



Implementation of Pedagogical, Andragogical, and Heutagogical Approaches in Education System Sustainability

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Abstrak

Dewasa ini sangat penting bagi pendidik untuk mengetahui suatu tema mengenai pendekatan dalam pembelajaran. Oleh karena itu, penelitian ini bertujuan untuk menganalisis berbagai pendekatan pembelajaran seperti pedagogik, andragogik, dan heutagogik sebagai pendekatan pembelajaran yang umum digunakan dalam penyelenggaraan pendidikan. Metode penelitian yang digunakan adalah kajian literatur. Teknik pengumpulan data penelitian ini adalah dengan mempelajari artikel yang berkaitan dengan pedagogic, andragogic, dan heutagogic dilanjutkan dengan analisis data deskriptif kualitatif dengan jumlah sampel penelitian setelah melalui tahap screening dan kelayakan sebanyak 14 makalah, dari total 459 makalah yang ditemukan dari tiga database selama proses identifikasi. Hasil penelitian ini menunjukkan bahwa masing-masing pendekatan memiliki karakteristik yang berbeda dan dapat diterapkan sesuai dengan karakteristik siswa dan materi, pendekatan pedagogik dapat diterapkan pada jenjang pendidikan awal, andragogik sangat cocok untuk pembelajaran orang dewasa, dan pendekatan heutagogik. Pendekatan ini relevan dengan pendidikan tinggi. Melalui penelitian ini dapat dijadikan acuan bagi guru untuk memilih pendekatan yang sesuai dengan karakteristik siswanya.

Kata kunci: Pembelajaran, pedagogic, andragogic, heutagogik, kompetensi, digital.

Abstract

Nowadays it is very important for educators to know a theme regarding approaches to learning. Therefore, this study aims to analyze various learning approaches such as pedagogic, andragogic, and heutagogic as learning approaches that are commonly used in education delivery. The research method used is a literature review. The data collection technique for this research was to study articles related to pedagogic, andragogic, and heutagogic followed by analysis of qualitative descriptive data with a sample number after going through the screening and feasibility stages of 14 papers, total of 459 papers found from three databases during the identification process. The results of this study indicate that each approach has different characteristics and can be applied according to the characteristics of the students and the material, the pedagogic approach can be applied at the early education level, andragogic is very suitable for adult learning, and the heutagogic approach. This approach is relevant to higher education. Through this research can be used as a reference for teachers to choose an approach that suits the characteristics of their students.

Keywords: Learning, pedagogy, andragogy, heutagogy, competence, digital.

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1. INTRODUCTION

Education is needed as a process that is able to build human potential towards progress in all aspects. The development of increasingly modern science and technology now appears various kinds of shifts in human life, as a result of information disclosure. According to Law no. 20 concerning the National Education System, Education is "a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have spiritual strength." Religion, self-control, personality, intelligence, noble character, and skills needed for himself, society, nation and state (Ali, 2013; Bakhshi et al., 2017). Referring to the sound of the law, education plays an important role in creating intelligent, moral and skilled human resources. This certainly cannot be separated from the principle that national education has three functions, namely (1) developing abilities, (2) forming dignified national character and civilization, and (3) educating the nation's life. While the goal of national education is to develop the potential of children to become human beings who fear God Almighty, have faith and have noble

character, are healthy, knowledgeable, skilled, creative, independent, and become citizens of a democratic and responsible state (Jayanti et al., 2021; Lai & Viering, 2012; Pradana et al., 2021). The success of the implementation of education is largely determined by the approach used by educators or teachers in conveying the material to students who prioritize the characteristics of students as learning subjects (Diah Rusmala Dewi, 2019; Morrar et al., 2017). Today many approaches have been developed by experts, targeting both children and adults. Several approaches that are very familiar in the world of education are pedagogy, andragogy, and heutagogy (Akin, 2014; Chan, 2010; Lapele et al., 2021). Implementing pedagogical approaches in education system sustainability refers to the integration of effective teaching and learning strategies that promote sustainable development within the educational system. This approach aims to equip students with the knowledge, skills, and values necessary to address environmental, social, and economic challenges in a sustainable manner (Bilqis et al., 2016; Dopo & Ismaniati, 2016; Rands et al., 2021).

