IMPLEMENTATION OF EDUCATION MANAGEMENT IN THE ERA OF SOCIETY 5.0

Arman Paramansyah,[1] Usep Dedi Rostandi[2]
[1]Institut Agama Islam-Nasional Laa Roiba Bogor
[2]UIN Sunan Gunung Djati, Bandung
paramansyah.aba@gmail.com
rostandiusep@gmail.com

ABSTRACT

In the era of society 5.0, people are treated to technology that allows accessing virtual space that feels like physical space in the form of AI (Artificial Intelligence) technology based on big data and robots that support and facilitate human work. If in the industrial revolution 4.0 it was more of an emphasis on business, but in the era of society 5.0, values were born that eliminate social inequality and provide more services and products for the various needs of many people. Educational management has problems covering all problems that are related or related to professional educators, students, curriculum, facilities and infrastructure, and the learning process.

Keywords: Education Management; Society 5.0 Era.

A. INTRODUCTION

The Japanese government has proposed a concept called Society 5.0, which meaning "society 5.0." Society 5.0 is a notion that applies to not just manufacturing, but also solving societal problems through the merging of physical and virtual space. According to Wang et al (2018) and Wang et al (2016), the concept of Society 5.0 first appeared in Japan in 2015 as a national political initiative (Abreu, 2018). (Keidanren, 2016; Harayama, 2017). Society 5.0 (Society 5.0) is similar to Industry 4.0 in some ways, but instead of focusing on production, Society 5.0 aims to put people at the heart of innovation (i-SCOOP, n/d, Serpanos, 2018).

In the 5.0 era, industry began to touch the virtual world in the form of human, machine, and data connectivity, all of which are now ubiquitous, dubbed the Internet of Things (IoT). Industry 5.0 will unify and adapt production with flexible mass technologies.

Machines will operate independently or in coordination with humans, control the production process by synchronizing time by synchronizing the application of artificial intelligence (AI) is one of the unique characteristics of industry 5.0.

Industry 5.0, the development era, undoubtedly has an impact on the world of education. The 5.0 Industrial Revolution has altered the way we think about education. The shift in perspective of the concept of education reflects a shift in the concept of education itself. In order to face the problems that society 5.0 will provide, patentable discoveries are required (Umro, 2020).

The existence of civilization 5.0 brings with it a slew of new issues in a variety of domains, one of which is education, which includes learning (Usmaedi, 2021). Students must be prepared not only with the ability to read, write, and count, also known as "Tree R" (reading, writing, arithmetic), but also with global community competences, also known as skills, to deal with the difficulties of living situations in the Society 5.0 period. Ababd 21 is frequently referred to as the "Four Cs," or communicators, creators, critical thinkers, and collaborators, because of their ability to communicate, be creative, think critically, and collaborate.

In the development to face the challenges in the era of society 5.0, the education management itself found a variety of problems that must be resolved immediately to achieve maximum educational goals. The problems that will be faced are educators and education staff, students, curriculum, facilities and infrastructure, to the learning process.

B. RESEARCH METHODS

This type of research is a literature review using descriptive qualitative analysis techniques and content analysis techniques. In library research and qualitative research, data analysis is sufficient with non-statistical analysis in the form of reduction, display and verification.

C. RESEARCH RESULT

The evolution of the era of the industrial revolution 5.0 has unquestionably influenced the field of education. Education, in all of its forms, is aimed at developing future human resources who will be able to adapt to their surroundings (Suswandari, 2017). The era of the fifth industrial revolution has altered our perceptions about education. The changes made are not just in the method that teaching is done, but more importantly, in the way that the concept of education is viewed. As a result, current and future curriculum creation must take into account students' pedagogical talents, life skills, ability to collaborate (collaboration), and critical and creative thinking abilities. Develop soft and transversal skills, as well as invisible qualities including interpersonal skills, cohabitation, global citizenship, and media and information literacy, which are vital in a range of professional scenarios.

But actually the 5.0 Industrial Revolution is nothing new. Because it is the antithesis of the Industrial Revolution 4.0, an era that returns to the industrial era. Human and technology and digital collaboration is getting real. Many robots have begun to be directed to collaborate and have direct contact with humans. It is conceivable that in the field of education, humans and robots will collaborate in the learning process, both in real and virtual classrooms like today. Students may be dealing with robots controlled by educators. The function of the instructor, however, will not be displaced by technology under the new system in this century. Because there are some aspects of a teacher's job that technology will never be able to replace, such as direct classroom interaction, emotional relationships between instructors and pupils, and the establishment of a teacher's character and example.

