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## **The Implementation of Heutagogy Approach on Distance Learning: Systematic Literature Review**

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### **ABSTRACT**

Corona Virus Disease (Covid-19) pandemic has an impact on shifting the learning approach from face-to-face to distance learning. This change in learning mode demand a change in learning approaches. This study aims to build a comprehensive understanding of the heutagogy approach and its implementation in distance learning. This study was a systematic literature review used PRISMA method. Based on literature search, there was 173 articles which is ready to be screened. After screening process, only 21 articles which eligible for further review. The finding shows that heutagogy approach increase students' learning motivation and critical thinking skills. However, however, the implementation heutagogy on distance learning also poses such challenges, such as guiding students to be self-determined learning, technology requirement, and shifting teachers' role. Also, heutagogy approach can be applied effectively if students have the ability to learn independently well.

Keyword: learning design double-loop learning, self-determined learning

### **Introduction**

Corona Virus Disease (Covid-19) initial appeared in December 2019 in Wuhan, China. Since first appearing in Wuhan, the virus has spread rapidly. As a result, WHO declared Covid-19 as pandemic. Until September 2020, this virus has spread to 216 countries in the world and infected more than 29,737,453 people and caused more than 937,391 cases of death (WHO, 2020). In order to stop the spreading virus, many governments around the world have taken a policy to temporarily close fitness centers, malls, offices, cinemas and schools. The government also implements a work from home and study from home policy. Thus, the learning process, which used to face-to-face learning mode in educational institutions, has now turned into distance learning or online learning.

In general, the definition of distance learning is a mode of learning which learners do not have to come to school. In other words, they can study anywhere and anytime. The concept of distance learning refers to providing learning for students who are geographically distant (Moore et al., 2011).

Changing the learning mode from face-to-face to distance learning is giving some challenges, especially for the type of assessment and evaluation during the learning process. It is difficult to monitor and to confirm that learners do the online tests independently. So that educators should change the type of evaluation which is suitable for online course (Sahu, 2020). Furthermore, the learning approach is also an important point that pays more attention. In order for distance learning to be effective, it is necessary to use an approach that is in accordance with the characteristics of distance learning. Distance learning requires technology usage to construct online classes. Learning methods can be asynchronous and synchronous methods. Asynchronous learning does not require real time interaction between educators and students (Beldarrain, 2006). Learning content has been provided by educators in certain online class, so students can access it anytime and anywhere. On the other hand, synchronous learning requires real time interaction between educators and students. Students and educators must log into the online classroom at the same time. Distance learning implementation can use combination of these methods, so the learning process becomes flexible.

One of the approaches that can be applied is the heutagogy approach because this approach has characteristics that are compatible with distance learning. The concept of heutagogy has been around since the early 2000s. The concept of heutagogy is a criticism of learning that only relies on the teacher as a learning resource (Sumarsono, 2020). In fact, there are so many learning opportunities that students can get from, students can seek experiences in fields whose developments are very dynamic and complex, data and information are constantly changing.

Heutagogy requires technical assistance to support the implementation of learning outside the classroom, students are conditioned to be able to learn independently, be creative and think ahead, and what is important is to have adequate technology (Blaschke & Conrad, 2015). The distance learning characteristics aligned with the heutagogy approach are:

a. Technology

Both of the heutagogy approach and distance learning require technology usage. Heutagogy is a learning theory that supports the application of technologies during the learning process.

#### b. Profiles of students in distance learning

The practice of distance learning influenced by Knowles' theory of andragogy. As an the development of andragogy, heutagogy should be considered as a relevant learning for adult distance learning.

#### c. Learner autonomy

Distance learning require learner' autonomy, the skills of the learner that are central to the teaching approach and heutagogical learning.

There are numerous studies that have been conducted to implement the effectiveness of heutagogy approach. (Abraham & Komattil, 2017) revealed that the implementation of heutagogy approach encourage learners to be more productive in their learning activity. Furthermore, the use of social media as a learning platform helps students develop their knowledge. (Naqvi & Parvez, 2019) provided that distance learning promote students' learning autonomy which is in line with heutagogy approach characteristic. Another research finding that revealed positive impact of heutagogy approach comes from (Glassner & Back, 2019) which is involved 250 students on their innovative learning using heutagogy approach. As a result, this innovative learning enhance students' intrinsic motivation to study.