This approach encourages students to explore real-world issues, formulate questions, and investigate solutions collaboratively. Students engage in hands-on activities, conduct experiments, and analyze data to develop critical thinking skills and a deeper understanding of sustainability issues. This approach emphasizes learning through direct experience. Students participate in field trips, community service, and hands-on activities that connect classroom learning to real-life situations (Sadiku, 2015; Szabo et al., 2020). This approach enhances their understanding of sustainability and encourages them to take action in their communities. Andragogy is a teaching and learning approach specifically designed for adult learners. Unlike pedagogy, which focuses on teaching children and adolescents, andragogy recognizes the unique characteristics and needs of adult learners (Akin, 2014; Lewis & Bryan, 2021). The implementation of andragogical approaches in the education system involves tailoring educational strategies and methodologies to effectively engage and support adult learners. Adult learners are typically motivated to learn when they perceive the learning process as relevant to their lives and goals. Andragogy emphasizes promoting self-directed learning, where adults take ownership of their learning journey (Blaschke, 2012; Sosibo, 2019). They are encouraged to set their own learning objectives, identify their learning needs, and actively participate in the learning process.

Heutagogy is a learning theory and educational approach that emphasizes self-determined and self-directed learning. It places the learner in the driver's seat, empowering them to take control of their own learning process and become lifelong, independent learners. Implementing heutagogical approaches in the education system involves shifting the focus from the traditional teacher-centered model to a learner-centered model (Blaschke, 2012; Lapele et al., 2021; Marie, 2012). Heutagogy encourages learners to become active participants in their learning journey. They are involved in setting goals, designing learning plans, and selecting appropriate resources and strategies. Learners are encouraged to reflect on their progress, identify their own learning needs, and take responsibility for their learning outcomes (Handayani et al., 2021; Sulistya, 2019). These three approaches can certainly be used by teachers as an approach to managing learning according to the characteristics of students or students. Each of these approaches has characteristics and potential uses that are different from one another. Therefore this study analyze the concepts, relevant research results and how to design practices from the pedagogical, andragogical and heutagogy approaches that can be utilized by teachers or designers to design a learning activity that suits the needs and characteristics of students.

2. METHODS

In this study, we used the bibliographical method of studying and studying books, journal articles and other relevant documents. This research then refers to several sources including in the type of literature review research (Marangunić & Granić, 2015; Rhamdan et al., 2021). Literature research is a research activity that collects information and data using various materials available in the library, such as reference books related to the problem to be solved, previous similar research, articles, notebooks, and various journals. The research sample search strategy and the selection process in this study began with data collection tool, which used a documentation study guide and a semantic compatibility checklist. The activities of collecting, processing, and concluding data using certain methods/techniques have been carried out systematically to find answers to the problems faced (Cherni et al., 2020; Snyder, 2019). This literature review research uses secondary data in the form of scientific papers that have been published in various databases. The database which is a reference for research in collecting research samples in the form of various papers was google scholar, Science Direct, and ERIC.

The next process is regarding the reference criteria and eligibility criteria for the articles to be referred. This literature review research will use several keywords as a reference for finding papers that are aligned with the research objectives (Hafeez, 2021). Some of the keywords used are; *pedagogic, andragogy, heutagogy learning, facilitator in learning*. After obtaining a large number of various articles, the next step is the process of selecting the papers found, several articles that have been successfully searched through the database are then downloaded and entered into the reference management application, namely Mendeley. The data in the form of various articles are then extracted with conditions that meet the requirements and are relevant to the keywords and topic of this research. Furthermore, the findings of several of these articles were then analyzed. All the published paper were analyzed using qualitative descriptive analysis (Lassoued et al., 2020). Similarities, differences and complementarities, especially with regard to the focus of the research conducted, are ultimately obtained as a result of information research and are explained systematically in accordance with scientific principles (Lima et al., 2022; Matthew B. Miles, 1994). Briefly, the flow of this research can be described as show in Figure 1.



Figure 1. Research Procedure

3. RESULTS AND DISCUSSION

Results

The In this section, some findings related to the literature that have been found will be presented. Starting from the process of identifying three database papers, namely Google Scholar, ERIC and Science Direct, a total of 459 were obtained from the search process using several predefined keywords. Furthermore, papers are sorted by examining titles and abstracts that are relevant to the topic of this research, while papers that are irrelevant in

terms of titles and abstracts will be removed so that they do not go to the next stage. The results of this literature search are based on the PRISMA flowchart as show in [Figure 2](#).

