

## Benefits and challenges of the Heutagogy approach in education: A systematic review

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### Abstract

Heutagogy in education has emerged as a concept that will support education by giving students the choice of self-determined learning. However, any educational level can incorporate this strategy. The goal of this literature review was to examine the advantages and drawbacks of using the Heutagogy method in education. Out of 123 papers from 2018 to 2022, 28 were extracted using two databases, Web of Science (WoS) and Scopus, while considering inclusion and exclusion parameters. According to the literature study, there are several advantages to using the Heutagogy approach in education, such as improved mentoring skills for the Heutagogy approach, increased self-determined learning among students, and the development of Information and Communication Technology abilities. Subsequently, the Heutagogy approach's adoption in education does face significant difficulties. Teachers, students, and environmental factors are some of these difficulties. It is intended that this systematic literature evaluation would give educators a better grasp of the extent to which the Heutagogy approach would reshape education.

**Keywords:** Heutagogy approach; Information and Communication Technology (ICT); self-determined learning.

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## 1. INTRODUCTION

Attitudes among students keep on changing (Gillaspy & Vasilica, 2021). As a result, a much-needed transition from teacher-centered pedagogies to student flexibility, active engagement, and self-determination is currently taking place in the educational system. By creating demanding, learner-centered environments, educators must continue to innovate and adapt their teaching practices to fully meet today's learners' demands.

Heutagogy, also known as self-determined learning, is one method that determines what will be learned and how it will be learned (Hase, 2009; Hase & Kenyon, 2000; Glassner & Back, 2022). Heutagogy enables students to develop self-directed, self-determined, and lifelong learning skills, which are crucial in online learning (Blaschke, 2021; Kamrozzaman et al., 2020). To perform effectively in the digital age, Heutagogy is a crucial skill that must be mastered from childhood through higher education (Rahayu et al., 2021; Loizou, 2022). Additionally, it enables people to develop their skills and expertise.

It is evident from a comparison of Heutagogy and pedagogy that pedagogy is insufficiently accommodating of the growth of professionalism in education (Bridgstock, 2016). It explains that conventional pedagogy and andragogy are incapable of meeting the demands of twenty-first-century learners (Akyildiz, 2019; Friedman & Nash-Luckenbach 2024). Aside from that, Heutagogy promotes a more mature and creative approach, which prepares students to engage in future professional communities. Furthermore, this strategy provides learners with a significant possibility to customize their learning style, called flexible learning. This also boosts the learners' self-assurance. Moreover, the Heutagogy approach to teaching and learning is vital in enhancing self-determined learners who can fulfill the demands of the fourth industrial revolution's quickly changing labor market (IR 4.0) (Chun & Abdullah, 2021).

Meanwhile, self-determined learning is also a core element of Heutagogy, which is essential in developing 21st-century learners. According to Blaschke (2021), double-loop learning, learner-centered, capability and capacity building, and non-linear learning, in 21st-century learning, are the four fundamental concepts that foster self-determination learning. This approach promotes the educational independence of students education to build the vital abilities required to study and operate effectively in the 21st century. Moreover, government programs, namely the 11th Malaysian Plan (2016-2020), the National Higher Education Strategic Plan (PSPTN), and the Malaysian Education Blueprint-Higher Education (2015-2025), support the practice of Heutagogy (2007-2020). The ideal method for teaching and learning at all levels of education is Heutagogy, according to Blaschke (2012).

Many researchers have undertaken studies on the Heutagogy approach in education. Consequently, many academics have begun to emphasize the need for incorporating the Heutagogy approach into education as 21st-century literacy at all levels of studies, from kindergarten to university (Blaschke, 2021; Eckes et al., 2018; Praherdhiono et al., 2018; Salmi & Thuneberg, 2019). However, there are few studies on the benefits and problems of Heutagogy.

### 1.1. Purpose of study

Consequently, the purpose of this study is to identify the advantages and disadvantages of learning Heutagogy.