However, the literature that examines the results of research on the application of heutagogy learning in distance learning is rarely conducted. Therefore, this study aims to build a comprehensive concept about heutagogy approach and synthesize the challenges on heutagogy approach implementation.

#### Method

This study used Systematic Literature Review approach with PRISMA (Preferred Reporting Item for Systematic Review and Meta-analysis) method. The five stages of PRISMA including: (1) defining the eligibility criteria; (2) identify information sources; (3) study selection; (4) data collection; and (5) data item selection.

##### 1. Defining the eligibility criteria

The focus of our review was to explore the key aspect of heutagogy approach and build a conceptual design learning to implement heutagogy approach for distance learning or online learning. Research questions that serve as guidelines in conducting reviews are:

- 1) What are the principles of heutagogy approach design?
- 2) What are the challenges to implement heutagogy approach?
- 3) How to evaluate the implementation of heutagogy approach?

Sources of information come from journals, proceedings, and book chapters in the search database from Elsevier, Google Scholar, EBSCO, and Science Direct using the

keywords "Heutagogy or Heutagogic or Self-Determined Learning" and "Distance Learning or Distance Education or Online Learning."

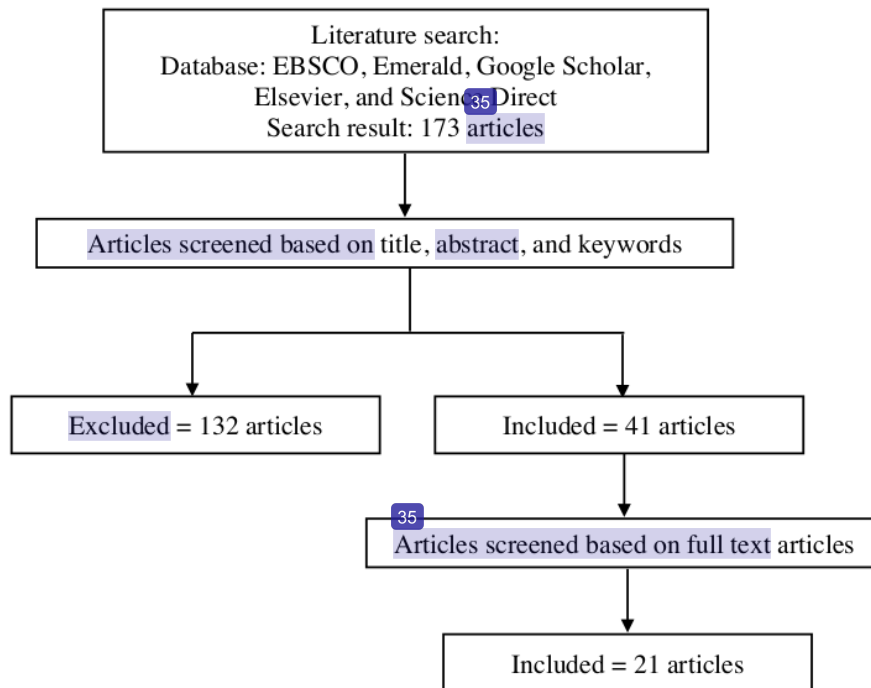


Figure 1. PRISMA framework

## 2. Identify information sources

Collecting articles through an online database that has a repository of academic studies, including: EBSCO, Emerald, Google Scholar, Elsevier, and Science Direct.

## 3. Study selection

Article selection process used several steps:

- (1) The determination of keywords is selected based on the variables to be reviewed in this article and is related to the implementation of the heutagogy approach in distance learning.
- (2) Identification based on titles, abstracts and keywords is carried out by referring to eligibility criteria
- (3) Articles that pass the screening in phase 2, then are screened again based on the full text article.
- (4) Determination of the final result of the references list articles to be reviewed

#### 4. Data collection

The data was collected manually by extracting the form data with the format of the author's name, title, year, keywords and research results.

#### 5. Data item selection

The data item selection provides information related to articles that have met the eligibility criteria for review.

