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Investigation on Heutagogy Approach in Education System: 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 (SDL). However, any educational level can incorporate this strategy. The goal of this literature review is to examine the advantages and drawbacks of using the Heutagogy method in education. This systematic literature review examines the themes emerging from articles identified through the Preferred Reporting Items for Systematic Reviews and Meta-Analyses approach to systematic reviews. Out of 123 papers from 2018 to 2022, 27 were extracted using two databases, Web of Science 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 SDL among adult students and the development of Information and Communication Technology abilities. Subsequently, the Heutagogy approach's adoption in education does face significant difficulties. Teachers, adult 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, Self-Determined Learning, SDL, PRISMA, Systematic Literature Review, SLR.

Introduction

Attitudes among learners keep on changing (Gillaspy & Vasilica, 2021). As a result, a much-needed transition from teacher-centred pedagogies to student flexibility, active engagement and self-determination is currently taking place in the education system. By creating demanding, learner-centred environments, educators must continue to innovate and adapt their teaching practices to fully meet today's adult learners' demands. Heutagogy, also known as self-determined learning (SDL), is one method that determines what will be learned and how it will be learned (Hase, 2009; Hase & Kenyon, 2000). Heutagogy enables students to develop self-directed, self-determined, and lifelong learning skills, which are crucial in online learning (Blaschke, 2021). To perform effectively in the digital age, Heutagogy is a crucial skill

that must be mastered from childhood through education (Rahayu et al., 2021). Additionally, it enables adult learners' to develop their own 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 21st-century learners in education (Akyildiz, 2019).

Aside from that, Heutagogy promotes a more mature and creative approach, which prepares adult learners to engage in future professional communities. Furthermore, this strategy provides adult learners with a significant possibility to customise their learning style, called flexible learning. This also boosts the learners' self-assurance. Moreover, the Heutagogy approach in education is vital in enhancing self-determined learners who are able to fulfil the demands of the fourth industrial revolution's quickly changing labour market (IR 4.0) (Chun & Abdullah, 2021).

Meanwhile, SDL is also essential in developing 21st-century learners in education. According to Blaschke (2021), double-loop learning, learner-centred, capability and capacity building, and non-linear learning, in 21st-century learning are the four fundamental concepts that foster self-determination learning in education. This approach promotes the educational independence of adult learners education in order to build the vital abilities required to study and operate effectively in the 21st century. Moreover, government programmes, namely the 11th Malaysian Plan (2016–2020), the National Education Strategic Plan and the Malaysian Education Blueprint- 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 higher education. Consequently, many academics have begun to emphasise 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 in education. Consequently, the purpose of this study is to identify the benefits and challenges of the Heutagogy approach in education.

Objectives of the Study

This study's objectives are

- To study the benefits of applying the Heutagogy approach in education.
- To study the challenges of applying the Heutagogy approach in education.

Methodology

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:

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 own 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.