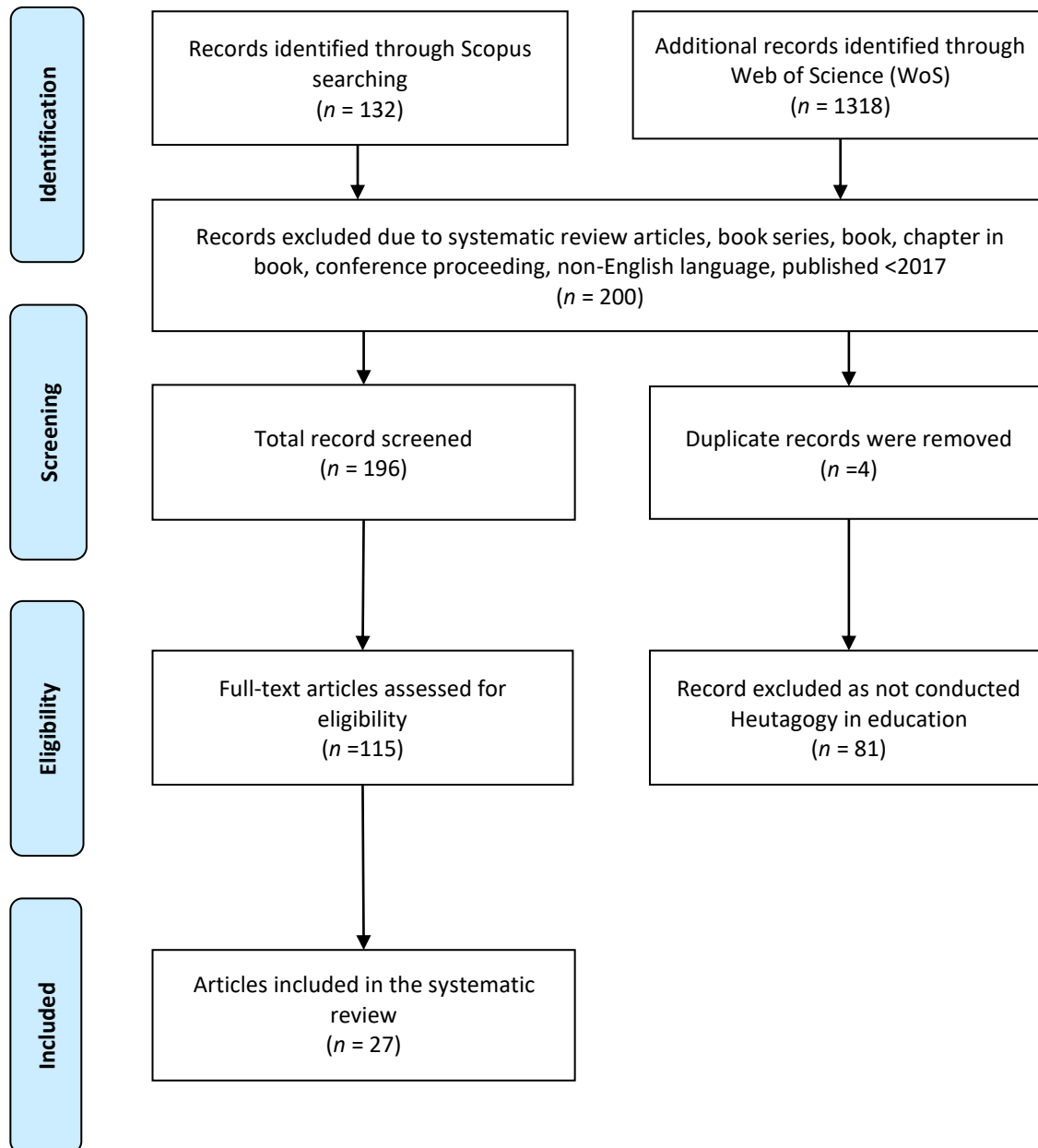
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## 2. METHOD AND MATERIALS

As indicated in Figure 1, this systematic review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) method, which includes the following four steps: identification, screening, eligibility, and included. Because of its comprehensiveness and applicability to various investigations, researchers have frequently employed PRISMA. As a result, the study's aim and the systematic review procedure are as follows (figure 1):

### **Figure 1**

*The flow diagram of the study*



Source: Page et al., (2021)

## 2.1. The review protocol – PRISMA

PRISMA, created by Page et al., (2021), served as the framework for this review, attempting to produce thorough reporting that enables readers to judge the suitability of the procedures and, consequently, the reliability of the results. The characteristics of research that contribute to synthesis are also provided and summarised to assist policymakers in assessing the relevance of the findings to their circumstances. Sierra-Correa and Kintz (2015) identified three key benefits of PRISMA: 1) For a systematic study, it identifies clear research questions, 2) it includes exclusion and inclusion criteria, and 3) it incorporates a time limit for the investigation of a huge body of scientific literature. The PRISMA

declaration makes it possible to conduct a thorough search for components connected to innovative teaching. Figure 1 shows the guideline that comprises four processes: identification, screening, eligibility, and included.