### Result and Discussion

#### *Included studies*

The reference list that has been collected and meets the eligibility criteria is explained in the following table:

No.	Author	Title	Finding
1	<sup>32</sup> Blaschke, Lisa Maria & Hase, Stewart (2015)	Heutagogy: A Holistic Framework for Creating Twenty-First-Century Self-determined Learners	Heutagogy encourage student-centered learning. Moreover, heutagogy provided a framework for thinking about learn how to learn.
2	<sup>4</sup> (Blaschke et al., 2019)	Heutagogy and Digital Media Networks: Setting Students on the Path to Lifelong Learning	As a theory that places learners as the center of the learning activity, heutagogy can be used as a framework for supporting and promoting student abilities such as self-efficacy, self-determination, and self-direction (andragogy), and self-learning, while focusing on additional aspects of learner, reflection and metacognition.
3	<sup>20</sup> (Agonács & Matos, 2017)	Towards a Heutagogy-Based MOOC Design Framework	The heutagogical approach offers a learner-centered alternative design that not only makes the learning environment more effective but also contribute to creating more prepared learners.

4	(Narayan et al., 11 2019)	Design Principles for Heutagogical Learning: Implementing Student- Determined Learning with mobile and Social Media Tools	Heutagogy design principles created as a part of the research to reflect the core principles of heutagogy by effectively leveraging the capabilities of smartphones for learners participation during learning activity.
5	(Eachempati et al., 42 2017)	Heutagogy through Facebook for the Millennial Learners	Facebook's intervention to apply heutagogical principles for millennial learners is an innovative and new experience. Teachers role in the heutagogical model will be apply a scaffold to encourage learners development towards competence to achieve their goals.
6	(Kapasi & Grekova, 34 2018)	What do Students Think of Self-Determined Learning in Entrepreneurship Education?	This study provides findings which is contribute for Entrepreneurship Education (EE) field. First, research considered the value of an independent learning approach to developing learners' competencies.
7	(Marcut & Chiu, 10 2018)	Heutagogy-An Appropriate Framework for Computer Aided Learning Course with Post-Graduate Teacher Students	Heutagogy empower students' abilities such as creativity, self-efficacy, teamwork, communication and independent learner. The research finding confirmed that heutagogy is a suitable framework for post-graduate teacher students.
8	(Tümen Akyıldız, 4 2019)	Do 21 <sup>st</sup> Century Teachers Know about Heutagogy or Do They Still Adhere to Traditional Pedagogy and Andragogy?	Heutagogy is a useful strategy to improve students' determination in learning process, especially in higher education.

9	(Putra et al., 2019)	17 Analysis of the Necessity for Heutagogical Approach Through 4Cs Skills as Innovation for Vocational Lectures in the Education 4.0	Heutagogy influenced by creativity and communication aspects. Creative aspects included four elements namely: the skill to develop new idea and create independently. Thus, communication aspects includes the ability to convey information, to deliver ideas, to accept opinions, and to master various communication techniques.
10	(Blaschke & Conrad, 5 2015)	Heutagogy and Lifelong Learning: A Review of Heutagogical Practice and Self-Determined Learning	Educators have the chance to prepare learners to enter workplace. Distance education has certain similarities with a heutagogical approach. Both of them require and promote student autonomy.
11	(Chemsi et al., 2020) 2	Study of the Self-Determined Motivation among Students in the Context of Online Pedagogical Activities	41 The finding showed that ICT-based formative assessment used in university seemed to generate learners' self-determined motivation.
12	(Mohammad et al., 2019) 31	A Proposed Heutagogy Framework for Structural Steel Design in Civil Engineering Curriculum	Design courses to implement heutagogy approach consists of lesson plans, course guide design, challenges, and assessment.
13	(Msila & Setlhako, 33 2012)	Teaching (still) Matters: Experiences on Developing a Heutagogical Online Module at UNISA 40	Heutagogical principles encourage student teachers' skill and equip them with the necessary best practices. 46
14	(Kamrozzaman et al., 2020)	Development of heutagogy approach in M-learning for sustainability education	The results show that mobile device are the most suitable device to help learners with a well-rounded education. Mobile device rank at the



