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Engaging and Empowering Malaysian Students Through Open and Distance Learning in the Post-COVID Era

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With the outbreak of COVID-19, online open and distance learning (ODL) has become increasingly relevant, particularly among those who aim to pursue postgraduate studies. ODL provides an opportunity for many to study while working or raising a family. Nevertheless, ODL programs are associated with low student engagement and high non-completion rates compared to traditional programs. Among the main contributing factors are communication and course design, which relate to the level of responsiveness of instructors and the quality of course design thus delivery through online. An innovative approach is needed to address these issues, and heutagogy seems to be a viable alternative. Nevertheless, the heutagogical approach alone is incomplete without considering the instructional scaffolding technique that can affect adult students' engagement. This study introduces a model that combines heutagogy and instructional scaffolding (HEIS) as a guideline in conducting a fully online ODL course called Technology and Media Design. It interrogates the impact of the course design from the perspective of postgraduate students and instructors in one of Malaysia's public universities. Recommendations include for faculties with ODL courses to continuously help develop instructors' competencies and using more suitable assessment approaches e.g., project-based.

Keywords: ODL, heutagogy, instructional scaffolding, instructor competencies, project-based assessment

INTRODUCTION

Heutagogy or self-determined learning (Blaschke, 2018) is geared for professionals and part-time learners. With the advancement in technology, a heutagogical approach able to make learning more meaningful for these groups which consist of mostly people over 25 years of age (Chao et al., 2007). Open and distance learning (ODL) education is a suitable tool for the learning process, as evidenced by its acceptability by a number of higher education institutions (Dzakiria et al., 2005). Even before the COVID-19 outbreak, the Malaysian government had already given full support to ODL. The initiative to integrate the heutagogical approach in ODL is in line with the initiatives by the Ministry of Education to transform the model of Malaysia's education system. Professionals and part-time learners can now improve their skills without having to pursue formal learning in universities, allowing them to make their lives and work more meaningful. Several studies have

discussed the prospect of incorporating heutagogy into online learning (Anders, 2015; Crosslin and Wakefield, 2016; Parra, 2016; Blaschke, 2021). The literature reports despite the affordances of the online learning there are various challenges in the implementation of heutagogical approach and more research is needed to improve online learning experience through the approach (Blaschke, 2021). Therefore, it is important to first recognize the features of the heutagogical approach as outlined by Blaschke (2012), which are:

(1) students set the learning contract,
(2) a flexible curriculum,
(3) students lead the learning activities, and
(4) assessment(s) of the students are flexible and negotiable.

Despite of the flexibility offered by heutagogical approach; it is still not enough to guarantee learning success. Previous studies indicate that there are significantly higher student dropout rates in online courses than in traditional courses due to course design and a lack of communication (Musingafi et al., 2015; Khan et al., 2017; Soffer and Cohen, 2019). Their findings imply that the implementation of the heutagogical approach alone may not necessarily guarantee students will complete their studies (Lock et al., 2021). Since mature students favor discussions that encourage deeper thinking (Olaniran, 2020), this study suggests to integrate the scaffolding technique to facilitate discussion and thinking. Scaffolding has been established as an effective method for promoting engagement, empowerment, and critical thinking (Hsieh, 2017; Weinstein and Preiss, 2017; Nachowitz, 2018; Bloomberg, 2021). Hence, the instructional scaffolding technique (Pattalitan, 2016), which has been tested in other studies, serves as a reference for this study. This technique is seen suitable for mature learners who require little control from their instructor and tend to seek assistance when deemed necessary. A number of studies, e.g., in medicine (Eachempati et al., 2017) have ventured into combining heutagogical and scaffolding approaches, but there are only a few in the Malaysian educational technology context, particularly with the perspectives of both postgraduate students and instructors (Marcut and Chisiu, 2018). This gap calls for further exploration of this area, guided by a suitable model.

