



## Heutagogy Approach in Merdeka Curriculum

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### ABSTRACT

The Covid-19 crisis in the world has significantly impacted everything, including the world of education. Almost all countries have closed the face-to-face teaching and learning process in schools at all levels of education. Many countries then improve their education system so students can catch up in learning. In Indonesia, the Ministry of Education, Culture, Research, and Technology is also trying to restore education by issuing the Kurikulum Merdeka policy. This study examines the appropriate learning approach in implementing the 'Kurikulum Merdeka' in primary and secondary education units. A heutagogical approach is an approach in education where learners are fully centered and determined to learn. Students can be active and proactive and create fun learning for themselves. Based on the studies carried out, with a heutagogical approach and the use of technology, students will be able to master the competencies that have been determined through fun learning, and this can be applied in the implementation of the 'Kurikulum Merdeka' which focuses on the needs of students.

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## 1. INTRODUCTION

The Ministry of Education, Culture, Research, and Technology's policies in implementing Learning in schools are currently aimed at meeting the needs of students according to the level of education they attend. Implementing the Merdeka Curriculum demonstrates this as a form of government concern in restoring education after the Covid-19 pandemic, which resulted in learning lags experienced by students at all levels of education.

Through implementing the Merdeka Curriculum, education is expected to be more meaningful for students and can increase the competence of students according to their educational phase. The Merdeka Curriculum is a curriculum with diverse intracurricular Learning where the content will be more optimal so that students have enough time to explore concepts and strengthen competence (Kemdikbudristek, 2022). The main characteristics of this curriculum that support learning recovery include project-based Learning to develop soft skills and character according to the Pancasila student profile and focus on essential material so that there is sufficient time for in-depth Learning of crucial competencies such as literacy and numeracy.

Flexibility for teachers to carry out differentiated Learning according to students' abilities and make adjustments to local contexts and content. Observing the characteristics of the Merdeka Curriculum, we can note that learning in schools has now moved from a teacher-centered pattern to a student-centered one. The role of the teacher in understanding a Merdeka curriculum turns into a companion/tutor/facilitator for students, where it is hoped that the teacher can wholly and entirely assist students in fulfilling the competency needs of their students. On the other hand, students also gain independence in learning through various learning resources and methods that can be determined by students either offline (offline) or online (online).

Education in the world today is also influenced by the development of knowledge and technology. The current industrial era, 4.0, has greatly influenced the education system in the world. Humans have relied on technology to help develop themselves. Learning facilities for students via the internet and electronic media have penetrated various parts of the world. Learning resources are no longer something that can only be obtained in schools or libraries and are no longer only obtained from a teacher/lecturer but are already available in an unlimited virtual world (Astutik & Jannah, 2021). Even in 2019, Japan introduced a new concept, namely Society 5.0. This concept makes humans a source of innovation that is not only limited to manufacturing/industrial factors but also to solve social problems with the help of the integration of physical and virtual spaces (Nastiti & Abdu, 2020).

The idea of society 5.0 is that artificial intelligence products will transform internet transactions in all fields, life into new wisdom by creating hope to increase human capabilities in opening up new opportunities for humanity (Ardinata et al., 2022; Evelina & Safitri, 2022; Nusantara, 2020). In Society 5.0, humans will be the center (human-centered) while remaining technology-based. This appears as a development of the industrial revolution 4.0, which is considered to have the potential to degrade the role of humans. If you look at this, breakthroughs will be needed in addressing various matters, including in the world of education, especially in Learning, which is an interaction between students, educators, and learning resources in planning lessons, implementing Learning, and evaluating Learning. Taking into account the two conditions of change in human life, especially those related to the interests of education, it is necessary to make efforts to make changes in learning carried out in Indonesia. With the enactment of the Free Learning policy, which is manifested in the Implementation of the Merdeka Curriculum, which focuses on the interests of students and

facing the Society 5.0 era where everyone will need technology in their lives, it is necessary to prepare learning methods for students that suit their current needs. In line with the Implementation of the Merdeka Curriculum, which schools are currently implementing, and the need for breakthroughs in Learning that support the concept of Society 5.0, the authors will conduct a study on learning with a heutagogic approach in implementing the Merdeka curriculum.