## 2.2. Systematic searching strategies

This research used four systematic approaches to find relevant literature (identification, screening, eligibility, and inclusion). Via these strategies, the researcher could completely locate and synthesize the research, producing a transparent and organized systematic literature review.

### 2.2.1. Identification

The main sources for this systematic review are Scopus and WoS. Elsevier established the theoretical and reference database known as Scopus in 2004. Scopus indexes 34,346 peer-reviewed journals in high-level topic categories, for instance, the sociologies, biological sciences, well-being sciences, and physical sciences, among 36,377 titles from 11,678 publishers. WoS is a website that offers membership-based access to several databases that provide comprehensive reference data for a variety of academic courses. The Institute for Scientific Information has established the site and is now maintained by Clarivate Analytics. The keywords used to find publications about Heutagogy in education are shown in Table 1.

**Table 1**  
*Keywords used for the process of finding relevant literature*

Databases	Keywords used
Scopus	TITLE-ABS-KEY ("Heutagogy* approach" OR "self-determine* learning" OR "* free will learning" OR "self-learning* learning" OR "lifelong learning* thinking") AND ("benefits" OR "challenges" OR "impacts" OR "schooling") AND ("teaching" OR "education")
Web of Science (WoS)	TS= ("Heutagogy * approach" OR "self-determine * learning" OR "free will learning" OR "self-learning * learning" OR "lifelong learning") AND ("benefits" OR "challenges" OR "impacts") AND ("teaching" OR "education")

### 2.2.2. Screening

The screening process comes next. Based on a set of criteria, articles were either included in the study or excluded during this phase (Table 2). Journals, book series, books, book chapters, and conference proceedings were first disregarded (systematic review). Taking into account Kraus et al., (2020)'s idea of "research field maturity," the review then restricted the screening procedure to articles published between 2016 and 2022. This chronology was selected because there was enough published research to conduct a representative review.

Therefore, the author decided only to analyze English-language publications on empirical research. Due to their failure to meet the inclusion requirements, this procedure led to the deletion of 1250 items. Then, 200 articles were deemed acceptable for additional screening, and four duplicate articles were removed after screening. At last, 27 articles had to be assessed per the exclusion and inclusion criteria.

**Table 2**  
*The inclusion and exclusion criteria*

Criterion	Inclusion	Exclusion
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Literature type	Journal (research articles)	Book, book series, chapter in the book, systematic review articles, and conference proceeding
Language	English	Non-English
Timeline	Between 2018 and 2022	Before 2017

### 2.2.3. Eligibility

The eligibility procedure comes after the screening procedure. First, the author personally examined the retrieved articles to ensure that the remaining articles met the requirements. This was performed by reading the publications' titles, abstracts, and full texts. This part of the procedure excluded 81 articles because they were published as a chapter in a book and did not emphasize Heutagogy in education. Finally, a systematic literature review might potentially comprise 27 papers.

### 2.2.4. Included

The techniques for encouraging Heutagogy in education were the focus of the publications in this systematic review. Table 3 lists the studies that were considered. The Scopus and WoS databases selected 27 articles for the table above. These databases were selected because of the quality and nature of the publications they include, especially in education. The research goals were all linked to Heutagogy in education. Most of the research was conducted in higher education institutions such as universities and colleges. Studies focused on secondary school students and instructors, adult learners or teachers, and experts on the other side.

**Table 3**

*Summary of selected studies*

Study	Database	Aim	Samples	Findings
Gillaspy and Vasilica (2021)	Scopus	to assess if the Heutagogy approach to nursing education can encourage the growth of a self-determined learner.	55 students in Nursing studies	Findings support further study into flexible and learner-centered approaches by demonstrating how an innovative framework was established for the self-motivated learner.
Levy-Feldman (2018)	Scopus	to put up a new definition of a "good teacher" that includes the teacher as mentor, or as the author prefers, the "mentoring teacher," who is skilled in Heutagogy and works to encourage student autonomy via dialogic teaching.	Teachers	The findings demonstrate that teachers must give their learners the resources they need to acquire the abilities required to extract the essential knowledge while also comprehending and relating to individual student characteristics.