In the era of the corona virus pandemic that is hitting the human world, the era of the industrial revolution 5.0 and all the technology that exists in this era is considered very helpful. Even now, everything depends on the existing technology. Technology is like an angel and the only helper. From learning, learning and understanding concepts, then teaching materials and learning outcomes are all obtained through technology.

In the era of society 5.0, people are treated to technology that allows accessing virtual space that feels like physical space in the form of AI (Artificial Intelligence) technology based on big data and robots that support and facilitate human work. If in the industrial revolution 4.0 it was more of an emphasis on business, but in the era of society 5.0, values were born that eliminate social inequality and provide more services and products for the various needs of many people. Educational management has problems covering all problems that are related or related to professional educators, students, curriculum, facilities and infrastructure, and the learning process.

1. Professional Educators

One of the problems in education management in the era of society 5.0 is the teaching staff or often called teachers and lecturers. Educators are a crucial component in education management. Educators who are required to have high professionalism will produce high quality human resources as well. In the absence of adequate competent human resources, it is undeniable that Indonesia currently lacks educators who have not mastered technology to support the teaching and learning process in the classroom. It is not impossible in the era of society 5.0 to hold special robots designed to replace educators or which are controlled by educators remotely. This is a shortage for educators who are reluctant to learn about using the latest technology.

In the period of the industrial revolution 5.0, professional and competent educators will have a significant impact on the future of education. Educators in the era of society 5.0 must have strong digital abilities as well as the ability to think creatively. In order to educate well in the classroom, a teacher must be more imaginative and dynamic. As a result, there are three things that educators must employ in the period of society 5.0, as indicated above: the Internet of Things in Education (IoT), Virtual/Augmented Reality in Education, and Artificial Intelligence (AI), which can be used to help determine students' learning needs.

Educators must also possess leadership qualities, as well as computer literacy, communication, entrepreneurial, and problem-solving abilities. All sectors will advance in the era of the industrial revolution 5.0 due to the increasingly advanced period. If the world of education does not prepare for and follow the rapid evolution of the times, Indonesian education will be far behind. Educators in the twenty-first century must be leaders who prioritize students, take the initiative to make changes, particularly for students, act without being told to, and continue to innovate and side with students.

Educators must have digital abilities and be able to think creatively in the age of society 5.0. Educators in the period of society 5.0 (society 5.0), according to Zulfikar Alimuddin, Director of Hafecs (Highly Functioning Education Consulting Services), must be more innovative and active in the classroom (Alimuddin, 2019).

2. Learners

There are some basic things that must be considered and pay special attention to higher education institutions to produce graduates who have high quality AI and have maximum competence in the era of society 5.0. First, the use of information technology is needed to help determine the appropriate study program or major according to their respective talents and abilities. So that it is expected to be able to realize the goals of competency-based education. With the use of IoT, it is hoped that it can help smooth communication between lecturers, students in the learning process anywhere and anytime.

Three, the use of Virtual/Augmented Reality in the world of education. With the use of Augmented Reality, it can help students understand learning theories assisted by simulations according to actual condition. Fourth, utilizing AI in education to identify and find out what learning needs will be needed by students. The identification process will take place quickly by the existing Mechine Learning technology. Examples: Siri, Google Assistant, and others. The use of the three technologies, namely AI, Augmented Reality,

and IoT in education management, is expected to create and produce graduates who have competence and quality who are ready to compete in the era of society 5.0.

Student-centered learning, collaborative learning, and being integrated with the community are things that schools and teachers need to consider in organizing a learning process that is able to direct and shape the character of students. Methods such as (1) flipped classroom, (2) integrating social media, (3) Khan Academy, (4) project-based learning, (5) moodle, and (6) schoology, or other technology-based ones can be integrated into in the learning process so that students are close to technology and can participate in learning and balancing the 5.0 industrial revolution in the technology field.

3. Curriculum

The realm of education management in increasing the quality of human resources is another component that faces challenges in the era of society 5.0. With technology in society 5.0, education management is facing a renewal of the education system which in the short term already has a new curriculum system update. The latest curriculum in Indonesia today is the 2013 curriculum (K-13), which is expected to help students develop in mastering abilities, critical thinking, problem solving, and creative skills which can be practiced in social life coupled with good character.

Students' abilities in pedagogic dimensions, life skills, the ability to live together (collaboration), and think critically and creatively must all be reinforced when developing curriculum for the present and future. Develop soft and transversal skills, as well as invisible qualities including interpersonal skills, cohabitation, global citizenship, and media and information literacy, which are vital in a range of professional scenarios.