## **2. METHODOLOGY**

This study uses the method of literature review. Literature study is research that refers to a number of reading sources related to themes and problems and research objectives. This method was carried out with the aim of disclosing various theories that are relevant to the problem being faced/researched as reference material in discussing research results (Danial & Wasriah, 2009). Data, information and statements in journals, books, scientific articles are referenced and analyzed to answer the objectives of this study.

## **3. RESULT AND DISCUSSION**

### **3.1. Merdeka Curriculum Policy**

The Covid-19 crisis has become a particular problem for the world of education; since Covid-19 was started to be designated as a national and even international pandemic, educational activities in all countries in the world have been disrupted because schools have been stopped from carrying out face-to-face learning. This applies to all levels of education. Learning loss has become a phenomenon almost all over the world due to school closures due to this pandemic. Almost all countries eventually have to adopt policies related to education to catch up with education in their countries. Many countries have taken policies in the world of education, which of course, while still paying attention to data and their needs.

According to the UNESCO report (2021), policies taken by several countries include providing health and mental support to teachers and their students; some emphasize adjusting the school calendar and adapting the curriculum, while others focus on remedial and teaching policies to replace unfinished learning processes. Systemic change is associated with the education policy set by the state, so it is not just intervention in academic units or specific areas. Students are expected to be able to learn essential material in catching up due to school closures and online learning that they experienced during the pandemic. To cover this learning loss, the quality of learning held in face-to-face activities in the classroom is prioritized over quantity.

Meanwhile, in Indonesia itself, several educational policies related to learning in schools have been taken, including simplifying the curriculum, perfecting the curriculum, and giving freedom and flexibility to academic units to compile, develop, and use a curriculum that suits the needs of students, environmental support for academic units and their needs. As with the curriculum implementation policy during this recovery period, academic units are given freedom in determining the curriculum to be implemented in their academic units, among others; implementing the 2013 Curriculum in full, implementing the emergency Curriculum or the simplified 2013 Curriculum, or implementing the Merdeka Curriculum (Kemdikbudristek, 2021).



**Figure 1.** The Four Main Ideas of the Independent Curriculum Policy

Changes in the learning system using the Merdeka Curriculum demand changes in how students learn and teachers teach. The Merdeka Curriculum Implementation policy states that learning carried out in academic units must be centered on the needs of students according to the phase (class level) being taken. Supporting the implementation of the Merdeka Curriculum, the government, in this case, only stipulates (1) Pancasila Student profiles as a synthesis of national education goals, the vision of education, (2) Learning Outcomes as the minimum competency that students must achieve for each subject with refers to Graduate Competency Standards and Content Standards, (3) Curriculum structure, as a form of organizing competence, learning content and student learning load, (4) learning principles and assessments, which are guidelines for teachers in carrying out the teaching and learning process in class (Kemdikbudristek, 2022).

In implementing the Merdeka Curriculum, academic units can develop operational curricula that suit the needs and readiness of all elements in their academic units. The involvement of all elements in the education unit in preparing an operational curriculum as a basis for implementing learning and assessment is highly emphasized, with the hope that the education unit will focus on developing the competence of its students. The advantages of the Merdeka Curriculum include: (1) it is more straightforward and in- depth because it focuses on essential material and developing students' competencies in its phases. Learning becomes deeper, meaningful, unhurried, and fun. (2) more Merdeka, both for students, especially in high school, where students choose subjects according to their interests, talents, and aspirations, for teachers, teaching according to the stages of achievement and development of students, and for schools, has the authority to develop and manage curriculum and learning according to the characteristics of the educational unit and its students. (3) more relevant and interactive, where learning is carried out through project activities that provide wider opportunities for students to actively explore actual issues in their environment to support the development of character and competency in the Pancasila Student Profile (Kemdikbudristek, 2021).

This Merdeka Curriculum policy has been applied to academic units ready to implement it, with continuous guidance and assistance provided by widyaiswara and experts from tertiary institutions in implementing the Merdeka Curriculum according to the stages set out in the guidelines for implementing the Merdeka Curriculum.

### 3.2. Current learning challenges

In the current era, where scientific and technological developments have accelerated with the start of the industrial revolution 4.0 and facing society 5.0, education is also challenged to balance the need for information on the knowledge that leads to changes in mindsets that support life in the era of globalization, the learning needed must already be making changes in the process, from the teaching paradigm that has been dominant to a learning paradigm (Lase, 2019; Rullyana et al., 2019).