Pulos et al., (2020)	Scopus	to utilize the Self-Determined Learning Model of Education (SDLMI), which provides a framework for teachers to adopt to enable mathematics instruction and goal achievement about in-school and post-school results.	Mathematics teachers	The findings showed that self-regulated learning opportunities enhanced and improved kids' in-school and post-school achievement.
Raley et al., (2020)	Scopus	This study examines self-determination promotion in inclusive general education classes through an evidence-based intervention.	81 secondary students in mathematics classes	The results showed that students who achieved their goals more often had higher levels of self-determination.
Eckes et al., (2018)	Scopus	to examine structures from a regular school class participating in an after-school program.	198 students	Any subscale of the Intrinsic Motivation Inventory's students' intrinsic motivation was unaffected by the addition of supplemental structure. The results supported the SDLMI's theoretical predictions by demonstrating that student self-determination scores have changed significantly over time and that teachers detect a significant relationship between self-determination and goal achievement.
Shogren et al., (2018)	Scopus	to evaluate the implications of using the SDLMI alone versus the SDLMI + Whose Future Is It? (WF) on the effects of self-determination and goal-achieving in teenagers with intellectual disability.	340 transition-age students	The findings showed that both the learners and the instructor are responsible for the effectiveness of the corporate language course and adult learning necessitates a significant amount of intellectual, physical, and moral work on the part of
Bugreeva, (2019)	WoS	to examine and solve the major issues a corporate English course faces in teaching the adult learner.	Adult learners	

				the language instructor in class.
Djadir et al., (2020)	Scopus	to develop a distance learning platform by using a Heutagogy method.	Students	Adopting a Heutagogy approach improves the efficacy of the learning process and online learning for learners.
Shogren et al., (2020)	Scopus	To explore the readiness of teachers to adopt the SDLMI.	Students / special education teachers	SDLMI necessitates a change from a predominantly teacher-directed approach to one generally student-directed to determining curricular goals. Teachers frequently need to adapt the way they interact with students to achieve curricular goals.
Salmi and Thuneberg (2019)	Scopus	to investigate whether cognitive, autonomous motivational, and self-directed learning affect the mobile science exhibition.	256 pupils	Pupils' self-determined behavior indicates that autonomy (choices), relatedness (a sense of connectivity, involvement, and belonging), and competence (a sense of efficacy and agency) were fulfilled.
Hagiwara et al., (2020)	Scopus	to build a systematic coaching strategy to assist the SDLMI's implementation	Students	SDLMI coaching improves teacher knowledge, abilities, and usage of self-determination in teaching, which improves student outcomes in self-determination.
Blaschke and Marin (2020)	Scopus	to address Heutagogy concepts, the pedagogy-andragogy-Heutagogy (PAH) continuum and its application in online learning contexts, and the usage of the e-portfolio in supporting and developing self-directed learning	Students	technological advancements provide new chances for learners to explore and study on their own, which helps them build self-directed, self-determined learning abilities.



Garrels and Arvidsson (2019)	Scopus	to determine how scaffolding may be utilized to accommodate the particular cognitive demands of students with intellectual disabilities during a self-determination intervention	Students	SDLMI assists students with intellectual disabilities and learning impairments in achieving self-determined objectives and improving teacher impressions of students' self-determination.
Raley et al., (2020)	Scopus	to determine how student self-determination changes when they participate in the SDLMI, as well as the effect of disability status on the relationship between student self-determination and SDLMI utilization	17 general and special education teachers as well as 992 high school students	The result shows that students used self-determination to reflect on and understand further their capacity to choose their goals (volitional action), take steps to reach those goals (agentic action), and enhance their thoughts about their abilities to reach big goals through action-control beliefs).
al-Maawali (2020)	Scopus	to investigate how teachers' self-perceptions affect the design of educational opportunities and how its accepted by students.	102 teachers and their 354 adult students	Educational technology affordances support self-directed interactions in educational technology models that allow deliberate self-learning and progress.  Findings showed that the right tools and methodologies could result in continuous learning outcomes that drive students to pursue self-determined learning and an easy education opportunity.
Kamrozzaman et al., (2020)	Scopus	to identify the factors of need that the educational student needs as mobile learning evolves for lifetime education.	11 experts	
Jones et al., (2019)	Scopus	to examine the recent development, its acceptance within entrepreneurship education (EE), and further development.	Enterprise and entrepreneurship educators	Heutagogy is an approach to student learning and a learning process that requires teachers to change their pedagogical behavior.