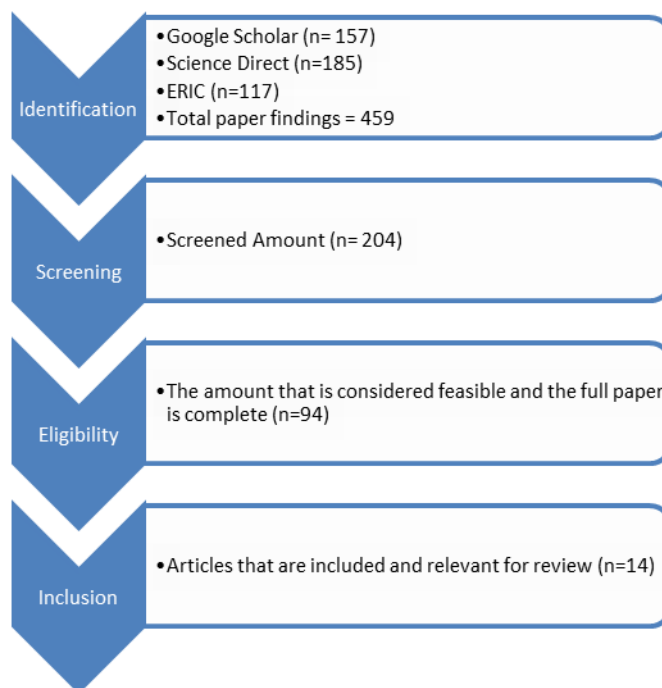


Figure 2. Analysis Using PRISMA Flow

The next stage was the eligibility process for articles that were successfully entered as a result of screening activities, 94 articles were found. After that, the full text and assessment process of the several articles were found so that around 14 articles were found that were relevant to several keywords and this research topic. Those paper are show in [Table 1](#).

Table 1. Relevant Paper Results and Findings

No	Research Topics & Author	Research Methods	Research Results
1.	Kemampuan Pedagogik Guru (Sulfemi, 2019)	Library Studies	The results of this research indicate that there are several scopes of pedagogic competencies that must be possessed by prospective teachers, in addition to mastering pedagogic competencies and their scope. The results of this research also state that teachers must master other competencies or abilities other than pedagogic, such as personality, social, and professional
2.	Kompetensi pedagogik guru dengan strategi pembelajaran kreatif pada mata pelajaran bahasa indonesia di	Qualitative Descriptive	The results of this research resulted in a conclusion that teacher pedagogic competence is very important in playing the role of success in learning, especially through pedagogic competence teachers will be able to utilize

No	Research Topics & Author	Research Methods	Research Results
	sekolah dasar (Cahyani et al., 2019)		learning strategies combined with various supporting tools to carry out learning activities in class. This is because in pedagogic competence, teachers will be equipped with various competencies such as: 1) understanding the characteristics of students, 2) classroom management and learning, 3) the use of technology in learning, 4) an evaluation process that is in accordance with the objectives, and 5) facilitating students in framework of self-actualization and potential. Therefore, teacher pedagogic competence, especially at the basic education level, is needed in order to be able to create an interactive learning situations.
3.	The effects of the pedagogical experience on the quality of teacher education (Koteva-Mojsovska & Bancotovska, 2015)	Quantitative Descriptive (Survey)	Pedagogical experience is experience that is complemented by pedagogical practice on the one hand and theoretical knowledge. Pedagogical experience is a type of activity that involves students in the educational process. The results of this study indicate that the students have good theoretical knowledge about the educational process and successfully choose topics to discuss with competent people in the institution. The results of this research conclude that the pedagogical experience as an integral part of the study has a positive impact on the quality of the early education of teachers and educators.
4.	Applications of Andragogy in Multi-Disciplined Teaching and Learning (Chan, 2010)	Library Studies	The research results are motivated by differences in learner characteristics between children (child) and adults (adult). The results of his research show that the principles of andragogy learning are needed now, not only in adult education. Practically all sectors of education services need these