This can be done by understanding that teachers and students must experience the process of learning together. This shows that teachers do not always know everything but are still human learners who constantly update their knowledge, experience, and knowledge. Learning can be seen as constructing knowledge based on real experiences and collaborative, reflective, and interpretive activities (Brooks, 2021). Students, in this case, must also be seen as active individuals who are directly involved in compiling their knowledge. Understanding the above, the learning process should provide opportunities for students to learn because learning is a business process to make students learn. Hence, the situation is an event of learning, namely an attempt to make change happen—the behavior of learners.

The era of development through society 5.0, which is currently taking place, continues the industrial era 4.0, causing challenges in various fields of life, one of which is in the field of education, including in the learning process in academic units. Learning is the stage of the activities of educators and students in carrying out education in academic units. These stages are activity plans that describe basic abilities and basic theory, which detail the allocation of time, indicators of achievement of learning outcomes, and steps of learning activities for each subject matter (Hanafy & Ming, 2021). Facing the challenges of the industrial revolution 4.0 and society 5.0 in the world of education, especially in the learning process, a new, innovative learning model is needed to answer the challenges of the 4.0 revolution and society 5.0 itself.

According to Istiarsono (2018), the importance of knowledge in the present and future eras is marked by 13 trends that can influence and shape the future. These trends are:

1. The development of communication,
2. The emergence of a world without economic boundaries,
3. The great leap towards a single (unified) world economy,
4. The development of commerce and learning through the internet,
5. The development of a new service society,
6. The unification between the large (global) and the small (local),
7. The strengthening of a new era of fun and excitement,
8. The occurrence of changes in the form of essential cooperation,
9. With the increasing number of impressive discoveries,
10. The strengthening of cultural nationalism,
11. The explosion of Merdeka practice,
12. The development of cooperative change,

The rise of personal power and responsibility (individual victory). This tendency is coupled with the tendency of cognitive intelligence (IQ) to fade on the one hand. On the other hand, awareness of the importance of emotional awareness (EQ), spiritual intelligence (SQ), and multiple intelligences (MI) emerge. This opinion shows that many things will be affected due to the ongoing industrial era 4.0 and society 5.0. The field of education also has its challenges that must be addressed wisely so that students can live the paradigm of change that is currently taking place. In the era of society 5.0, people are solving various challenges by using or utilizing various technological innovations produced in industry 4.0. According to Endang

W. (Usmaedi, 2021), the competencies of the 21st century and the industrial era 4.0 society 5.0 are:

1. Data literacy is the ability to understand, read, analyze, and use data and information (big data) in the digital world.
2. Technological literacy is understanding how machines work and technology applications (coding, artificial intelligence, and engineering principles).
3. Human literacy is the ability to understand humanities, communication, and design.
4. 21st-century skills that foster HOTS (High Order Thinking Skills) include Communication, Collaboration, Critical Thinking, Creative Thinking, Computational Logic, Compassion, and Civic Responsibility.
5. Understanding of the industrial era 4.0 and its development.
6. Understanding knowledge to be practiced for mutual benefit locally, nationally, and globally.