			first place in comparison to PCs and laptops.
15	(Teszenyi et al., 2020)	<sup>23</sup> Enhancing Learning for Early Years Foundation Degree Students: Empowerment through Heutagogy and Reflecting on the Notion of Knowledgeable Others	This paper argues that lecturers at higher education institution teaching with work-based students but they should also heutagogic approach that enhances learners' autonomy.
16	<sup>1</sup> (Jazeel, 2016)	Effectiveness Of Heutagogy Integrated E-Content Modules On Understanding Osmosis Among Science Students In Colleges Of Education In Sri Lanka	E-content Modules developed and given to learners to study. A pre-test and post-test were conducted to measure the effectiveness of integrating heutagogy and modules. The results showed that modules with a heutagogy approach was effective.
17	(Cochrane & Rhodes, 2011) <sup>36</sup>	Iarchi[tech]ture: Heutagogical Approaches to Education Facilitated by MLearning Integration	Architecture Learning Projects on 2009 and 2010 represent two iterations of action research that illustrate a journey from traditional physical to heutagogy.
18	(Abraham & Komattil, 2017) <sup>20</sup>	Heutagogic approach to developing capable learners	The learning concept enhanced by providing learning method such as PBL, where students can explore their insight by using social media. It will enhance learners' autonomy.
19	(Vallance & Towndrow, 2016) <sup>1</sup>	Pedagogic transformation, student-directed design and computational thinking	The main implication for heutagogical learning is technology usage in learning activities.
20	Kerry (2013) <sup>4</sup>	Applying the Principles of Heutagogy to a	Heutagogical learning work well when three conditions are met: learners have the ability to learn on

		Postgraduate Distance-Learning Programme	their own; learners have confidence in their personal power to learn; and they exercise the power of judgment.
21	<sup>30</sup> (Blaschke 2014)	Using social media to engage and develop the online learner in self-determined learning	Result showed that students perceive certain social media platform in relation to unique learning activities that affect certain cognitive and meta-cognitive skills.

### ***RQ. 1 What are the principles of heutagogy approach design?***

Designing heutagogy approach on distance learning is considering some principles, including:

#### **1) Learner-centered and learner-determined;**

The main key of learning heutagogy is to give freedom to students in determining their own learning environment. This includes the level of knowledge you want to master, learning strategies, and how to measure it. Student autonomy is highly emphasized in this principle.

#### **2) Capability;**

Students' ability to organize themselves is crucial in heutagogic learning. The ability referred learner self-efficacy, collaboration or teamwork, creativity, communication, and positive values.

#### **3) Self-reflection and metacognition;**

Self-reflection and metacognition refer to students' ability to reflect their learning goals achieved or not. Students reflect what they have learned and the way to learn or understand certain learning material.

#### **4) Double-loop learning;**

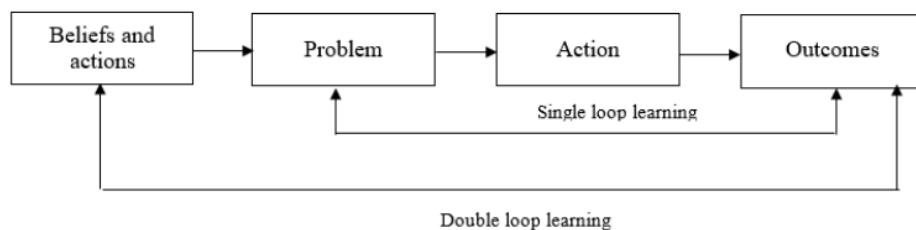


Figure 2. Double loop learning flowchart (Eberle, 2013)

In the single loop learning process, students only implements all the principles and guidance through an action strategy which will eventually produce consequences, without questioning or criticizing what has been determined. Meanwhile, the double loop is a learning cycle that allows students to not only implement but also question existing principles.

#### 5) Nonlinear learning and teaching

In Heutagogy, learning happens in a nonlinear format. Students' determined their own learning path.