LITERATURE REVIEW

Studies suggest that the heutagogical approach is more suitable for mature or autonomous learners than younger learners (Canning and Callan, 2010; Blaschke, 2012). However, while mature students tend to be independent, it does not mean that they do not require an instructor's assistance at all. Canning and Callan (2010) stated that for the implementation of the heutagogical approach to be successful, students must have high motivation to achieve all of the objectives set for them. The authors added that in order to be highly motivated, motivational enhancements must be provided at the beginning of the learning process. These will help to prepare students for the learning process and more importantly, boost their confidence to voice out their opinions. A suitable strategy to achieve these aims is by recognizing that they are professionals and have extensive knowledge that can benefit others. Students need to realize that the heutagogical approach emphasizes knowledge sharing rather than merely focusing on knowledge accumulation. Thus, heutagogy may be successfully implemented if:

- students are open-minded, willing to share their knowledge and experiences with other students,
- students are able to influence the perceptions of other students or individuals, and
- students become agents of change.

The heutagogical approach encourages students to be connected to the community. They should be allowed to build relationships as this process will help to shape their personality and create competent and capable learners (Hase and Kenyon, 2001). However, the approach is still considered as inconsistent with the current practice of many higher institutions (Moore, 2020). Pedagogical and andragogical approaches are preferred as these approaches give academicians less worries in handing over full authority to their students. Conversely, for mature learners, the existing curriculum requires restructuring to enable the evaluation of students based on their learning process (Ashton and Newman, 2006; Lee and McLoughlin, 2007; McAuliffe et al., 2009). This personalization that heutagogical suggests is able to help students feel empowered and encourage greater engagement (Blaschke, 2012).

Teaching mature students can be challenging, especially when it is composed of 100 percent online learning. Students need to be prepared and instructors need to help students to accept new learning styles with appropriate scaffolding methods (Blaschke, 2012). Hence, the instructors must be proficient in offering scaffolding to avoid impeding the development of learners' autonomy skills. Several studies have shown that Vygotsky's social-constructivism (Vygotsky, 1980; Saleem et al., 2021) provides a suitable guide for using scaffolding to teach mature students due to the emphasis on social interactions (Shah and Rashid, 2017; Lasmawan and Budiarta, 2020).

Vygotsky's concept of scaffolding is also known as zone of proximal development (ZPD) (Wood et al., 1976). The ZPD concept suggests that a more knowledgeable other (MKO) should assist others during a difficult learning period. This MKO is often an instructor, or in many instances, peers. Vygotsky believes that peer interaction is an essential part of the learning process, even though, not all more knowledgeable peers are willing to teach others. Here, the instructor plays a crucial role in creating interactive opportunities for dialogues and reflections between the MKO and peers (Wang, 2016). When students are in this ZPD, the instructor should provide them with appropriate assistance and tools to enable them to work together toward accomplishing a new task or skill. In finding the best technique for the instructor to implement scaffolding, the instructional scaffolding technique has been referred to Pattalitan (2016). This technique suggests for:

(1) continued contact in and outside the classroom,
(2) collaboration instead of competition and isolation,
(3) practical applications,
(4) prompt feedback,

(5) well-planned learning tasks for better time management,
(6) clear learning outcomes, and
(7) opportunity to showcase talents.

Based on other research recommendations, this study incorporates the components of heutagogy (Blaschke, 2012; Blaschke and Hase, 2015) and instructional scaffolding (Pattalitan, 2016) into the model that forms the basis for the study (**Figure 1**). This model is tested to understand its effectiveness and shortcomings. Heutagogy provides the main structure of the HEIS model, which is divided into three phases: first phase (learning contract), second phase (learning activities), and third phase (learning outcomes). Instructional scaffolding is incorporated into the first and second phases to intensify the interactions involving the instructor and peers. All the activities in the HEIS model are done fully online between the instructor, students, and their peers.