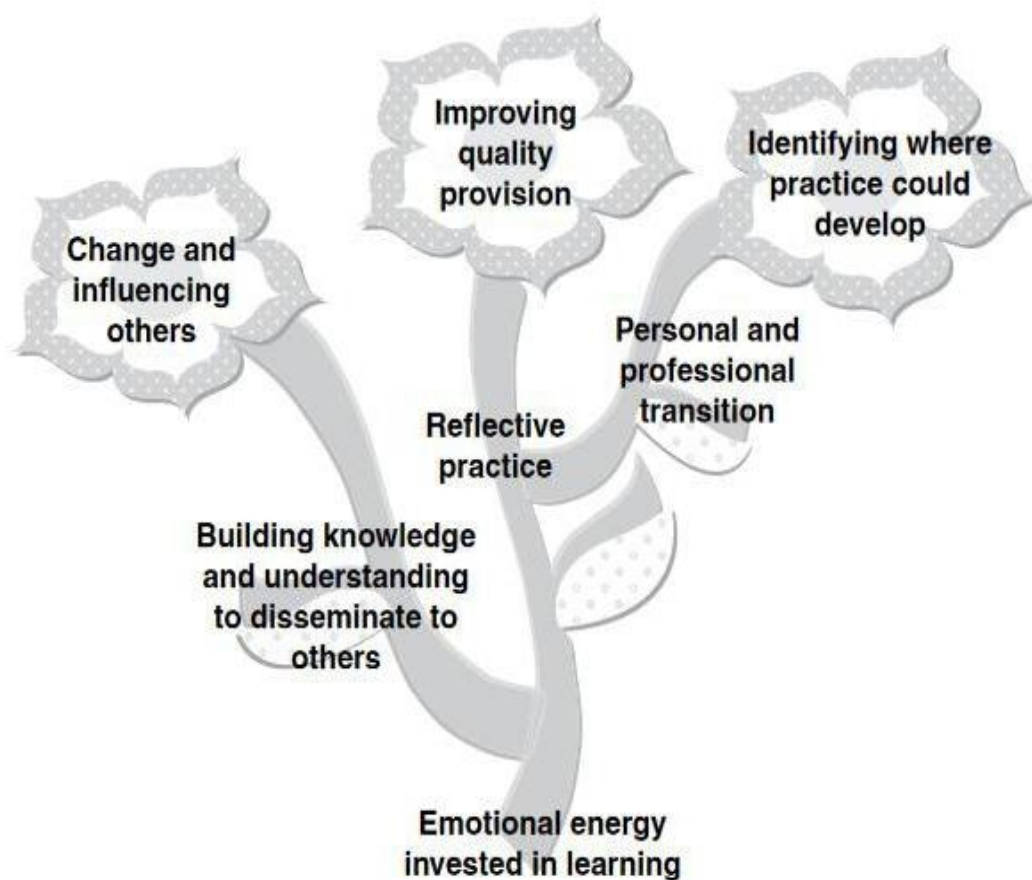
The goal of Society 5.0 is to create a society in which people enjoy life to the fullest. Economic growth and technological development exist for that purpose and not for the prosperity of a select few (Fukuyama, 2018). The implications of the concept of society 5.0 for education include the demand for renewal of competencies that are taught to students to adapt to the needs of society in the era of society 5.0 and also includes learning models in schools. The opinion related to society 5.0 mentioned above has now begun to be shown by our freedom to access information through internet access and the preparation of infrastructure support and increasingly sophisticated communication devices. The world is getting closer to the individual and is very open to anyone, regardless of time and place. It can be said that along with changes in society accompanied by the era of free and open information, a learning approach is needed where students have the right to determine for themselves what and how their learning is done.

Education is currently undergoing its transformation. The effect of information and communication technology (ICT) is starting to fundamentally impact education (Johan, 2019; Oke & Fernandes, 2020; Roztocky & Weistroffer, 2019). By not ignoring the basic principles in education, the learning design must also be able to adapt to current needs and conditions. In order to be fair to our students and facilitate the learning of all students, we need to adapt or modify the curriculum to "fit" the learning needs of students. Teachers differentiate curricula so that they do not discriminate and teach only to a select group of students (that is, only students who are at, or near, the year (grade) or age ability level in a given curriculum). Teachers offer students a variety of learning experiences to meet their different learning needs (UNESCO, 2004).

So that in designing learning, assumptions about the nature of learning system design must be understood. The assumptions that need to be considered in designing learning systems are as follows: (1) learning system design is based on knowledge about how a person learns, (2) the design of the learning system is directed at students individually and in groups, (3) the learning outcomes include direct and accompanying results, (4) the final goal of the learning system design is to facilitate learning, (5) the design of the learning system includes all variables that influence learning, (6) the core of learning system design is the determination of syllabus, learning implementation plans, (methods, media, scenarios, learning resources, assessment systems) that are optimal for achieving the goals that have been set (Pribadi, 2009).

### 3.3. Heutagogy Approach

Heutagogy or 'Self-Determined Learning,' which was later defined, 'self-determined learning' (Hase and Kenyon, 2013). Stewart first introduced Heutagogy from Southern Cross University, which studies self-determined learning. As in the andragogy approach, instructors or educators in heutagogy also facilitate the learning process by providing guidance and resources. As a new concept in learning, heutagogy offers about how people learn, be creative, have a high level of self-effectiveness, apply competence in life situations, and work well with others. Heutagogy is a relatively new teaching and learning framework. The heutagogical approach makes educators only act as facilitators or controllers of the course of learning and emphasizes student-centered learning, which is determined by the students themselves. (Hotimah & Raihan 2020) In the heutagogical approach, students have complete autonomy in creating active, proactive, and enjoyable learning. They strongly desire to gain knowledge and understanding in a particular field.