No	Research Topics & Author	Research Methods	Research Results
5.	Penerapan model pembelajaran andragogi untuk meningkatkan hasil mata diklat pemetaan keluarga sejahtera di bidang pelatihan dan pengembangan bkkbn provinsi jawa timur (Nurchinta & Tandyonomanu, 2015)	Experiment	<p>principles, this research then suggests that these principles may be successfully applied when students: (a) have good practical and social experience, (b) realize the purpose of life and apply their knowledge and skills , (c) have adequate background. chosen field of study, and (d) trying to achieve short-term educational goals. In his study, he also found the fact that using an andragogical approach in doctor consultations, in order to ensure an effective consultation, doctors need to be active listeners to the ideas, concerns, and expectations of patients. By using this patient-centered approach, doctors can build understanding, collaborate, and improve relationships with patients, the same thing should be applied in educational training and competency development institutions.</p>
6.	Penerapan model problem based instruction untuk	Experiment	<p>The results of this research indicate that the application of the problem-based learning model is apparently</p>

No	Research Topics & Author	Research Methods	Research Results
	meningkatkan pemahaman peserta pada kegiatan diklat di pppptk bmti (Pandi, 2011)		quite effective in improving the learning outcomes of the training participants. This can be seen from the results of the research conducted for two cycles, from cycle I to cycle II, there is an increase in learning outcomes shown by the training participants. where the average learning outcomes in cycle I obtained 65.8 and for cycle II obtained an average value of 85.5. The researcher then recommends that for the implementation of training or training, they can utilize the problem-based learning model that is in accordance with the characteristics of the training participants.
7.	Applying Adult Learning Best Practices to Design Immunization Training for Health Care Workers (Traicoff et al., 2021)	Qualitative	Their research finding is trying to apply the theory and principles of adult learning (adult learning) to deliver training materials for health workers in Ghana. The results of his research, the application of the principles of adult learning has succeeded in providing an understanding to all training participants effectively and efficiently, almost all of the material contained in the course can be understood by the training participants.
8.	Dampak Pendekatan Heutagogy terhadap Tanggung jawab Belajar Online pada Mata Kuliah Statistik (Mulyatiningsih et al., 2022)	Descriptive Qualitative	The results of this study indicate that the heutagogy approach which is closely related to self-determined learning is tested for its effect on student learning responsibilities when participating in learning with an online system. This study took the subject of students taking statistics courses, the conclusion from the results of the research conducted explained that the heutagogy approach had an impact on learning responsibility in Statistics courses. Sequentially the highest attitude of responsibility is found in learning effort, discipline,

No	Research Topics & Author	Research Methods	Research Results
9.	Heutagogy and Lifelong Learning: A Review of Heutagogical Practice and Self-Determined Learning (Marie, 2012)	Library Studies	independence, motivation and academic honesty. Students have not been able to do learning assignments with pleasure and prioritize learning assignments over other tasks.
10.	Heutagogy: The Most Holistic Approach Utilizing Technology in Learning (Lapele et al., 2021)	Literature and Qualitative Studies	The results of his research on heutagogy and the use of technology in distance learning show that heutagogy is a suitable learning approach for distance learning through the use of technology. This approach focuses on the existence of students as learners; they are inquisitive, mature, and independent. In this learning the lecturer acts as a moderator and limits himself to providing assistance. This approach is used in the online learning process. Online learning uses an internet network with a remote system and high learning flexibility and is determined mainly by students. The presentation method embodies freedom of thought, creativity and original ideas.
11.	Developing a heutagogy	Literature Review	This research succeeded in developing a learning model that