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Vanslambrouck et al., (2019)	WoS	to investigate adult students' self-regulation skills in blended environments.	Adult students	The autonomy and flexibility of blended learning environments provide greater chances for students to shape their environment, and teachers should be motivators to build students' confidence.
Tomczyk et al., (2022)	WoS	to determine what digital inclusion instructors, require in terms of new technology adoption.	Eight specialists, namely educators of older adults	Findings showed that eliminating digital exclusion is a phenomenon linked to older individuals' ongoing willingness to participate in lifelong learning.
Tan, (2021)	WoS	to learn about undergraduate students' perspectives on reflection and determine their challenges when reflecting.	11 undergraduate students	Students grew more at ease and confident in reflections and developing constructive and inventive solutions to their individual.
Shalatska, (2018)	WoS	to determine the effectiveness of MOOCs for student professional development and to investigate the efficacy of using MOOCs in students' autonomous foreign language practice.	124 students	Students are engaged in lifelong study and self-improvement. Students exhibit their study experience, able to recognize their interests, build a professional language foundation, and establish circumstances for active growth and independent thinking.
Ribers et al., (2021)	WoS	to elucidate different dimensions of ethical perception in professionalism and to propose unique pedagogic views on educational pathways via which professionals acquire and build moral skills	Teachers and social educators	The result showed that through a combination of theoretical training and practical experiences, as well as collaborative reflection and conversation, professionals could develop greater ethical awareness.

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Ottestad and Gudmundsdottir (2018)	WoS	to discuss recent advances and efforts, emphasizing ICT adoption in education, the notion of school digitalization, and the use of ICT for student evaluation.	722 prospective teachers.	The effectiveness of ICT-based teaching techniques depends on the teacher's ability to guide the teaching and learning process.
Maren et al., (2021)	WoS	determine the level of soft skills acquired by pre-service teachers and their potential impact on teaching performance success, and expand the current understanding of soft skills.	722 prospective teachers	Findings showed that prospective teachers improved their moderate soft skills, which helped them achieve control of the classroom and ultimately teaching effectiveness, development, and results.

### 2.3. Data analysis procedure

Mendeley was used to import all of the articles. Thematic analyses were then used to determine the primary topics to respond to the following research questions:

- 1) What are the benefits of applying the Heutagogy approach in education?
- 2) What are the challenges of applying the Heutagogy approach in education?

This review categorized the research questions' topics by analyzing the papers. First, the topics were organized according to the benefits of applying the Heutagogy approach in education described in the first research question's literature review. Next, each article's benefits were identified according to the articles. Finally, the articles categorized the challenges of applying the Heutagogy approach in education for the second study question. The following section discusses the findings from the papers.

## 3. RESULTS

### 3.1. RQ1: What are the benefits of applying the Heutagogy approach in education?

This study identifies these benefits as increased self-determined learning among students, mentoring skills, and fostering Information and Communication Technology (ICT) skills through applying the Heutagogy approach in education. The sections listed below discuss these advantages in further depth.

#### 3.1.1. Increased self-determined learning among students

Students' or learners' self-determination learning skills and abilities are crucial in this 21st-century learning environment. In education, the Heutagogy approach encourages students to become more self-determined learners. These research outcomes suggest that Heutagogy promotes the independent learner and additional study into flexible and student-centered approaches across higher education, wherein the learning process becomes more autonomous in education (Gillaspy & Vasilica, 2021). Likewise, Raley et al., (2020) reported that students with higher levels of goal attainment had greater levels of self-determination at the end of the course and were anticipated to develop self-determination faster than those having lower levels of goal attainment. This gives students the chance to learn how to

set more challenging educational goals that influence their attainment of self-determination-influencing skills.

The Heutagogy method promotes self-determined learning by allowing students to explore their competencies and needs more freely (Eckes et al., 2018; Widiaty et al., 2020). Students are taught to use reflection to integrate theory and practice, to analyze events continuously, as well as constructively and creatively solve their individual and worldwide concerns (Tan, 2021). Meanwhile, this also encourages students to research new settings and challenges independently rather than waiting for teachers' instructions. Students gained confidence and comfort in doing reflections. Students also benefit from this by having more opportunities to study and share their learning with their peers.