First Phase (Learning Contract)

Learning begins with an icebreaking session and students are asked to form groups. Each group is required to work on their learning contract. During this phase, the instructor provides a draft of the learning contract. Students are allowed to add more requirements based on their group discussion and agreement. The instructor also briefs the students on the flexible curriculum and flexible assignment submissions. Students receive clear explanations of the expected outcomes of the course and are offered support comprising:

- assistance with understanding new concepts or ideas,
- assistance with gaining a deep understanding of a topic by challenging the students,
- assistance with evaluating ideas or practices,
- other types of assistance, e.g., wellbeing, counseling, and mental health.

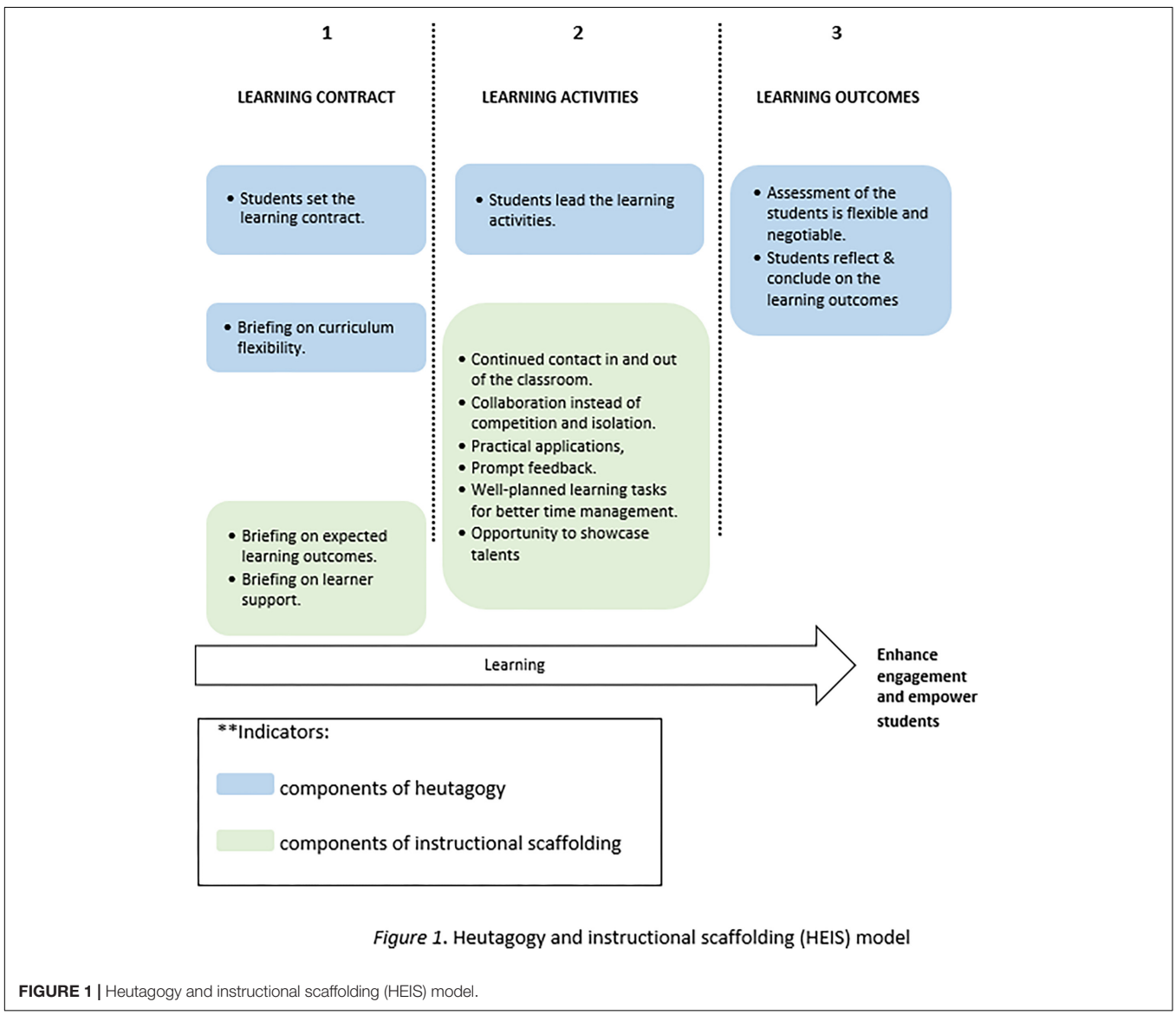

Figure 1. Heutagogy and instructional scaffolding (HEIS) model

FIGURE 1 | Heutagogy and instructional scaffolding (HEIS) model.