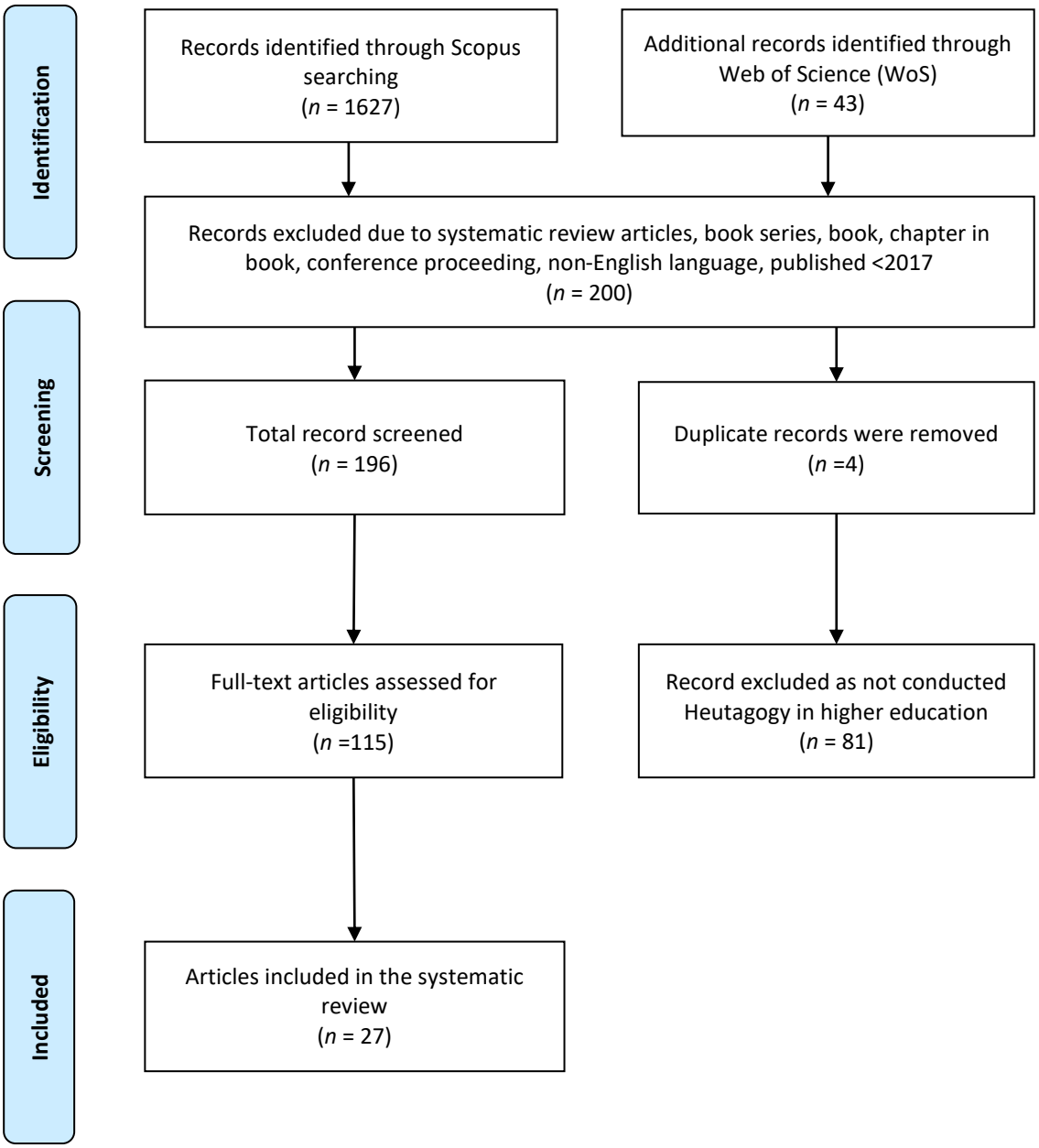

Figure 1. The Flow Diagram of the Study (Source: Page et al., 2021)

Systematic Searching Strategies

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

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 a number of 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 TITLE-ABS-KEY ("Heutagogy* approach" OR "self determined* learning" OR "* free will learning" OR "self-learning* learning" OR "lifelong learning* thinking") AND (" benefits" OR "challenges" OR "impacts" OR " education"))
WoS	TS=("Heutagogy* approach" OR "self determined* learning" OR "* free will learning" OR "self-learning* learning" OR "lifelong learning* thinking") AND (" benefits" OR "challenges" OR "impacts" OR " education"))

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 2018 and 2022. This chronology was selected because there was enough published research to conduct a representative review.

Therefore, the author decided only to analyse English-language publications on empirical research. Due to their failure to meet the inclusion requirements, this procedure led to the deletion of 1,470 items. Then, 200 articles were deemed acceptable for additional screening, and four duplicate articles were removed after screening. Then, 196 articles completed a thorough 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
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

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 emphasise Heutagogy in education. Finally, a systematic literature review might potentially comprise 27 papers.

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 done in education institutions such as universities and colleges. Studies focused on education such as in 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-centred 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	Teachers	The findings demonstrate that teachers must give their learners the resources

Study	Database	Aim	Samples	Findings
		mentor, or as the author prefers, the 'mentoring teacher', who is skilled in Heutagogy and works to encourage student autonomy via dialogic teaching.		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 utilise the SDL Model of Education (SDLMI), which provides a framework for teachers to adopt in order to enable mathematics instruction and goal achievement with regard to 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 adult learners in mathematics classes	The results showed that students who achieved their goals more often had levels of self-determination.
Eckes et al (2018)	Scopus	To examine structures from a regular school class participating in	198 adult learners	Any subscale of the Intrinsic Motivation Inventory's students' intrinsic

Study	Database	Aim	Samples	Findings
		an after-school programme.		motivation was unaffected by the addition of supplemental structure.
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 adult learners	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.
Bugreeva (2019)	WoS	To examine and solve the major issues a corporate English course faces in teaching the adult learner.	Adult learners	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 the language instructor in class.
Djadir et al (2020)	Scopus	To develop a distant learning platform by using	Adult learners	Adopting a Heutagogy approach

Study	Database	Aim	Samples	Findings
		a Heutagogy method.		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.	Adult learners and 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 in order 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 adult learners	Pupils' self-determined behaviour 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	Adult learners	SDLMI coaching improves teacher knowledge, abilities and usage of self-determination in teaching, which