Furthermore, self-determined learning increases students' chances of learning and organizing their learning styles, becoming a determinant in their academic and extracurricular performance. Besides that, the best practice among students includes peer-mediated interventions, for instance, peer reinforcement and cooperative learning, which also include self-mediated interventions (self-evaluation and self-monitoring) that encourage and enhance self-determination (Pulos et al., 2020). Furthermore, the ability to work as a peer ensures that teachers, students, school administration, and parents collaborate to achieve defined goals and desired educational outcomes (Maren et al., 2021). We can conclude from these results that students can learn new practical skills and are prepared for lifelong learning and self-improvement.

### **3.1.2. Improving mentoring skills toward the Heutagogy approach**

According to the Heutagogy approach, a good teacher is a moderator of learning who leads students through a process relevant to their learning requirements and practical (Hase & Kenyon, 2007). Teachers play an important role in the 21st century, as they can mold talented students into following the latest curriculum. According to Levy-Feldman (2018), teachers described as "good teachers" for the new era are given abilities connected with the Heutagogy approach. They must provide their learners with the resources they need to navigate through the vast amount of information at their disposal and find the information that matters while comprehending and relating to diversity among students as they foster self-determined learning (Levy-Feldman, 2018).

Heutagogy is an approach to producing a teacher-mediated antecedent in which specific interventions, such as task structuring and verbalizing difficulties in educational procedures, are performed (Pulos et al., 2020). It is also supported by Shogren et al., (2018). They reported that goal achievement was seen by teachers of students in the SDLMI alone group as a determinant of changes in self-determination later.

Teachers can also modify their instructional design based on the Heutagogy approach, which considers different learning styles and improves teacher mentoring abilities. Teachers foster informal learning and out-of-school education trends and opportunities (Salmi & Thuneberg, 2019). Moreover, teachers can create an opportunity to get to know the needs of their students, and how well they can convey the significance of these prospects to the students will probably have an impact on how effectively these learning and collaborative affordances are used (al-Maawali, 2020).

Heutagogy also mentors teachers on how to make learning entertaining to inspire new learning skills. Hence, it is clear that this learning approach needs a transformation in teachers' teaching behavior. Teachers' perceptions of students' competence will improve because of this transformation. As a result, this Heutagogy approach helps teachers improve their mentoring skills.

### **3.1.3. Fostering Information and Communications Technology (ICT) skills**

Today's education is heavily influenced by technology. It provides students with inventive global chances appropriate for the present industrial revolution, accompanied by technological development. It is also supported by Widiaty et al., (2020), who reported that technology integration is one of the components of sustaining high-quality education, particularly vocational education, which should ensure that all students are comfortable.

Using a Heutagogy approach in an online learning platform's development and design can improve the effectiveness of the learning process. In Industrial Revolution 4.0 (IR 4.0), online learning will be a new technique or method of learning systems (Djadir et al., 2020). Acceptance of online learning is particularly crucial since it can promote educational progress. Furthermore, self-determined learners can reflect on themselves and are conscious of their own learning goals and progress. They are capable of and have the digital and participatory abilities required for online learning. As a result, they may apply their abilities in both known and unforeseen contexts (Agonács et al., 2020).

ICT develops students' and teachers' digital literacy. With tools and media that encourage self-determined learning, technological developments provide new opportunities for students to explore and study independently (Halder et al., 2024). It presented several educational resources about web science, online learning, data analysis, and cyber security (Shalatska, 2018). According to Tomczyk et al., (2022), improving adult digital literacy to promote digital inclusion is a place to start when creating new educational materials and better work forms and procedures. Apart from that, ICT also increases teachers' digital literacy and instructional design skills. It may also benefit institutions by rethinking education business models and the teachers' teaching and learning strategies (Blaschke & Marin, 2020). It is supported by Ottestad and Gudmundsdottir (2018), who reported that the use of ICT to assist teaching techniques is only as effective as the teachers' direction of the teaching and learning process.

