration, dynamic content enrichment is a necessity. And it affects the novelty of the material studied together. Education in the future will have more discoveries and innovations and this direction is realized because educators are open to adaptive change, and also have digital competencies (digital wisdom) in addition to their knowledge competencies (innate abilities). Learning will be interesting because millennial participants and educators are able to establish cognitive relationships based on digital technology. the result will enable us to achieve what are known as new metaphors.

The impact of digitalization in education is expected to cause social change in the midst of the nation and life together. Cultural products in the form of digital technology in the world of education provide the basis for a pluralistic life and decentralized communication. The issue or theme of living together in the digital technology dimension is certainly not in a plain sense. There is another aspect that gets attention when it comes to the imposition of digital in such learning. Namely, data accuracy and data tracking. It is at this main critical point that technology-based education becomes crucial. A study of this fact must be calculated by educators and organizing institutions. So that the data in databases at faculties and universities in the world of Higher Education and in local schools is safe, protected and also prudential.

When it is elaborated into the scope of National Education, the priority of digital technology-style education in reflecting on future life, at least touches on two sublime things, firstly focusing on the formation of a skilled workforce that is prepared to achieve a bright and competitive

future. And second, the embodiment of social inclusion and equality in the participation of all Indonesian citizens in living together according to the order formulated in the values of Pancasila. The point is that mastery of all-digital technology is a must in education in order to increase global competitiveness, but also as a nation with a Pancasila culture, the determination of these values in the module and curriculum is fundamental so that after graduation students will be able to maintain their values.

New teaching technologies can offer opportunities to personalize learning contexts, thereby increasing student motivation and retention. When introducing appropriate teaching technologies, should take into account issues such as discrimination and data protection algorithms. This needs to be discussed and a solution for it implemented. By considering various possibilities, education in the digital era and the nation's readiness in anticipating these rapid changes, the author formulates several crucial points and they become the statement of the problem in this article.

Main Problem Statement

Several main problems were raised as an important reference for deepening the reality of education in this digital era, which is related to the future of the nation.
(1) It is estimated that the competence of educators in digital-based teaching can stimulate students to be creative and intelligent in recognizing teaching content and enriching it collaboratively.
(2) When the education process takes place on a digital platform, this is in line with millennial expectations and their way of thinking. This fact can actually increase their interest in learning so that they have a complete understanding of the benefits of education for them.
(3) Education held with reference to the use of digital technology can increase the independence of the nation's children on the global stage and be able to compete. Its influence on the welfare of the nation.

METHODOLOGY

Looking at the problem and the efforts of a scientific approach to the problem, the authors use a case study approach in several countries that is inputted from several previous research results. Through a cross-country case study approach, it is hoped that the right strategy can be formulated in deciding the current direction of education. Of course, taking into account the current growth of national education and the evaluation that is being carried out. It is hoped that there will be significant progress in reforming the implementation of education oriented to the welfare of the nation. Yin (2011) describes "limiting the case" as an important step in the study. He writes: Once a general definition of the case has been established, another clarification – sometimes called limiting the case – becomes important. If the unit of analysis is a small group, for example, the people belonging to the group must be distinguished from those outside it…. Similarly if the case is about local services and specific geographic areas, you need to decide which services to cover…. ; types of evidence to collect; and priorities for data collection and analysis. The formulation of the methodology in this study includes:. a. increasing the ability/skills of students in many countries that are used as comparisons, b. transformation of teaching content and c. the final result is income from alumni which has also increased. Described as follows.
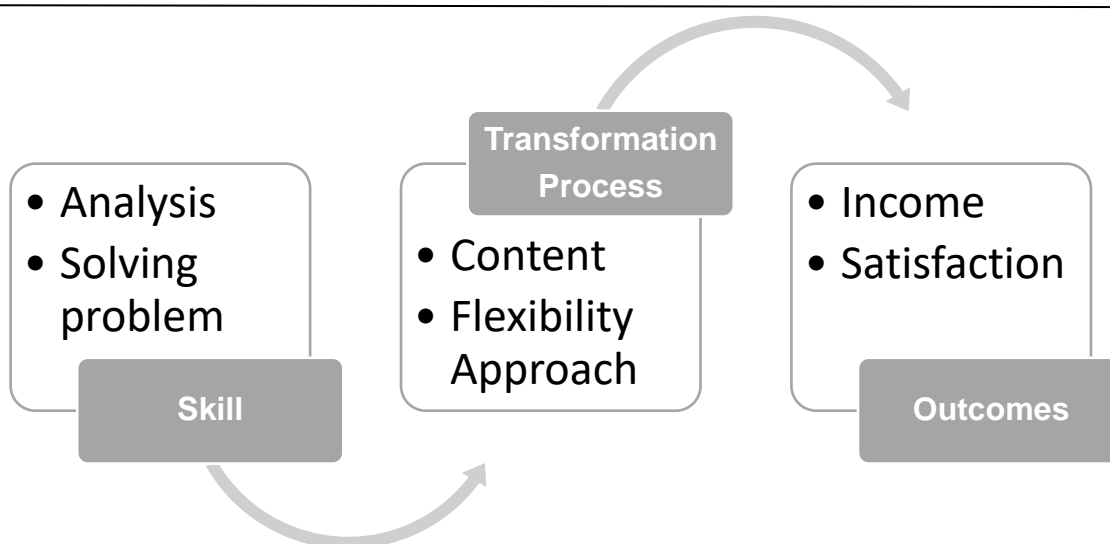
Figure 2: Case Study Proposal