Study	Database	Aim	Samples	Findings
				improves student outcomes in self-determination.
Blaschke and Marin (2020)	Scopus	To address Heutagogy concepts, the pedagogy-andragogy-Heutagogy continuum and its application in online learning contexts, and the usage of the e-portfolio in supporting and developing self-directed learning	Adult learners	technological advancements provide new chances for learners to explore and study on their own, which helps them build self-directed, SDL abilities.
Garrels and Arvidsson (2019)	Scopus	To determine how scaffolding may be utilised to accommodate the particular cognitive demands of students with intellectual disabilities during a self-determination intervention	Adult learners	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	17 general and special education teachers as well as 992 high school adult learners	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),

Study	Database	Aim	Samples	Findings
		and SDLMI utilisation		and enhance their thoughts about their abilities to reach big goals (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 learners	Educational technology affordances support self-directed interactions in educational technology models that allow deliberate self-learning and progress.
Kamrozzaman et al (2020)	Scopus	To identify the factors of need that the educational student need as Mobile-learning evolves for lifetime education.	11 experts	Findings showed that the right tools and methodologies could result in continuous learning outcomes that drive students to pursue SDL and an easy education opportunity.
Jones et al (2019)	Scopus	To examine the recent development, its acceptance within entrepreneurship education 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 behaviour.
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

Study	Database	Aim	Samples	Findings
				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 adult learners	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 adult learners	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 Massive Open Online Courses (MOOC) for student professional development and to investigate the efficacy of using MOOCs in students' autonomous foreign language practice.	124 adult learners	Students are engaged in lifelong study and self-improvement. Students exhibit their study experience, able to recognise their own interests, build a professional language foundation, and establish circumstances for active growth and independent thinking.

Study	Database	Aim	Samples	Findings
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.
Ottestad and Gudmundsdottir (2018)	WoS	To discuss recent advances and efforts, emphasising Information and Communication Technology (ICT) adoption in education, the notion of school digitalisation, 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	To 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.

Data Analysis Procedure

Mendeley was used to import all of the articles. Thematic analyses were then used to determine the primary topics in order to respond to the research questions. This review categorised the research questions' topics by analysing the papers. First, the topics were organised 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 categorised the challenges of applying the Heutagogy approach in education for the second study question. The following section discusses the findings from the papers.

Results

RQ1: What are the Benefits of Applying the Heutagogy Approach in Education?

This study identifies these benefits as increased SDL among adult students, mentoring skills and fostering ICT skills through applying the Heutagogy approach. The sections listed below discuss these advantages in further depth.

Increased SDL Among Adult Learners

Adult learners self-determination learning skills and abilities are crucial in this 21st-century learning environment. In education, the Heutagogy approach encourages learners to become more self-determined learners. These research outcomes suggest that Heutagogy promotes the independent learner and additional study into flexible and students centred approaches across education, where the learning process becomes more autonomous in education (Gillaspy & Vasilica, 2021). Likewise, Raley et al (2020) reported that adult learners with 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 adult 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 SDL by allowing adult learners to explore their competencies and needs more freely (Eckes et al., 2018; Widiaty et al., 2020). Adult learners are taught to use reflection to integrate theory and practice, to analyse events continuously, as well as constructively and creatively solve their individual and worldwide concerns (Tan, 2021). Meanwhile, this also encourages learners to research new settings and challenges independently rather than waiting for teachers' instructions. They gained confidence and comfort in doing reflections. learners also benefit from this by having more opportunities to study and share their learning with their peers.

Furthermore, SDL increases learners' chances of learning and organising their learning styles, becoming a determinant in their academic and extracurricular performance. Besides that, the best practice among learners 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 learners can learn new practical skills and are prepared for lifelong learning and self-improvement.

Improving Mentoring Skills toward The Heutagogy Approach in Education

According to the Heutagogy approach, a good teacher is a moderator of learning who leads learners through a process relevant to their individual learning requirements and practical in

nature (Hase & Kenyon, 2007). Teachers play an important role in the 21st century, as they can mould talented learners 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 learners as they foster SDL (Levy-Feldman, 2018).

Heutagogy in education is an approach to producing a teacher-mediated antecedent in which specific interventions, such as task structuring and verbalising 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 in education. 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 adult learners, and how well they are able to 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 among adults. Hence, it is clear that this learning approach needs a transformation in teachers' teaching behaviour. Teachers' perceptions of students' competence will improve because of this transformation. As a result, this Heutagogy approach helps teachers improve their mentoring skills.

Fostering ICT Skills Among Adult Learners

Today's education is heavily influenced by technology. It provides adult learners 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 education. 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, especially among adult learners. Furthermore, self-determined learners can reflect on themselves and is conscious of one's 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 SDL, technological developments provide new opportunities for adult learners to explore and study independently. It presented several educational resources pertaining to 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 which are an important element when teaching adults. 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 in education.