**Figure 1.** Empowerment and heutagogy (Self-Determined Learning)  
(Hase and Kenyon, 2013)

This search for understanding may come from wanting to expand their knowledge or having questions to which they do not yet have answers. This strong motivation is the essence of learning. The essence of heutagogy is that in some learning situations, the focus should be on what and how the learner wants to learn, not on what is to be taught. This approach is, therefore, very different from the more formal and traditional way of 'teaching' people. In heutagogy, the educational process changes from one where educated people (teachers,

tutors, lecturers) pour information to the heads of the students to choose what to learn and even how they can learn it. This represents a shift from teacher-centered to student-centered learning (Hase & Kenyon, 2013).

In the era of society 5.0, people are solving various challenges using or utilizing various technological innovations produced in industry 4.0 (Mohammad et al., 2019). One way to answer the challenges of society 5.0 in learning is to use a heutagogic approach. Why do you need heutagogy? Because heutagogy focuses on learning, that is Merdeka, and each learner has autonomy (Blaschke, 2012), in line with the characteristics of online learning, which are not face-to-face and determine their future, set their learning regulations (Blaschke & Hase, 2019). Heutagogy is not another form of learning, but heutagogy offers learning that can animate the learning process such that students become more enthusiastic; also, heutagogy can provide a picture of self-reflection for each student, and they learn from what happens during the learning process it happens (Canning & Callan, 2010). According to Narayan & Herrington (2014), the heutagogic approach consists of the following:

1. An open or flexible curriculum that recognizes the naturally flowing nature of learning.
2. Students are the driving force in determining learning paths, contexts, activities, and journeys, not just educators.
3. Students are involved in designing the assessment or ensuring flexibility for students to apply it in the context.
4. Learning is collaborative.
5. Coaching and frameworks are provided for students when needed.
6. Questions directed by students provide an opportunity for genuine collaboration between educators and learners regarding content and process. Questions also clarify what guidance, scaffolding, and support students need.
7. Students create contextually relevant content according to their knowledge and learning needs.
8. Encourage reflective practice for deep learning through learning journals, experiential
9. learning or action research in real-world contexts, and formative and summative assessments with an 'assessment for learning view to provoking thought and reflection.
10. Students direct the questions; this provides an opportunity for genuine collaboration between teacher and learner concerning content and process. Questions also clarify what guidance, framework, and support students need.

A study of learning that Merdekaly carries out by learners can also be seen as a natural development of previous educational methodologies, especially from developing abilities and providing optimal approaches to learning in the 21st century (Hiryanto, 2017). By implementing this method; it is hoped that it will be able to overcome several challenges in the world of education today such as: 1. The workforce requires lifelong learning and lifelong learners. 2. Students need to learn and develop critical thinking skills. 3. Schools cannot teach everything; students need to learn. 4. More institutions are moving towards learner-centered learning and competency-based education. 5. There still needs to be more synergy between education, business, and industry.

Besides that, this heutagogy method aligns with current technological capabilities where everyone can easily find the information they need through a globally connected network. Heutagogy can also support the achievement of competencies needed in the 21st century, namely Critical thinking & Problem solving, Creativity, Communication, Collaboration, Compassion, and competition so that students can be better prepared to face their future



which is a new world where the conditions will undoubtedly be very high. Different from the current conditions (Edutech, 2020). The heutagogic approach positions students as Merdeka individuals in creating active, proactive, and enjoyable learning for themselves. To realize innovative learning and fulfill 21st-century life skills, creating a learning environment that supports a heutagogical learning approach, such as students being given the freedom to join and participate in online learning communities currently widely available on learning platforms. They can also participate in education-face-to-face and study groups. The obvious benefit is that people learn what they have chosen to study, not just what the curriculum dictates. The curriculum is a starting point, a stepping stone. The satisfaction in this process is immense, not only from the learning taking place but also because learners experience empowerment to become directly responsible for their learning as active rather than passive learners. In practice, there are several principles that educators can use as a reference in implementing Heutagogy (Edutech, 2020), namely:

