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Heutagogy Learning during Pandemic Covid-19: Descriptive Analysis among Senior High School Students in Indonesia

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Abstract. The Covid-19 pandemic has caused sudden disruptions, including learning in schools. A new approach, heutagogy, in learning is expected to be a solution. This study aims to conduct a descriptive analysis of heutagogy learning during the covid 19 pandemic among senior high school students in Indonesia. The research approach is quantitative. The questionnaire was distributed online and has been filled out by 450 respondents. The results show that the highest mean in the learner agency dimension is attitude, the capability dimension is communication, the reflection dimension is know-in-action, and the non-linear design is the ability to handle ambiguity
Keywords: Heutagogy learning, Covid-19 pandemic, senior high school, Indonesia, information management, library management.

1 Introduction

Distance education has been around for a long time. However, as the development of distance learning technology continues to grow. Starting in mid-March 2020 and even now, the entire population of the earth is facing an era, namely the COVID-19 virus pandemic that forces us to make any changes. One of the changes that occurred was in the field of education. As schools around the world struggle to provide continuing education for their students, flaws in large-scale remote teaching and online learning emerge (Ali, 2020). To reduce the risk of spreading the coronavirus, almost all countries

carry out distance learning via the internet, including the Ministry of Education and Culture of the Republic of Indonesia. With the implementation of Emergency Community Activity Restrictions (PPKM), Non-essential activities were halted, and all work was done from home. All aspects of people's lives, particularly education, appear to be being forced to adapt and innovate more quickly, even if it feels difficult. On the bright side, the Covid-19 pandemic can be used to improve one's technological literacy (Trisna et al., 2022). On the other hand, distance learning does not necessarily run smoothly. Many obstacles occur in its implementation. Both teachers and students must adapt to this "emergency" learning model.

Several studies related to distance learning during the pandemic were carried out by Sutiah et al., when the face-to-face mode is halted due to the coronavirus, distance learning is a viable option. It is important to recognize that distance learning does not replace the need for on-site and face-to-face learning but rather supplements existing traditional classroom-based learning models. Distance learning influences both individual learning readiness and institutional facility readiness for blended learning (Sutiah, Slamet, Shafqat, & Supriyono, 2020). In addition, the COVID-19 pandemic has opened up a new paradigm in teaching and delivery methods for teachers and students who have previously been comfortable using technologies (Muslieah et al., 2021). Distance learning, especially for adults, requires a longer adaptation and the barriers are personal motivation, technical barriers (hardware and software), and financing issues (Abuhammad, 2020).

In accordance with the current situation is heutagogy learning (Amalia Putri, R & Handayaningrum, W. 2020). The heutagogy model is thought to be essential for the future era of online learning. Moreover, incorporating heutagogy is not without challenges (Blaschke, 2021). Heutagogy views learning as an active and proactive process, with students acting as the primary agents in their learning, which occurs as a result of personal experiences (Hase, S., & Kenyon, 2013). Furthermore, some challenges in the implementation of heutagogy such as teachers' fear of losing control and taking control (for students). Teachers accustomed to traditional teaching approaches may find the situation uncomfortable and confusing because the learner defines the learning path. Students may be resistant to the approach because it requires them to take responsibility for their own learning; examples of this can be found in the case study, where students struggled to redefine their previously held definitions of learning.

2 Literature Review

2.1 Heutagogy Learning

In the year 2000, heutagogy, or self-determined learning, was established (C. Hase, S., & Kenyon, 2000). Heutagogy is fundamentally learner-centered, with the learner determining the learning path rather than the instructor. (Blaschke, 2012). The essence of Heutagogy is that the emphasis in a learning situation should be on what and how the student wants to learn, rather than what has previously been taught to them. As a

result, this method of instruction differs greatly from more formal and traditional methods. The educational process, according to the Heutagogy approach, shifts from one in which educated people (teachers and lecturers) pour information into students' heads to one in which students choose what to learn and even how to learn it (Hase, S., & Kenyon, 2013). Heutagogy is built around the following key principles learner agency, capability, reflection, and non-linear design (Blaschke, 2016b). Blaschke added, critical thinking skills, collaboration, creativity (problem solving), and independence in learning activities, are learning designs that can be combined with heutagogy. From a heutagogical standpoint, it is critical to enable students to become independent and autonomous learners, to encourage them to determine how and what they should learn (Handayani et al., 2022). She incorporated technology, specifically social media, to aid in the development of self-directed learning. In addition, students become more skilled because of using digital modules. Finally, Self-determined learning (as a heutagogical approach) provides space in determining what to learn and how to learn in a very limited and structured curriculum, while satisfying student desires.