No	Research Topics & Author	Research Methods	Research Results
	<p>approach to promoting teacher competencies in Indonesia (Handayani et al., 2021)</p>		<p>adopted a heutagogy approach. It is hoped that through this learning model it is expected to be able to improve the competence of teachers in Indonesia. The interesting finding is that the researcher considers that the heutagogy approach should be applied in order to increase the professionalism of educators in Indonesia, besides being required in terms of the learning model of teacher characteristics (adults) it is also considered relevant to this approach.</p>
12.	<p>Heutagogy Approach : Effectiveness of M-Learning For Lifelong Learning Education (Kamrozzaman et al., 2019)</p>	Quantitative Research	<p>This research succeeded in finding the fact that M-learning will enhance the elements of the heutagogic approach, especially the elements of sharing and connectivity. These two elements display the highest average compared to other elements attached to heutagogy. In addition, the correlation results confirm that the heutagogic approach and students' responses to technology have a positive relationship that is interrelated with one another. It can be seen that the heutagogy approach is very relevant to the use of ICT, therefore when teachers are going to develop technology-based learning it would be better if they included elements of heutagogy in it. In addition, this research will benefit the community because currently lifelong learning can no longer be carried out through a face-to-face approach, but can be applied anywhere and anytime via online with the help of technological devices that can be accessed anywhere.</p>
13.	<p>E-learning within the Field of Andragogy (Galustyan et al., 2019)</p>	Quantitative Research	<p>Their research findings reinforce that e-learning provides opportunities to receive high-quality education to people of all ages taking into account their individual</p>

No	Research Topics & Author	Research Methods	Research Results
14.	Defining OER-enabled pedagogy (Wiley & Hilton, 2018)	Literature Review	<p>characteristics and desires. The concept of modern andragogy is built around the fact that everyone has open access to educational resources. The establishment of an electronic education system supported by elements of andragogy will lead to the pooling of resources from various levels of educational institutions that implement adult education programs into integrated information education, through the use of open space via the Internet for international and national education communities.</p> <p>The results of this research confirm that the concept of education has changed and can be accessed from anywhere. Both formal and non-formal education. Pedagogy is defined as a series of teaching and learning practices that are only possible or practical in the context of the world of education. This study proposes the criteria used to evaluate whether a form of teaching is a pedagogy that supports OER (Open Educational Resources) and analyzes several examples of pedagogies that support OER. These criteria can be a reference for teachers who work as educators to be able to measure how the educational process they are carrying out can support the openness of teaching materials that can be accessed by every student.</p>

Discussion

Learning with a Pedagogic Approach and Its Characteristics

Pedagogic is the science that discusses education, specifically children's education. Pedagogy is needed by a teacher both for teaching at school, and in order to give assignments to develop the personality of their students. The term pedagogic (Dutch: paedagogiek, English: pedagogy) comes from two words in ancient Greek, namely paedos which means child and agogos which means accompanying, guiding or leading. Pedagogic is the science that studies the problem of guiding children towards certain goals so that they are able to be independent in solving problems in their life (Akbar, 2021; Hiryanto, 2017). Pedagogy is a science that discusses children's education, pedagogy is a theory of children's education.

Pedagogy as a science is really needed by teachers, especially kindergarten teachers and elementary school teachers because they will be dealing with immature children (Imam et al., 2018; Sulfemi, 2019). Pedagogic has been understood and dominantly colors the learning process in the school context. Pedagogic is the art or science of how to become a teacher, in this case it is closely related to teaching (Koteva-Mojsovska & Bancotovska, 2015; Sulfemi, 2019). Pedagogy is a science that must be mastered by educators or teaching staff, because in pedagogy there is a study of the learning process, teacher interaction with students, and how to manage the teaching and learning process (Akbar, 2021; Nellitawati, 2017). Based on some of the descriptions above regarding the concept of pedagogic, it can be concluded that pedagogic is a science of teaching from an educator, professional educators must first be equipped with pedagogic competencies so that they can know the characteristics of the students they face, so educators can choose methods, media and material according to the characteristics of the students.

This pedagogic competence in general is the teacher's ability to understand students and the ability to manage learning. Here are some pedagogic abilities or competencies that must be possessed by teachers before they carry out learning activities. namely: 1) educational insight and foundation, 2) student understanding, 3) curriculum or syllabus development, 4) learning design, 5) implementation and management of learning, 6) utilization of technological devices for learning, 7) implementation of learning evaluation, and 8) facilitating the development of students for self-actualization (Candra et al., 2020; Somantri, 2021). Some of these competency scopes are basic and basic things for teachers so that they are able to facilitate the needs of students during the learning process so that students can actualize themselves according to what they want. The benefits of several benefits from a teacher if they have pedagogical competence are as follows: 1) Being able to humanize students, 2) Students can gain knowledge that is useful for their lives, 3) Helping students achieve competence so they can face challenges, and 4) Develop student personality (Pratama & Lestari, 2020; Wong et al., 2013).