1. Involve students in designing their learning content and processes as equal partners.
2. Make the curriculum process flexible so new questions and insights can be explored as new neuronal pathways are explored.
3. Use social media/LMS (Learning Management System) for learning networks.
4. Provide a flexible or negotiable assessment.
5. Allows the learner to contextualize new concepts, knowledge, and understandings.
6. It provides lots of resources and allows learners to explore important content.
7. Experiments and research.
8. Basic practice on the latest science.
9. Involve students in collaborative learning.
10. Distinguish between knowledge and skill acquisition (competence) and deep learning.
11. Help students gather information.
12. Recognize the importance of informal learning and that we should only activate it rather than control it.
13. Have confidence in students.
14. Place you above the subject area so you can become a resource.
15. Recognize things that can hinder the learning process.

Based on the explanation above, it can be understood that the heutagogical approach is a relatively new learning framework that makes the teacher only act as a facilitator or controller of the course of the learning process and emphasizes student-centered learning, which the students themselves determine. In addition, this approach also provides opportunities for students to design the learning they will do so that learning will be more enjoyable and increase students' creative power in achieving the competencies set out in the curriculum design.

#### **4. CONCLUSION**

To realize innovative learning and meet 21st-century competencies and the challenges of society 5.0 in this post-pandemic era, a heutagogical teaching and learning approach is the right choice. This is in line with the implementation of the Merdeka curriculum, where academic units are free to compile and develop their school's operational curriculum according to the needs, readiness, and carrying capacity of each academic unit and its environment.

The government, in this case, only prepares learning achievement targets that students must achieve in the phase they are currently living. Regarding its implementation, it is up to

schools to design appropriate learning designs while still referring to the Merdeka curriculum implementation guidelines issued by the government. Paying attention to the needs, conditions, and policies currently in effect in the world of education, the authors feel that it is time for teachers to make changes in learning in schools. It is no longer teacher-centered but has become student-centered. Moreover, the teacher is not the only source but becomes a facilitator who directs and guides students to learn. It is time for the heutagogical approach to be introduced to educators and developed for implementation, hoping that education in Indonesia will be more meaningful and ready to face the era of Society 5.0.

## REFERENCES

- Ardinata, R. P., Rahmat, H. K., Andres, F. S., & Waryono, W. (2022). Kepemimpinan transformasional sebagai solusi pengembangan konsep smart city menuju era society 5.0: sebuah kajian literatur [Transformational leadership as a solution for the development of the smart city concept in the society era: a literature review]. *Al-Ihtiram: Multidisciplinary Journal of Counseling and Social Research*, 1(1), 33-44.
- Astutik, A. P., & Jannah, M. (2021, February). The Website-based Information Literacy system and Application in Education Facing the Age of Industrial Revolution 4.0". In *Journal of Physics: Conference Series* (Vol. 1779, No. 1, p. 012055). IOP Publishing.
- Blaschke, L. M. (2012). Heutagogy and lifelong learning: A review of heutagogical practice and self-determined learning. *The International Review of Research in Open and Distributed Learning*, 13(1), 56-71.
- Blaschke, L. M., & Hase, S. (2019). Heutagogy and digital media networks. *Pacific Journal of Technology Enhanced Learning*, 1(1), 1-14.
- Brooks, R. (2021). The construction of higher education students within national policy: A cross-European comparison. *Compare: A Journal of Comparative and International Education*, 51(2), 161-180.
- Canning, N., & Callan, S. (2010). Heutagogy: Spirals of reflection to empower learners in higher education. *Reflective Practice*, 11(1), 71-82.
- Danial, E. & Wasriah, W. (2009). *Metode penulisan karya ilmiah*. Bandung: Laboratorium Pendidikan Kewarganegaraan.
- Edutech, (08 June 2020). *Pedagogy, Andragogy, dan Heutagogy*. Sokrates. <https://sokrates.id/2020/06/08/pedagogy-andragogy-dan-heutagogy/>
- Elliott B., (2008) E-pedagogy and e-assessment. IN: F. Khandia (ed.). *12th CAA International Computer Assisted Assessment Conference: Proceedings of the Conference on 8th and 9th July 2008 at Loughborough University*. Loughborough: Loughborough University, 107-122.
- Evelina, L. W., & Safitri, Y. (2022). Emotional Bonding in Coffee Shops Toward Society 5.0. *Avant Garde*, 10(2), 233-243.
- Fukuyama, M. (2018). Society 5.0: Aiming for a new human-centered society. *Japan Spotlight*, 27(5), 47-50.