Heutagogy design process should be followed three steps namely: learning contract, learning activity, and learning outcome. The learning contract is carried out at the beginning of the lesson. At this stage, several things that need to be done are: (a) identifying learning needs and learning outcomes; (b) assessment negotiations; and (c) curriculum adaptation. After determining the learning contract, the next step is to carry out learning activities. At this stage, it is important to identify learning resources, develop learning skills, learning activities, feedback, and self-reflection. The next stage is to assess learning outcomes and demonstrate the competencies and skills that have been learned. There are important elements in designing a heutagogical process, namely:

##### 1) Exploration

Exploration is one of fundamental element on heutagogy. Learners can explore kinds of paths and source of knowledge during learning process. The Internet offers the suitable environment for learners to be self-determined learning.

##### 2) Create

Learner should be freedom to create something new or innovation during learning process which is achieved using numerous learning method such as: drawing, writing, or designing.

##### 3) Collaboration

Another heutagogy element is collaboration. It refers to the learner environment where learners can learn from their peers. Learners can work together achieve a common goal, solve problems, sharing information and experiences. Teacher role as a guide during this collaboration activity.

##### 4) Connection

Making networks or connections are essential heutagogy facet, through this connection a new learning path can be created.

5) Share

Learners are able to learn new knowledge from their peers experience through sharing information session. Educators can help learners to identify sharing tools and applications, also offer guidance for evaluating online information.

6) Reflect

On heutagogical learning, learners need to have chance to make reflection for their learning process. In this process, potential new learning occurs. Reflection offers the opportunity to move up to a higher level of cognitive activity. Thus, repetition make short-term information move to long-term memory.

***RQ. 2 What are the challenges to implement heutagogy approach?***

Implementing heutagogy approach on distance learning is challenging. These challenges can be divided into three part, namely: learner's role; educator's role; and technology requirement.

1) Learner's role as self-determined learning

On the heutagogy approach, principally gives students the freedom to determine their own learning goals, learning strategies and evaluate the results they have obtained. This is very different from traditional learning where teacher intervention is very dominant. Thus, at the beginning of the application of heutagogy learning, some students will be confused about how to become a self-determined learner. To overcome this problem, teacher guidance is needed in the learning process.

2) Educator's role as facilitator

In traditional learning, teachers dominate the learning process. However, in heutagogy learning, the teacher's role is limited to a facilitator and less dominate. There are challenges for teachers in creating the learning process, from helping students to find their own way of learning, to planning lessons that can give students the freedom to determine their own learning process, and also creating online assessment that suitable for distance learning.

3) Technology requirement

<sup>29</sup> The role of technology is the key in distance learning and heutagogy approach. The application of online courses in the form of asynchronous and synchronous learning is highly dependent on the help of technology. However, not all students have adequate technological facilities.

### ***RQ. 3 How to evaluate the implementation of heutagogy approach?***

The success of learning heutagogy can be seen from the change in students' attitudes in developing the desire and skills to become active learners. Students develop learning abilities, learn **how to learn**, be able **to reflect** themselves **on the learning process**, can identify problems faced and find solutions to these problems. They are becoming increasingly skilled at exploring and collaborating with the people around them. They also become experts in planning their learning.

### **Conclusion**

The concept of distance learning is not a new concept. This concept has existed since the 19th century. However, not all formal education institutions implement distance learning. The learning process is mostly done with face to face learning. This learning method immediately turned to distance learning since the spread of the Covid-19 pandemic. Changes in learning modes have an impact on changes in learning approaches. Teachers should be creative in implementing learning approaches that are in accordance with the characteristics of distance learning. Heutagogy is an alternative learning approach that can be applied in distance learning because heutagogy encourage freedom in learning and high internet usage. Several principles guide learning design using the heutagogy approach, namely: **learner-centered and learner-determined; self-reflection and metacognition; capability; double-loop learning; and nonlinear learning and teaching**. Furthermore, evaluating **the success of learning** heutagogy can be seen from the change in the attitudes of students who become more independent and **able to determine their own learning** path. Students accustomed **to design their learning** process, including: to determine learning objectives, learning resources they have, strategies in achieving goals and reflect on the learning process that has been carried out.

For further research, it is necessary to carry out more in-depth research related to the application of heutagogy learning combined with learning models in certain subjects. Furthermore, the application of heutagogy is not only limited to learning at the tertiary level but can also be applied at the senior high school level.

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