Second Phase (Learning Activities)

At this stage, the instructor has already prepared all the course materials and made them available on the learning platform (e.g., notes, demonstration and tutorial videos, links to related websites or YouTube). In this case, the learning platform is developed based on Moodle learning management system (LMS) at https://odlsystem.utm.my/. Students are able to view the course materials anytime and in any way they like. They may negotiate on the appropriate online meeting date and time with their instructor. Scaffolding in this phase involves a MKO (Stylidis et al., 2022), which could be an instructor, a better-informed peer, or even a supporting learning material. Students need to work together in completing the assignments given. They are encouraged to provide feedback on each other's work. The assignments given also lead to applications in the real world, for example, improving the website design of an existing school. Students need to showcase their designs and be willing to receive comments and suggestions for improvement from the instructor and other students. The instructor is on a standby mode for any enquiries or guidance, including through communication via WhatsApp for continued contact.

Third Phase (Learning Outcomes)

As mentioned earlier, students are given the flexibility to submit assignments at their convenience throughout the semester. However, all the submissions must not exceed the final date before the semester ends. Final date refers to 3 weeks before the semester ends. Students are also allowed to negotiate alternative ways to complete their assignments. They must then provide justifications (in the final reflective report) for what they have achieved at the end of the learning process in the third phase. This will improve their understanding of the strengths and weaknesses of their work.

OBJECTIVES

1. To understand how the components of heutagogy and instructional scaffolding affect students' engagement in ODL.
2. To understand how the components of heutagogy and instructional scaffolding affect students' empowerment in ODL.

RESEARCH QUESTIONS

1. How do the components of heutagogy and instructional scaffolding affect students' engagement through ODL?
2. How do the components of heutagogy and instructional scaffolding affect students' empowerment through ODL?

RESEARCH METHODOLOGY

This study used a qualitative approach involving semi-structured interviews whilst the main objective of the study is to understand the experiences of the research participants (Denscombe, 2010). Purposive sampling was used in selecting the participants (Punch, 2013).

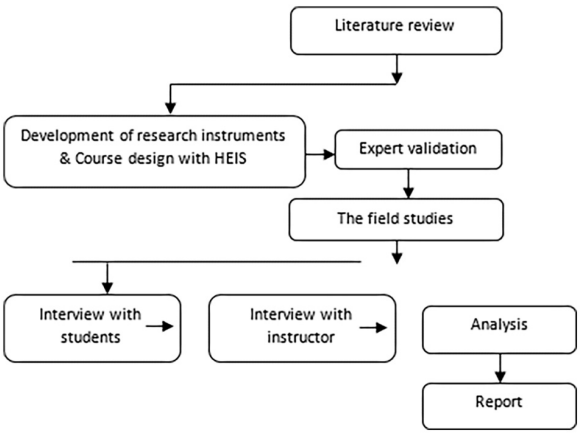

FIGURE 2 | Research design.

Figure 2 illustrates the research design of this study which involves structuring the interviews into two parts. The first part involved distributing the semi-structured interview questions online (using the Google form) to twenty postgraduate students aged 25–50 who enrolled in the ODL course of Technology and Media Design in one of Malaysia public universities. The second part consisted of one-on-one interviews to gain a more in-depth understanding and to allow other relevant themes to develop throughout the interviews (Bradford and Cullen, 2012). The interview questions were validated by an educational technology expert who was not involved in this study (Taherdoost, 2018). Four students gave their consents for the one-on-one interviews. The interviews were all conducted online due to the COVID-19 outbreak and because the students were all located in remote locations across Malaysia. An interview with the instructor was also conducted for triangulation with the data collected from the students (Flick, 2018). The confidentiality of the students and instructor is maintained by changing their names in this study (Allen, 2017).