2.2 Indonesia Setting

In Indonesia, the concept of heutagogy is still new. Heutagogy is an advanced learning approach in the distance learning era that makes use of the advancement of information technology (IT). Pedagogy and andragogy approaches are not sufficient in distance teaching practice (Blaschke, 2016a). During a pandemic, teaching and learning activities are carried out remotely (online) by utilizing Information and Communication Technology (ICT). The Indonesian government launched a Curriculum Implementation policy in Education Units in Special Conditions. This policy allows schools to choose a curriculum that meets the learning needs of students with special needs. A special condition is a disaster situation determined by the central government or local government. Educational units in special conditions have three options for implementing the curriculum. First, it still refers to the national curriculum that has been implemented by education units. Second, the education unit refers to the simplified national curriculum for the specified conditions and third, simplify the curriculum independently. The decision to choose one of the three options in implementing the curriculum in special conditions is decided by the education unit through the principal as the decision maker. In addition, government also initiative to help overcome obstacles faced by teachers, parents, and children during learning such as canceled the national exam and provided free internet access for 35GB/month students and 42GB/month teachers (Kamil, 2020). Many parents, particularly those who work, complain about online learning because their children want to be accompanied while learning. Children, especially young children, are unable to use media such as Zoom, Google Meet, Webex, and Google Classroom. As a philosophy for the confusion over the consistency of the online education model, the role of parents should be prioritized in the heutagogy approach (Amalia Putri et al., 2020).

3 Methodology

Descriptive statistical analysis is used to provide an overview of the distribution and behavior of the research sample data by looking at the minimum value, maximum value, average (mean), and standard deviation of each variable (Muchson, 2017). The research method used a quantitative approach with a sample size of 450 respondents. The sample is high school students in East Java, Indonesia. Total 52 question items using a Likert scale, where each answer is given a score as follows: Strongly Agree = 5 Agree = 4 Neutral = 3 Disagree = 2 Strongly Disagree = 1. Questionnaires were distributed to students using google forms. The data obtained were processed using smart PLS version 3.

4 Findings

Descriptive statistics aims to organize data. The statistics involve summarizing and presenting the layout of related variables in the research. In this study, the values of mean, and standard deviation were recorded. Four dimensions for Heutagogy learning were measured namely learner agency (LA), capability (CA), reflection (RF), and non-linear design (NL).

The first dimension of heutagogy learning is learner agency. Learner agency is defined as the ability of humans to make their own choice in life, where the learner is the agent or driver of his or her learning (Blaschke, 2016b).The researcher used a 5-point Likert scale to measure the learner agency. Several items measure learning agency namely self-determined, responsive, and attitude. Table 1 shows that attitude is the prevailing item in learner agency. Based on findings, the lowest mean value for learner agency is 3.64 (LA2) which is responsive, and the highest value of mean recorded is 3.88 (LA3) which is attitude. The overall mean for learner agency is 3.76.

Table 1: Descriptive Analysis for Learner Agency (LA)

Item		Mean	Std. Deviation
LA1	Self-determined	3.7729	.67185
LA2	Responsive	3.6411	.65442
LA3	Attitude	3.8787	.74459
Overall Mean Score for Learner Agency		3.7642	

N = 450
1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

The next attribute of heutagogy is capability. A learner demonstrates capability when they are able to apply competencies in novel and diverse situations (C. (Eds. . Hase, S., & Kenyon, 2013). The three items to measure capability namely self-efficacy, creativity, and communication. Table 2 shows that communication is the prevailing item in

Capability. Overall mean values for each item for capability are 2.56 (CA1), 3.79 (CA2), and 3.80 (CA3), while the overall mean score for capability is 3.72.

Table 2: Descriptive Analysis for Capability (CA)

Item		Mean	Std. Deviation
CA1	Self-efficacy	3.5639	.65770
CA2	Creativity	3.7983	.66177
CA3	Communicate	3.8036	.63385
Overall Mean Score for Learner Agency		3.7186	

N = 450
1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

The next item of heutagogy is a reflection (RF). Reflection entails the learner reflecting not only on what they have learned, but also on how they have learned it - and understanding how they have learned it (Blaschke, 2016). As illustrated in Table 3, the average mean for reflection is 3.70. Further, the higher mean score is represented by RF1, Know-in-action (3.82), followed by RF2, reflect-in-action (3.72). The lowest mean score is represented by RF3, reflect-in-practice with 3.57.

Table 3: Descriptive Analysis for Reflection (RF)

Item		Mean	Std. Deviation
RF1	Know-in-action	3.8228	.64695
RF2	Reflect-in-action	3.7250	.63013
RF3	Reflect-in-practice	3.5739	.62827
Overall Mean Score for Learner Agency		3.7072	

N = 450
1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Another dimension for heutagogy is non-linear design (NL). The learner oversees learning and defines the learning path in this study; because each learner's experiences and model differ, the path taken can be divergent and predictable. Learning occurs in a nonlinear format because of learners choosing their path (Blaschke, 2016). In measuring non-linear design, several items were adopted. Based on the findings resented in Table 4, the highest mean for non-linear design is represented by the item's ability to handle ambiguity (NL1), followed by the capacity of applying open system thinking. The overall mean for non-linear design is 3.61.