Furthermore, the way that technology is used in education today will influence lifelong, ongoing learning and set examples for the future generation of adult learners. Smartphones and wireless mobile devices can make this learning process excellent for lifelong learning and are the most appropriate technology for learners 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 has the ability to promote learner mobility in the direction of self-discovery and self-realisation (Al-Maawali, 2020).

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 utilising it in teaching and learning.

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 in education (Chun & Abdullah, 2021).

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

Lack of resources is a difficult obstacle for facilitators to overcome when learning about and implementing Heutagogy among education learners. It has a significant negative effect on the facilitators as well since they are unable to deliver a quality lesson utilising a heutagogical approach. Additionally, the learners 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 prioritised as a top priority in raising the educational system to world-class status.

Integration of smartphones, gamification, and other technology gadgets in the teaching and learning process can boost learners interest and focus (Kamrozzaman et al., 2020). This

implies that learners may independently determine the tools they will utilise to attain their academic goals. This also explained that technology is important in promoting a self-directed learning approach.

Facilitator Factors

Additionally, the usage of ICT by facilitators in the classroom enhances learners' fast development. Facilitators 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 done among 126 elementary and secondary school facilitators (Fitri & Putro, 2021). The findings demonstrate that facilitators have a high level of knowledge in using ICT. Still, they also agree that they have utilised ICT tools to optimise during the pandemic COVID-19, but not in the classroom before to pandemic.

Furthermore, the critical reviews revealed that facilitators continue to prefer a teacher-centred education strategy (Novotná et al., 2014; Schoenfeld, 2016). Facilitators are very convenient with 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 emphasised in the Heutagogy approach, this scenario undermines learners' independence in choosing their own learning techniques. If learners are not allowed to participate in and explore their own studies, no SDL occurs throughout the classroom.

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

Students Factors

The goal of the education blueprint and curriculum content is a critical component of successfully implementing the Heutagogy approach in education. Learners have major challenges developing SDL 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 learners' 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 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 learners at colleges and universities. Learners given different strategies have difficulty comprehending and implementing self-determine learning in the classroom. This is also a key reason why SDL is difficult to achieve.

Other than that, learners are not provided formative assessments to evaluate their individual performance in an SDL approach in education. Learners must choose their own learning technique in SDL, 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 learner's SDL. The author's studies proved that adult students could examine and quantify their own

accomplishment level using a formal formative assessment. As a result, this scenario presents a severe challenge to learners and even Heutagogy in implementing an SDL approach in education.

Furthermore, a lack of ICT skills among learners is a major barrier to implementing self-directed learning. Even if learners are of the Alpha generation, they require more guidance about their digital identities. However, facilitators believe learners 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. Learners in remote areas struggle with a lack of ICT skills. Moreover, some students, according to Ouahi et al (2021), only use computers when they are in a classroom. As a result, it is becoming a crucial issue in implementing self-directed learning among all learners, regardless of their background.

Discussion

Heutagogy is an essential strategy in education for learners to build 21st-century learning, online learning, lifelong learning, e-Heutagogy learning and adult learning. Facilitators 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 SDL. Their knowledge and skills are linked because they will be unable to effectively use the Heutagogy technique in education unless they understand the concept of SDL.

Professional development options for facilitators in various disciplines linked to their curriculum objectives are vital. These events can show facilitators how to incorporate the idea of SDL into their current lesson plans or develop and introduce any type of teaching SDL that will enable them to feel at ease using a Heutagogy approach in the classroom. These Heutagogy methods can help learners 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

Heutagogy approach in education	
Benefits	**Challenges**
Increased SDL among learners Improving mentoring skills towards a Heutagogy approach Fostering ICT skills	Environmental factors Facilitators' factors Learners' factors

Conclusion

The 27 publications selected for the literature study revealed a number of advantages to using the Heutagogy approach in education. Heutagogy, also known as SDL, aims to improve lifelong learning. Simultaneously, it provides learners with chances for SDL in the classroom. Furthermore, SDL improves teaching methods and curriculum in the direction of Heutagogy in education. Plus, SDL may be enhanced by integrating ICT into learning.

The implementation of Heutagogy not only allows us to impact our area of education positively, but it also allows learners to become capable of performing various tasks on their own and more competitive. In addition, it also can help facilitators 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 SDL and lack of exposure to the idea.

According to research, one of the problems that our facilitator will face in adopting SDL is teachers' willingness to engage in a Heutagogy approach in their teaching. Although 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 SDL.

Recommendations

This systematic study discussed the benefits and challenges of using Heutagogy in education. These findings have meaningful policy and educational implications in the education system. 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 education.

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