This study applied two methods of analysis, namely thematic (Braun and Clarke, 2006) and comprehensive data treatment (Silverman, 2020) which includes the views from both sides of the participants (students and instructor). The thematic approach allows for careful analysis in finding coherent and distinctive themes by first, determining the codes. In determining the codes, another colleague who did not participate in the study took part as the second coder and verifier. The entire data were then coded using the NviVo 12 software. Based on the codes collated, two key themes were identified.

DISCUSSION OF RESEARCH FINDINGS

The discussion is based on the two research questions to understand the effect of heutagogy and scaffolding (HEIS) on enhancing engagement and empower students' learning.

(1) How do the components of heutagogy and scaffolding (HEIS) affect students' engagement through ODL?

The first question is answered using the findings related to the instructor's competencies, as discussed below:

KEY THEME 1: INSTRUCTOR'S COMPETENCIES

Studies have indicated that instructors' or teachers' competencies have a strong impact on students' emotions and effective learning (Gläser-Zikuda and Fuß, 2008; Darling-Hammond et al., 2017; Helin, 2021). Instructor's competencies in this study highlights the need for instructors to have certain skills in engaging mature students to learn online fully. Conceptual, interpersonal, and technical skills were found to be most valued by the mature students in this study. Instructor's competencies are also closely related to the study of scaffolding (zone of proximal development/ZPD) which suggests that support should be given to students at the early stages of learning (Tinungki, 2019). Support can be in many forms depending on the situation. In the context of this study, the supports required by the students were related to learning preparation, effective communication, and technological tools.

To generate the key theme (instructor's competencies) and three sub-themes (conceptual, interpersonal, and technology skills), initial codes were generated first whereby chunks of data from the semi-structured interviews with the 20 participants were examined line by line (Bryman, 2004). As a result, seven codes were generated, as shown in **Table 1**. Some of the codes overlap; these were developed further into categories.

These codes are not closed categories, as sometimes they could overlap. The codes were grouped into potential categories, which are conceptual, interpersonal, and technology skills as shown in **Table 2**. The data were constantly reviewed using the NviVo 12 software to ensure the two categories fitted the data codes.

Sub-Theme 1: Conceptual Skills

Based on the data analysis, instructor's conceptual skills were found to be one of the important factors of student engagement. Conceptual skills refer to the abilities to understand situations, organize, and implement solutions to ensure goals are achieved (Katz, 2009). Therefore, instructors need to be able to manage the ODL courses well by first, explaining the importance of the learning contract clearly to students. Learning contracts were found to be extremely effective in keeping the students engaged (Mohamed Ibrahim and Ali Eldemerdash, 2018) as they already have a preliminary agreement that will take effect if they fail to fulfill the terms of the agreement.

In being assertive, there needs to be flexibility when dealing with mature learners. Nonetheless, it does not mean they can break the rules (learning contract). Instructors need to observe the situation and allows some flexibility to the students. For example, even though students are not required to submit assignments by specified dates throughout the semester, they should not submit their assignments later than 3 weeks before semester ends.

Instructors also need to be observant of students working in groups and be willing to offer their expertise when needed. Instructors should not assume that no issues will arise when mature students are working together in groups. As one of the students mentioned:

TABLE 1 | Codes and indications from semi-structured interviews.