In the area of education, the industrial revolution 5.0 promotes character, morality, and exceptional education. This is due to the fact that while technology can replace knowledge, it cannot replace the application of soft and hard talents that each student possesses. In this

situation, competency-based education, a grasp of and use of IoT, the usage of virtual or augmented reality, and the use and application of AI are all required.

Curriculum development is also one of the factors that can guide and mould students' personalities in order to prepare them for the Industrial Revolution 5.0. Teachers must have the following competencies to guarantee that the curriculum works smoothly: educational competence, technical commercialization competence, globalization competence, future strategy competence, and counseling competence. Teachers must also be tech-savvy, collaborative, creative, and risk-takers, as well as have a strong sense of humor and teach holistically.

4. Infrastructure

The next problem is the facilities and infrastructure in every Islamic educational institution, this problem has existed since the era of the industrial revolution 4.0 which until now is still the main obstacle in the use of existing technology. Limited facilities and infrastructure in education management triggers communication errors during the controlling process. The uneven distribution of internet connections that are able to support the process of the Islamic education management movement. As it is known that not all regions in Indonesia can connect to the internet properly. This causes Islamic educational institutions, which are located in areas where it is quite difficult to get a good internet connection, to be disrupted and hinder the teaching and learning process. Infrastructure problems to facilities and infrastructure are still a PR for the Indonesian government in the era of society 5.0.

5. Learning process

To give pupils a place to explore the concepts of knowledge and creativity. Different learning paradigms, such as discovery learning, project-based learning, problem-based

learning, and inquiry learning, are available to educators. These varied methods encourage pupils to develop their creativity and critical thinking skills..

According to research conducted by the World Economic Forum (WEF) 2020, the ability to solve complex problems, critical thinking, creativity, human management skills, the ability to coordinate with others, emotional intelligence, the ability to assess and make decisions, service orientation, negotiation skills, and cognitive flexibility are among the ten main abilities required to face the Industrial Revolution 5.0 era. 10 This ability is also useful in coping with Society 5.0.

Hybrid / blended learning can be used in the 4.0 revolution age to deal with Society 5.0, particularly during the Covid-19 pandemic. Dikti also serves the field of education by providing online learning tools, such as:

a. Collaborate with telecommunications providers to find low-cost internet access.
b. Make it possible for colleges to implement credit-recognition programs through online learning.
c. Higher Education also continues to provide training to lecturers to be able to create online learning materials in a sustainable manner.

In addition, according to Usmaedi (2021), the use of social media also plays a role in making students learn by helping students make their own learning, thus making students actively involved in the learning process through double-loop learning. The further explanation is as follows:

a. Learners in a mobile learning environment.
    1) With mobile learning tools, students can design the way they learn.
    2) Using social networking technologies proposed and/or built by educators, students can form their own learning communities using mobile learning. Whatsapp, Instagram, Facebook, Twitter, Edmodo, Google meet or zoom, blogging sites, Youtube, and others are examples of possible networks, many of which have relevant uses..

3) Learners can collaborate with other members of their learning community in developing content.
4) Learners can show what they've learned in the most effective method for them. This can include blogging, creating Photo Essays, screencasting, creating films or podcasts, drawing, singing, dancing, and more..
5) For feedback, students can take their own initiative by asking instructors or educators and their peers. For obtaining this feedback, it depends on the students themselves, whether they need feedback or not.

b. Virtual Philosopher: an asynchronous learning tool that helps students develop, reflect on, and change their thought processes and logic. Online tools offer active learning tasks based on the many circumstances that the learner encounters during the self-discovery process. The Virtual Philosopher identifies flaws in the learner's thought process through these scenarios and the responses offered by the students, prompting the learner to review and re-assess why he or she thinks the way he or she does..
c. Learner-generated material (active media use): It indicates that using social media to create student-generated content aids in the development of self-direction skills. It is carried out in practice as follows for application in learning in the era of society 5.0. (Chimpololo, 2020):
1) Interdependent learning emphasizes exploration to learn new things, discovery of new knowledge, involvement in research activities, testing hypotheses, validation of knowledge, collaboration of educators with other students.
2) Double-and triple-loop learning, which emphasizes the ability to analyze what will be learned, being able to analyze how new knowledge and pathways lead to learning influence one's values and belief systems, the ability to identify lessons from experience, the application of knowledge and familiar experiences as well

as novel situations, the ability to respond to problems and problems associated with environmental learning.

3) The way to participate in practice is that students join and participate online, then can also attend face-to-face education, as well as communities consisting of educators with other experts, or fellow students. Then share knowledge and content in the education community, ask questions in the community, and respond to questions and problems in the community. In learning in the era of Society 5.0, it is emphasized to students in learning how to learn (metacognition).