Millennial student ⟶ **organization institution** ⟶ **alumni**

With an understanding of Figure 2. above, which is more process-oriented, the educational process should be aware that some studies may be more pre-structured than others; the degree of flexibility will depend on the objectives of the research, the motivation, skills and interests of the researcher, and the availability of time and resources. And also through this approach, the social aspect is represented by the students, the vertical aspect is represented by the organizing institution and the horizontal is represented by the alumni, as mentioned Bartlett and Frances (2017);what we aim for with our comparative case study is akin. Anthropologist Ulf Hannerz (2006) dubbed "studying through". The horizontal axis compares how similar policies or phenomena unfold in distinct locations that are socially produced (Massey, 2005) and complexly connected (Tsing, 2005). The vertical axis insists on simultaneous attention to and across scales (see also Bray & Thomas, 1995; Nespor, 2004). The transversal comparison historically situates the processes or relations under consideration (for an extended example, see Vavrus & Bartlett, 2013).

FINDING

According to Winn (2002), the impact of technology in networking is greater than ever and therefore, as reported by Alper and Gulbahar (2009) and Masood, (2004), research in this area has grown rapidly. In fact, "With the explosive growth of computers in academia in the latter half of the last century and for individual use in the early eighties, and the advent of the Internet in mainstream education in the nineties, educational technology has become somewhat synonymous with computer-based. online learning and education" (Kinshuk et al. 2013). It is unavoidable that human cognitive abilities are increasing day by day. This is certainly encouraging, especially anticipating human problems that are increasingly complex and not easy to find solutions. It is hoped that computer-based education and digital technology to the creation of more sophisticated hardware and software will be able to accelerate the quality of human life.

Time trends show that after the first decade of the 2000s, the half-life of knowledge becomes shorter; and the empirical and intellectual growth in the field of educational technology is manifold. The field of study analysis shows that the field of educational technology is dominated by three fields, social sciences, computer science and engineering, with social sciences leading the

pack at 50% of all contributions. The geographic presentation of educational technology publications shows a similar pattern to previous studies, with the US and UK being the leading countries hosting the majority of researchers, Bozkurt(2020). By increasing the use of digital technology, it will have an influence on innovation because of the passion for doing research on students. Its contribution to the country or nation is to increase the added value of the invention because its value is promising when used in the commercial world.