In addition to the benefits mentioned, opinions emerged about the principles of pedagogic-based learning that must be owned by a teacher so that the benefits obtained can be more optimal. The intended learning principles consist of (1) the principles of motivation and attention, (2) the principles of activeness, (3) the principles of experience and direct involvement, (4) the principles of repetition, (5) the principles of challenge, (6) the principles of reinforcement and feedback, (7) the principle of individual differences (Gravett et al., 2021; Hiryanto, 2017). These seven principles must then be held by educators, so that during the learning process students can achieve competencies that are really relevant to what is needed and in accordance with their characteristics in understanding the material.

The Role of the Facilitator in Learning with an Andragogic Approach

The term andragogy is often found in the process of adult learning (adult learning), both in the process of non-formal education (outside school education) and in the learning process of formal education (Galustyan et al., 2019; Lewis & Bryan, 2021). In non-formal education, the theories and principles of andragogy are used as the basis for the learning process in various units, forms and levels of non-formal education. In formal education, andragogy is often used in the learning process at the level or level of upper secondary education. The function of the teacher in this case is only as a facilitator, not patronizing, so that the relationship between the teacher and students (students, learning residents) is more multi-communicative (Chen, 2014; Hiemstra & Brockett, 2012).

Andragogy in the 1970s as specific to adult education and characterized by learner control and self-responsibility in learning, learner's definition of learning goals in terms of their relevance to the learner, problem-solving approaches to learning, self-directedness in

learning, motivation intrinsic learner, and incorporation of experiential learner (Arghode et al., 2017; Raharjo & Suminar, 2016). In the andragogical approach to teaching and learning, students are actively involved in identifying their needs and planning how these needs will be met, besides that the goals of self-directed learning include helping students develop the capacity to direct themselves, supporting transformational learning. Adult education is a systematic and continuous learning process for someone who has an adult status (based on the main characteristics of his social role) which aims to achieve changes in knowledge, attitudes, values and skills (Nurchinta & Tandyonomanu, 2015; Yusri, 2017). Adult education (andragogy) is different from children's education (pedagogy). Children's education is carried out within the framework of identification and imitation, while adult education is carried out within the framework of personal self-direction to solve problems. One of the goals of adult education is to foster motivation to ask questions and gain knowledge on an ongoing basis throughout life. For adults learning relates to how to guide yourself to ask questions and find answers.

The age span of adulthood is quite long. Psychologists tend to divide the development of adulthood into three phases. Each is an early adult phase (18-30 years), middle adult (30-55 years) and late adult phase (> 55 years) (Palis & Quiros, 2014; Rahman & Elshap, 2016). Characteristics of adult learning is certainly different from children's learners, therefore the learning process must use the principles owned by adults, there are several principles that must be considered in the adult learning process (Baran et al., 2011; Syahrudin et al., 2019), including: 1) Learning will change motor skills based on development and practical learning, 2) Learning will provide verbal information for students according to their needs 3) Learning Intellectual skills, needed before learning skills. 4) Learning will affect the cognitive aspect, which is related to increasing ability in the process of thinking.

As adults, students are assumed that their learning orientation is directed towards the following points (Lugosi & Lee, 2021; Nurchinta & Tandyonomanu, 2015), including: problem solving, and fulfilling the needs of daily life. Assuming that the orientation of learning among adults is like that, the implications are: 1) The facilitator acts as a provider of assistance to participants, 2) The curriculum is problem-oriented (problem based curriculum), 3) The learning experience is designed based on the problems/concerns of the participants. In andragogy, learning is assumed as an effort to increase critical power and solve actual problems encountered. The orientation of learning to seek and find (inquiry and discovery) problems (problem based) and developed departs from experiences and needs to anticipate real life that is being and will be faced (Greene et al., 2021; Hiryanto, 2017). Referring to the characteristics above, it can be observed that learning for adults is more oriented towards problem solving. This happens because there are developmental functions that must be performed properly so that he can actualize himself optimally. The principle of learning without knowing age is one of the motivations for adults to adapt to situations and the fast dynamics of their environment.