Furthermore, the way that technology is used in education today will influence lifelong, ongoing learning and set examples for the future generation of learners. Smartphones and wireless mobile devices can make this learning process excellent for lifelong learning and are the most appropriate technology for students pursuing lifetime learning per study (Kamrozzaman et al., 2020). The results demonstrate that using the appropriate tools and approaches may lead to ongoing learning (Kamrozzaman et al., 2020). The analysis thus demonstrates that smartphones are the best technology for students pursuing lifelong learning, and this wireless mobile device can create the learning process appropriate for lifelong learning. Furthermore, the findings show that objectives for continuous learning can be achieved by employing the right tools and methods (Kamrozzaman et al., 2020) and can promote learner mobility in the direction of self-discovery and self-realization (al-Maawali, 2020).

## **3.2. RQ2: What are the challenges of applying the Heutagogy approach in education?**

While the Heutagogy approach to education has many advantages, it also has significant difficulties in utilizing it in teaching and learning.

### **3.2.1. Environmental factors**

In terms of the environment, the studies found that technological issues, such as a high level of references, a lack of ICT facilities, limited Internet access, and limited technical support, hinder non-linear learning, which is the Heutagogy approach's key principle (Chun & Abdullah, 2021; Lynch et al., 2021).

One of the essential considerations is the teacher's knowledge of the notion of the heutagogical approach. Many problems have occurred because teachers and students misunderstand this concept of self-determined learning. Teachers must be completely clear about the plan before executing it with students. Therefore, teachers must conduct substantial studies about the strategies. As a result, to ensure that teachers are completely aware of the plan, resources or modules play a significant role. The issue is that the teacher's resources do not match their requirements. The references have a high degree of cognitive and emotional activity (Gillaspy & Vasilica, 2021).

For teachers, a challenging barrier to discovering and applying Heutagogy in future student instruction is a lack of resources. It has a significant negative effect on the teachers as well since they are unable to deliver a quality lesson utilizing a heutagogical approach. Additionally, the students were also greatly impacted by this (Gillaspy & Vasilica, 2021).

Aside from resources, a lack of technology equipment in the education system, particularly in rural regions, poses a difficult obstacle to offering equitable education to township areas (Hasin & Nasir, 2021). This is also a major issue in implementing heutagogical teaching and learning approaches (Winarno et al., 2021). Since technology facilities in education systems play such a large part in future learning education, they must be prioritized as a top priority in raising the educational system to a world-class status.

Integration of smartphones, gamification, and other technology gadgets in the teaching and learning process can boost student interest and focus (Kamrozzaman et al., 2020). This implies that students may independently determine the tools they will utilize to attain their academic goals. This also explains that technology is important in promoting a self-directed learning approach.

### **3.2.2. Teachers' factors**

Not only that, but teachers' use of ICT in the classroom helps students develop more quickly. Teachers nowadays have a positive attitude toward modifications in educational systems and are also technologically advanced. However, it will be ineffective if they never use their knowledge in appropriate situations. A quantitative study was conducted among 126 elementary and secondary school teachers (Fitri & Putro, 2021). The findings demonstrate that instructors have a high level of knowledge in using ICT. Still, they also agree that they have utilized ICT tools to optimize during the pandemic covid-19, but not in the classroom before to pandemic.

Furthermore, the critical reviews revealed that teachers continue to prefer a teacher-centered education strategy (Novotná et al., 2014; Schoenfeld, 2016). Teachers are useful in one-way interactions and classroom instruction. When they became facilitators, as indicated in 21st-century learning, some also felt that they were no longer teaching in the classroom. As emphasized in the Heutagogy approach, this scenario undermines students' independence in choosing their learning techniques. If students are not allowed to participate in and explore their studies, no self-determined learning occurs throughout the classroom.

Aside from that, self-directed learning approach courses and training are restricted for the teachers. This condition makes the Heutagogy approach ineffective in classroom teaching and learning among students. It is also difficult for teachers if they do not have a clear image to work with. If the teachers could not get clear about self-determined learning, it would be difficult for them to conduct a quality heutagogical lesson.