A study in the UK, for example, shows that the use of digital among those who are less fortunate can actually increase their dignity as human beings. This literature review identifies many examples of digital advantages that coexist with its contributions. In an increasingly digital world, existing advantages (disadvantages) are being amplified in a way that provides a new digital dimension of poverty. Marginalized and vulnerable groups who are least able to implement the latest technology or the highest connectivity speeds. As governments and NGOs and the private sector move more services and initiatives online, the unconnected and the least connected are falling further behind. Avoiding this requires reorienting digital development to "put the latter first." Development initiatives need to combine non-digital and digital (Hernandez and Tony, 2018).

To enable students to live well and feel a certain sense of control in a technology-rich society is certainly the responsibility of every educator. For example, all students, regardless of discipline, need to know how to find, evaluate, analyze, and apply information in their particular subject discipline. With so much content of varying quality now available at one's fingertips, such skills are essential for a healthy society. Bates (2019) mentions that not only information technology skills, but also thinking and learning attitudes that will bring them success is the mission and burden of education in today's digital era.

It can be expected that technological advances have a significant impact on content, on the way students live and also on educators. The main stream of education is now shifting from educators to students and its complement is educational technology. With regard to these changes, the crucial role of educators for the sustainability of a healthy and prosperous nation is so important. Bearing in mind that the trend of change and educational orientation that hastened and hastened to prepare students for the labor market is not always like that. The most important thing is the formation of students to be independent, responsible and productive later.

Further taking into account the presence of Information Technology in digital format in the mainstream of pedagogy, the specification reflects that digital transformation is only about shaping the application of IT in business practices and operations, Heilig and Voss,.(2017). While practitioners and scholars have presented digital transformation as a process involving dramatic and disruptive changes and outcomes that lead to disruption in the business environment, digital transformation can be seen as an evolutionary process, (Skog, Wimelius, and Sandberg. In this context, one of the most holistic and balanced conceptualizations characterizes digital transformation as an evolutionary process that leverages digital technologies and capabilities resulting in business models that generate value, more advanced and efficient business practices and operations, and better service delivery, (Morakanyane, Grace, and Reilly (2017).

Next, digital transformation can also be seen from the perspective of the linkage between structural, strategic and technological changes that are very important to meet the demands of the contemporary digital era, Drechsler, Gregory, Wagner, and Tumbas, (2020)which emphasizes the need to harmonize practices from the old system to the new system. organization. Due to the incorporation of new technologies, digital transformation requires innovation that focuses on product transformation in this case educational outputs and organizational processes as well as solving existing and potential challenges. It also requires continuous interaction between

organizational members and digital technologies that align business practices, services, and business models within the world of pedagogy Matt, Hess, and Benlian (2015).

The results of the study from Alenezi (2021) show also that with the need for digital transformation is so high, higher education institutions lag behind other industries and business organizations due to several challenges. In summary the main challenges that have hindered the digital transformation of higher education institutions, it has been found that direct focus and poor prioritization, decentralized decision making, internal resistance, digital literacy of the faculty are driven by the generation gap between students and digital native students. faculty and narrow view of ROI are some of the key challenges in this context.

DISCUSSION

Arisman (2018) provides an overview of the welfare of the nation by using the so-called HDI or Human Development Index, in which there are 3 main dimensions that contribute to each other for the nation. Namely, life expectancy, length of education and standard of living of a person. HDI was first released in 1990 ago, HDI is the geometric mean of the normalized index for each of the three dimensions. The three dimensions are the health dimension, the education dimension, and the standard of living dimension. HDI uses the logarithm of income, to reflect the increasing importance of income by increasing the GNI. By considering this HDI, it is stated in it that education is one of the determinant components for the welfare of the nation in the future. Indonesia ranks 5th out of 10 ASEAN countries in its HDI ranking as of 2015 according to the UNDP version.