- Hanafy, M., & Ming, R. (2021). Machine learning approaches for auto insurance big data. *Risks*, 9(2), 42-56.
- Hase, S., & Kenyon, C. (Eds.). (2013). *Self-determined learning: Heutagogy in action*. A&C Black.
- Hiryanto, H. (2017). Pedagogi, Andragogi dan Heutagogi Serta implikasinya dalam pemberdayaan masyarakat. *Dinamika Pendidikan*, 22(1), 65-71.
- Hotimah, U., & Raihan, S. (2020). Pendekatan heutagogi dalam pembelajaran di era society 5.0. *Jurnal Ilmu Pendidikan*, 1(2), 152-159.
- Istiarsono, Z. (2018). Manajemen pembinaan kompetensi kepribadian dan kinerja guru. *INTELEGENSIA: Jurnal Pendidikan Dan Pembelajaran*, 3(1), 61-73.
- Johan, R. C., Sutisna, M. R., Rullyana, G., & Ardiansah, A. (2020). Developing online learning communities. In *Borderless Education as a Challenge in the 5.0 Society* (pp. 145-153). CRC Press.
- Kementerian Pendidikan, Kebudayaan, Riset dan Teknologi, (2021). *Paparan kebijakan kurikulum merdeka*. Jakarta: Kemdikbudristek.
- Kementerian Pendidikan, Kebudayaan, Riset dan Teknologi. (2022). *Kajian akademik Kurikulum untuk Pemulihan Pembelajaran*. Jakarta: BSAKP, Kemdikbudristek.
- Lase, D. (2019). Education and industrial revolution 4.0. *Jurnal Handayani Pgsd Fip Unimed*, 10(1), 48-62.
- Mohammad, S., Siang, T., Osman, S., Jamaluddin, N., Alfu, N. M., & Huei, L. (2019). A proposed heutagogy framework for structural steel design in civil engineering curriculum. *International Journal of Emerging Technologies in Learning (IJET)*, 14(24), 96-105.
- Narayan, V., & Herrington, J. (2014). Towards a theoretical mobile heutagogy framework. *SCILITE 2014: Rhetoric and Reality*, 150–160.
- Nastiti, F. E., & Ni'mal'Abdu, A. R. (2020). Kesiapan pendidikan Indonesia menghadapi era society 5.0. *Jurnal Kajian Teknologi Pendidikan*, 5(1), 61-66.
- Nusantara, T. (2020). Nusantara, T. (2020). Society 5.0 dan riset perguruan tinggi indonesia. In *Prosiding Seminar Nasional Penguatan Riset Dan Luarannya Sebagai Budaya Akademik Di Perguruan Tinggi Memasuki Era* (Vol. 5, No. 1, p. 1).
- Oke, A., & Fernandes, F. A. P. (2020). Innovations in teaching and learning: Exploring the perceptions of the education sector on the 4th industrial revolution (4IR). *Journal of Open Innovation: Technology, Market, and Complexity*, 6(2), 1-22.
- Pribadi, B. A. (2009). *Desain sistem pembelajaran*. Jakarta: PT Dian Rakyat.
- Roztock, N., Soja, P., & Weistroffer, H. R. (2019). The role of information and communication technologies in socioeconomic development: towards a multi-dimensional framework. *Information Technology for Development*, 25(2), 171-183.
- Rullyana, G., Hanoum, N., & Dewi, L. (2017, November). Students' Perception of Pedagogical Course Learning Process - Developing Pedagogical Competence in Teacher Education.

In *International Conference on Educational Sciences (ICES)*. (Vol. 1, pp. 277-282). SCITEPRESS.

UNESCO, (2004). *Changing Teacher Practices, Using Curriculum Differentiation to Respond to Students' Diversity*. UNESCO, France.

Usmaedi, U. (2021). Education curriculum for society 5.0 in the next decade. *Jurnal Pendidikan Dasar Setiabudhi*, 4(2), 63-79.