### **3.2.3. Students' factors**

The goal of the education blueprint and curriculum content is a critical component of successfully implementing the Heutagogy approach. Students have major challenges developing self-determined learning styles if the curriculum objective is not linked to a holistic approach. According to Kamrozzaman et al., (2020), learning approaches that are not flexible might lead students' motivation to self-determine learning education to decrease. The survey included 11 experts and concluded that the six principles of Heutagogy are factors in flexible learning implementation. According to Zakaria et al., (2021), those six elements in curriculum education are less integrated, especially in primary education. The educational system's objective of achieving world-class status conflicts with students' learning strategies. This is a non-trivial situation that significantly influences the students at school. Students given different strategies have difficulty comprehending and implementing self-directed learning in the classroom. This is also a key reason why self-determined learning is difficult to achieve.

Other than that, students are not provided formative assessments to evaluate their performance in a self-determined learning approach. Students must choose their learning technique in self-determined learning, and they should also verify whether their learning goal was fulfilled or not. As a result, having a consistent formative evaluation to track their progress is critical. According to Bugreeva (2019), no specific standard evaluation measures the student's self-determined learning. The author's studies proved that adult students could examine and quantify their accomplishment level using a formal formative assessment. As a result, this scenario presents a severe challenge to students and even Heutagogy in implementing a self-determined learning approach.

Furthermore, a lack of ICT skills among students is a major barrier to implementing self-directed learning. Even if students are of the Alpha generation, they require more guidance about their digital identities. However, teachers believe students have a medium degree of digital skills (Tomczyk et al., 2022). The gap between the rural and urban areas is a non-solution condition that has existed for decades. Students in remote areas struggle with a lack of ICT skills. Moreover, Ouahi et al. (2021) mentioned that some students only use computers at school. As a result, it is becoming a crucial issue in implementing self-directed learning among all students, regardless of their background.

## **4. DISCUSSION**

Heutagogy is an essential strategy in education for students to build 21st-century learning, online learning, lifelong learning, e-Heutagogy learning, and adult learning. Teachers must be given strong skills from the beginning and attend training and seminars to confirm that they have an in-depth comprehension of the concept of self-determined learning. Teachers' knowledge and skills are linked because they will be unable to effectively use the Heutagogy technique in education unless they understand the concept of self-determined learning.

Professional development options for teachers in various disciplines linked to their curriculum objectives are vital. These events can show educators how to incorporate the idea of self-determined learning into their current lesson plans or develop and introduce any type of teaching SDL that will enable them to feel at least using a Heutagogy approach in the classroom. These Heutagogy methods can help students use self-directed learning in a variety of contexts and for all subjects and facets of their lives. The results are summarised in Table 4.

**Table 4**

*An overview of the advantages and difficulties of using the Heutagogy approach in education*

<b>Heutagogy Approach in Education</b>	
<b>Benefits</b>	<b>Challenges</b>
<ul style="list-style-type: none"> <li>• Increased self-determined learning among students.</li> <li>• Improving mentoring skills towards a Heutagogy approach</li> <li>• Fostering Information and Communications Technology (ICT) skills.</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental factors</li> <li>• Teachers' factors</li> <li>• Students' factors</li> </ul>

## 5. CONCLUSION

The 28 publications selected for the literature study revealed several advantages to using the Heutagogy approach in education. Heutagogy, also known as self-determined learning, aims to improve lifelong learning. Simultaneously, it provides students with chances for self-determined learning in the classroom. Furthermore, self-determined learning improves teaching methods and curriculum in the direction of Heutagogy. Plus, self-determined learning may be enhanced by integrating Information and Communication Technology (ICT) into learning.

The implementation of Heutagogy not only allows us to impact our area of education positively, but it also allows students to become capable of performing various tasks on their own and more competitive. In addition, it also can help instructors become more advanced in teaching the younger generation.

However, there are several difficulties to Heutagogy's application in education, such as limited skills and knowledge in the application of self-determined learning and lack of exposure to the idea. According to research, one of the problems that our educators will face in adopting self-determined learning is teachers' willingness to engage in a Heutagogy approach in their teaching. Despite the difficulties, flexible learning is expected to be applied in a variety of educational settings, for instance, guaranteeing that teachers are highly knowledgeable and skilled in the area of self-determined learning.

This systematic study discussed the benefits and challenges of using Heutagogy in education. These findings have meaningful policy and educational implications. As a result, more investigation is required to comprehend the barriers to developing Heutagogy in education fully. A more extensive database can also be used to further future studies. This study is meant to inspire more research to improve these flexible future learning capacities, notably in Malaysia and the field of preschool education.

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**Ethical Approval:** The study adheres to the ethical guidelines for conducting research.

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