UNDP as mentioned by Eva (2011) that the role of education in the welfare of a nation has been seen for the past 40 years. The data shows this. Jespersen chimed in, thus: This is clear: a. a. Education is very important to strengthen people's abilities and freedom (HD). b. Education has made a significant contribution to progress in HDI over the last 40 years, c.A complex knowledge society raises the bar for education – HDI strives to stay abreast and d. Inequality in access to and quality of education is a critical challenge for advancing human development.The integration of dimensions of Health. / Life expectancy, length of education and standard of living are described as illustrated in the following figure.
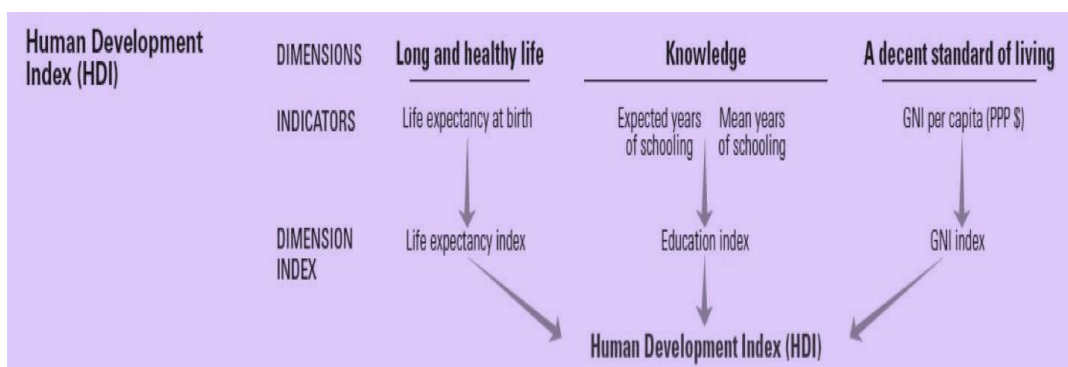
Figure 3: HDI and Three Dimensions (2020)

Refika Atalay (2014) researching in Turkey shows the importance of education is indeed correlated with the income of society as a whole. He stated, depending on the trend in the world, the increase in schooling rate, especially in higher education in Turkey arises from the expectation that the education, especially in higher education in Turkey will bring higher income stems from expectations. Moreover, we can make mention of many profits of the education such as the individual, social and non-monetary profits.

Golpek is still under study in Turkey said, "Special profits are benefits which are obtained by individuals taking education, but aren't reflecting on the society. These profits appear in manner that the education enables individuals to obtain further incomes by increasing the possibility, productivity and capacity of earning of the employment in the future, indirectly to benefit from more goods and services, Filiz, (2012)

Referring to the case in Indonesia, Rinaldi's (2017) study of the Human Development Index shows the role of education in improving the welfare of the nation, especially its competitiveness in the future. The findings of the regression analysis show: a. Based on the result of multiple regression analysis showed that the average of duration of studying at school and the number of literacies are positively effect to human development index, if the average length of school and the number of literacies are increase, then it will be followed by the increasing human development index. b. Based on t-test result showed that the average of duration of studying at school has a positive and significant effect on human development index and the number of literacy has a positive and significant effect on the human development index. c. Based on the F-test result showed that the average of duration of studying at school and the number of literacy are simultaneously has an positive and significant. impact on the human development index.

CONCLUSION

Studying and discussing digital-based education, its link to transformation in it to the welfare of the nation in the future is an important reality. An increase in the welfare of the nation is shown by several research data in several countries and even UNDP as the agency that manages human development also shows the same thing. This also makes research on intelligent technology-based education able to increase the competitiveness of the nation's children in the future if education providers are committed to accelerating students with the advancement of technology-based education processes. Indonesia with the motto of independent learning must also give maximum attention to the progress of education which focuses on the independence of students in science, in learning and achieving their goals.

In today's era, like other industries and business organizations, higher education institutions also need to transform digitally in order to remain relevant to changing industry scenarios and trends. Digital transformation can be applied to several dimensions of the higher education system including teaching, pedagogy, learning and curriculum, infrastructure, and administration and management. It is a necessity to continue to exist.

Limitations

Another limitation regarding the small sample size is achieving validity. While qualitative research typically works with small samples, as a proposal, the limitations observed above mean that the concept of validity – verifying that findings are consistent with what is intended to be explored – is more difficult to maintain. These limitations are intended to be addressed in a larger, subsequent study.

Funding

Disclosure statement
No potential conflict of interest was reported by the authors.

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