D. CONCLUSION

The Industrial Revolution 4.0 has given birth to a new life for the world community with all its services. Changes in all areas of life are inevitable. The orientation of human life experiences a sharp shift, which in the end raises a lot of concerns about the sustainability aspect. Society 5.0, which was voiced by the Japanese government in early 2019, invites all human beings in the world to be able to think critically in responding to technological developments. The aspect of sustainability is the main key and hopes for a positive attitude towards the era of Society 5.0.

In the era of society 5.0, people are treated to technology that allows access to virtual space that feels like physical space in the form of AI technology based on big data and robots that support and facilitate human work. The challenges of education management in facing the era of society 5.0 include educators, students, curriculum, facilities and infrastructure, and the learning process itself. Three things that must be utilized in facing the era of society 5.0 are the use of IoT, the use of AI, and the use of Virtual or Augmented Reality.

Education has changed in the twentieth and twenty-first century. Education in the twentieth century centers on children's information derived through literature. It also tends

to focus on regional and national concerns. While 21st-century education caters to students of all ages, each child is part of the learning community, and learning comes from a variety of sources, including books, the internet, various technologies and information platforms, and worldwide curriculum advances. In Indonesia, it refers to self-directed learning.

REFERENCES

Abreu, P. H. C. (2018). Perspectivas para a gestão do conhecimento no contexto da Indústria 4.0 [Perspectives for knowledge management in the context of Industry 4.0]. South American Development Society Journal, 4(10), 126. https://doi.org/10.24325/issn.2446-5763.v4i10p126-145.

Alimuddin, Z. (2019). The New You: Petakan Ulang Hidupmu dan Jadilah Hebat. Book 1. Jakarta Pusat: PT Insan Baru Indonesia.

Chimpololo, A. (2020). An Analysis of Heutagogical Practices through Mobile Device Usage in a Teacher Training Programme in Malawi. Journal of Learning for Development, 7 (2), 190–203.

Harayama, Yuko (2017). Society 5.0: Aiming for a New Human-centered Society. Collaborative Creation through Global R&D Open Innovation for Creating the Future: Volume 66 Number 6 August 2017. Hitachi Review. Pp. 8-13. Hitachi Review Vol. 66, No. 6. http://www.hitachi.com/rev/archive/2017/r2017_06/pdf/p08-13_TRENDS.pdf.

i-SCOOP (n/d). From Industry 4.0 to Society 5.0: The big societal transformation plan of Japan. Retrieved December 13, 2019 from https://www.i-scoop.eu/industry-4-0-society-5-0/.

Keidanren (Japan Business Federation) (2016). Toward realization of the new economy and society. Reform of the economy and society by the deepening of “Society 5.0”. Retrieved April 16, 2018 from http://www.keidanren.or.jp/en/policy/2016/029_outline.pdf.

Serpanos, Dimitrios (2018). The Cyber-Physical Systems Revolution. Computer, 51I(3), March 2018, pp. 70-73.

Suswandari. (2017). Jati Diri Guru Abad 21. Makalah Disampaikan dalam Seminar Nasional Peningkatan Kompetensi Calon Guru Dalam menghadapi Tantangan Global Kerjasama Program Studi Pendidikan Guru Sekolah Dasar Universitas Muhammadiyah Malang dengan Program Studi Pendidikan Guru Sekolah Dasar FKIP

Universitas Muhammadiyah Prof. DR. HAMKA. Dome Universitas Muhammadiyah Malang.

Umro, J. (2020). Tantangan Guru Pendidikan Agama Islam Dalam Menghadapi Era Society 5.0. Jurnal Al-Makrifat, 5 (1), 79–95. http://ejournal.kopertais4.or.id/tapalkuda/index.php/makrifat/article/view/3675.

Usmaedi. (2021). Education Curriculum For Society 5.0 In The Next Decade. Jurnal Pendidikan Dasar Setiabudhi Volume 4 (2) Januari 2021.

Wang, F.-Y., Yuan, Y., Wang, X., & Qin, R. (2018). Societies 5.0: A new paradigm for computational social systems research. IEEE Transactions on Computational Social Systems, 5(1), 1-8. https://doi.org/10.1109/TCSS.2018.2797598.

Wang, X., Li, L., Yuan, Y., Ye, P., & Wang, F.-Y. (2016). ACP-based social computing and parallel intelligence: Societies 5.0 and beyond. CAAI Transactions on Intelligence Technology, 1(4), 377–393. https://doi.org/10.1016/j.trit.2016.11.005.