Table 4: Descriptive Analysis for Non-Linear Design (NL)

Item		Mean	Std. Deviation
NL1	Ability to handle ambiguity	3.6378	.66838
NL2	Capacity to nurture learner engagement	3.5738	.66455
NL3	The capacity of applying open system thinking	3.6317	.70040

Item	Mean	Std. Deviation
Overall Mean Score for Learner Agency	3.6144	

N = 450
1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

5 Discussion

In this study, the findings show that the largest mean and standard deviation in the learner agency dimension is attitude. The attitude value is higher than self-determined and responsive. Attitude is shown by students listening to the material from the teacher, taking notes, actively discussing, and being able to find accurate sources of information. The heutagogical approach emphasizes learner-centered and determined learning, where students have full autonomy in creating active learning, proactive and fun for themselves (Hase, S., & Kenyon, 2013). In addition, Heutagogy required students to be more self-directed learners, with the teacher serving only as a guide and students free to design their own learning experiences (Shuhidan, 2013). As a result, Heutagogy required students to be more self-directed learners, with the teacher serving only as a guide and students free to design their own learning experiences.

Descriptive analysis for capability shows that communication has a higher value than self-efficacy and creativity. Communicate includes being able to communicate both directly and using media, respecting differences of opinion, and being willing to share with friends. Heutagogy is concerned with the growth of learner capacity and capability (Blaschke, 2021). According to Hase, among the many elements required to support heutagogy, creativity and communication have a significant impact on the concept of heutagogy.

In the reflection dimension, the know-in-action item has the highest value compared to reflect-in-action and reflect-in-practice. Know-in-action is the ability to apply what is learned in making decisions. Students can make decisions regarding learning materials through reading, discussions with friends, and internet browsing. This is in line with the research results (Muslieah et al., 2021) the teacher's role as a facilitator and interactive teaching activities also contribute successful application of the heutagogy approach. The class takes diversity into account the ability of students in terms of equipment facilities and internet access in fulfilling the distance learning requirements. The learning process is long-term when students are fully responsible for their learning activities and the focus of learning is inquiry-based. Students' motivation is high, and they understand how they learn. To support self-determined learners in the context of a pandemic, motivation is critical (Akhasbi, Belghini, & Riyami, 2021). Furthermore, students seek out unusual situations as a source of learning to develop adaptive competence.

The largest Mean value in the Non-Linear Design dimension is Ability to handle ambiguity. This non-linear design transports learners to new information with a single click, allowing them to define and determine their individual learning paths as they

search the web for new information (Peter, 2010) in (Hase, S., & Kenyon, 2013). Students can manage well, use social media, are open to new experiences and do not have anxiety in learning. Students' motivation is high, and they understand how they learn. Furthermore, students seek out unusual situations as a source of learning to develop adaptive competence (Trisna, 2022).

6 Conclusion and Recommendations

6.1 Conclusion

The pandemic requires a comprehensive understanding of learning (Settersten et al., 2020). Distance learning was created to allow students to conduct independent learning activities. Students must construct knowledge through independently locate information (Mamun, Lawrie, & Wright, 2020). The atmosphere and learning outcomes will be more interesting in heutagogy-based learning, encouraging students to bring out all their abilities and initiatives in learning. Furthermore, with the teacher's assistance, students will be able to choose and determine what they want to learn while still adhering to the general principles of formal learning. With this rationale, this approach is thought to be by today's basic education needs and has important implications for educational practice in the globalization era, particularly in the development of individual abilities. (Trisna et al., 2022). Critical thinking and collaboration influence the characteristics of heutagogy. The ability to evaluate, identify problems, solve problems well, and provide facts from the assessment are all aspects of critical thinking. Collaborative abilities include the ability to cooperate, accept full responsibility, respect others' opinions, and interact interactively. Heutagogy can be adopted as an educational framework for the entire institution, thereby providing appropriate ODL settings for educators and learners to enable mindset growth and greater depth of learning (Shuhidan, Hashim, Hakim, Shuhidan, & Mannan, 2021). However, the heutagogical opportunities must be consciously designed and implemented by instructional designers and teachers, with institutional support. The hope is that people will become accustomed to the current system as a learning culture in education after the Covid-19 pandemic.

Finally, to be more focused on the use of rapidly evolving technology, digital literacy is required as a reference. The positive effects of digital literacy include assisting the learning process; being able to distinguish learning resources that are true, significant, and can provide benefits; and allowing teachers and lecturers to be more productive in creating digital teaching media.

6.2 Recommendation

It is recommended for education policymakers to continuously improve the learning system, and infrastructure, and it is also important to increase motivation and digital literacy skills for both teachers and students. Heutagogical approach can be applied in learning in schools.

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