In andragogy learning, educators, whether teachers, tutors, or lecturers, clearly choose to position themselves as facilitators. As a facilitator, teacher, instructor or lecturer, it guarantees that the learning environment is carried out in a participatory manner (Chan, 2010; Lapele et al., 2021). The planning process, learning practices and learning evaluation stages are always carried out in a participatory manner so that students really feel partly responsible. Some of the roles of the facilitator include: 1) The facilitator and participants are active and interactive with each other, 2) Learning motivation is a need, 3) The facilitator and participants jointly design learning, 4) Evaluation is carried out together, 5) Understanding is more important, 6) Learning methods participative (Bansal et al., 2020; Yusri, 2017). It is clear that the role of the facilitator is to show students how to find information, relate information to learner experiences, and place the focus on solving problems in real-world

situations. The instructor sets goals and curriculum based on learner input and guides students along the learner's path, while the responsibility for learning lies with the learner. In addition, the following is also presented regarding several determinants of the success of adult learning, including: 1) training / learning objectives, 2) learning / training materials, 2) heterogeneous learning participants, 3) facilitators, 4) training facilities and infrastructure / learning.

Heutagogic Approach in Learning in the Digital Age

Heutagogy as the study of self-determined learning. The heutagogy approach was initiated in 2000 when the development of internet networks was still in one-way transmission (web 1.0). The existence of Web 2.0 provides wider opportunities for interaction through social media and smartphones, so heutagogy is starting to be widely used. The principles of heutagogy learning design are to take advantage of the unique capabilities of Web 2.0 through a learning management system or LMS. The heutagogy approach emphasizes learning that is centered and determined by the students themselves, where students have full autonomy in creating active, proactive and fun learning for themselves (Blaschke, 2012; Blaschke & Hase, 2019).

In self-determined learning, it is important that students will be ensured to be able to acquire competencies and abilities, therefore the heutagogical approach can be seen as a development from pedagogy to andragogy to heutagogy, with students also developing in maturity and independence this can certainly support for Education in the digital era, where digital technology has played a role in the implementation of learning activities (Anderson & Rivera-Vargas, 2020; Roemintoyo & Budiarto, 2021). More mature learners need less instructor control and course structure and can be more independent in their learning, while less mature learners need more instructor guidance. The following are the characteristics of the heutagogic approach. From the pyramid image, it can be seen that heutagogy emphasizes realization, by emphasizing student involvement as the main focus that has full autonomy in learning. The difference between andragogy and heutagogy namely; andragogy or commonly known as self-directed which has the characteristics of single-loop learning, competency development, linear design and learning approaches, instructor learner directed, and making students learn content. While heutagogy has characteristics such as double loop learning, ability development, non-linear design and learning approaches, learner directed, and makes students understand how they learn or emphasize the process (Canning, 2010; Stoten, 2020; Sulistya, 2019).

Besides that, from the illustration above, it can be understood that heutagogy is present with the aim of expanding the andragogical approach and can be understood as a further series than the andragogy approach, in contrast to andragogy, in heutagogy which emphasizes the development of capabilities in addition to competence. When designing a self-defined learner experience, certain considerations must be made. A heutagogical approach to learning and teaching is characterized first and foremost by the learner in terms of what content the learner wishes to master or produce. Some elements of subject or course design that support student-centered or learning in a heutagogic approach are as follows (Bansal et al., 2020; Handayani et al., 2021): 1) Participant-defined learning contracts, 2) Flexible curriculum, 3) Learner-directed questions, 4) Flexible and negotiated assessments. Although this research is only limited to reviewing some of the literature reviews that try to explore the use and implementation of these approaches in implementing learning, it is hoped that researchers and other institutions interested in continuing the research to the next stage, can use the results of this research as a basis that these approaches can have a positive effect on the implementation of education and teaching.

4. CONCLUSION

Based on the results of the research that has been done, this research is in line with its goal of exploring and analyzing the application of several learning approaches. As in the application of the pedagogic approach, it succeeded in formulating an alternative learning strategy that supports intellectual involvement, especially at the early education level. The andragogic approach is encountered in several cases of adult education, and tends to be preferred for implementation of training. Some of the things that can be recommendations for educators, as well as education practitioners from the results of this library research are that it is expected that educators can conduct experiments on the application of this approach according to the characteristics of their students or students. Specifically for the heutagogic approach, it can be implemented and combined with the andragogic approach for learning at the upper secondary to higher education levels.

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