Code	Indication	Definition	Sample of participants' quote
CCI	Clear and concise instructions	Providing clear and concise instructions and expectations for students.	"We wouldn't want our marks to be affected if we break the learning contract. The instructor has made this clear from the beginning" [Student D]
CFX	Curriculum flexibility	The curriculum is designed to meet students' needs and capabilities.	"I would say that I am more advanced as compared to my other friends because I'm currently working in the design industry. . .well. I did submit one of the assignments earlier than everyone else. I felt relieve after submitting. I can get on with my work and not worry about the assignment anymore. I'm very busy, you see [laugh]" [Student A]
KN	Knowledgeable	Someone who is well-versed in a particular subject or field.	"Sometimes it is difficult for us to agree on a decision so we will refer to the instructor to get a more comprehensive view before continuing the discussion" [Student H]
AC	Accommodating	Willing to extend help without hesitation.	"I'm glad that I can simply message or call my instructor for help at any time. There was once when I message her at almost midnight, and she replied! That really helps as I was under stress to understand and complete the assignment given" [Student G]
SE	Sensitive	Quick to detect or respond to the surrounding, signals, or feelings of others.	"It was great that we can agreed to meet online at certain time, especially at night. I've to rush from work after 5:00 p.m., to get home, get my kids settled. . .so it is a bit chaotic for me and for some of my friends in the course. . .there was few times that I can't attend the meeting but luckily the instructor managed to record the meeting for those who can't attend. We managed to refer back to what was discussed" [Student C]
TS	Tech-savvy	Able to use a variety of smart device, software, and tools for teaching.	"Learning is not boring because the instructor used a variety of approaches. Sometimes she uses Padlet, Webex, Zoom, free video recorded apps. All kinds of software. . .there were some software that are new to me. This is useful not only for learning but for my work as well" [Student H]
SPT	Solve problems with technology	Know how to overcome technical issues with technology	"My internet line is sometimes unstable but I'm not worried because the instructor will record everything, and I can watch it later. Plus, the instructor uses WhatsApp and Facebook for backup" [Student K]

TABLE 2 | Categorizing codes from semi-structured interviews into three sub-themes.

Codes (see Table 1)	Categorization of codes into sub-theme
CCI, CFX, KN	Conceptual skills
AC, SE	Interpersonal skills
TS, SPT	Technology skills

> "Sometimes it is difficult for us to agree on a decision so we will refer to the instructor to get a more comprehensive view before continuing the discussion."
>
> [Student H, semi-structured interview]

Mature learners have high expectations in pursuing knowledge and skills that are worth their time or money (Jones et al., 2018). Therefore, it is imperative to create and manage a course that will maximize their strengths, meet their individual needs, and address all the learning challenges.

Sub-Theme 2: Interpersonal Skills

Interpersonal skills refer to the skills to communicate and interact with other people (Hayes, 2002). Instructors need to have interpersonal skills to teach effectively because those skills can influence emotions, and emotions are proven to help shape student engagement and learning (Linnenbrink-Garcia and Pekrun, 2011). Students in this study stated that the accommodating and sensitive attitude of the instructor has influenced their engagement in learning. Other studies have also reported that educators who are accommodating (supportive, kind, and nurturing) have a positive impact on learning (Feshbach and Feshbach, 2009; Pit-ten Cate et al., 2018).

Mature students face certain challenges when learning from home. In addition to their responsibilities as students, they must deal with family members including young children at the same time. Moreover, the students who enrolled in the ODL course in this study held high positions at work (e.g., director, manager, and assistant principal). Therefore, it is not surprising that they had high expectations. The students in this study requested for less synchronous meetings and recommended for the meetings to be conducted in the evenings to give space to them, especially for those who are parents. Besides, the students expected the instructor to be reachable when needed. Similarly, other research findings suggested that instructors should provide quick responses for effective online learning (Baker, 2011; Boettcher and Conrad, 2016). Problems will arise if the instructor refuses to accommodate such requests because mature students will not hesitate to quit their studies, as explained by one of the students:

> "I once decided to quit but the instructor approached me, and she gave some suggestions for completing the assignment. She also gave additional one-on-one learning session. She made me stay."
>
> [Student G, one-on-one interview]

The data show that interpersonal skills through positive communications are vital for ODL instructors to develop and possess in order to establish a trusting relationship (Duffy et al., 2004). The data also show that empathy is the key to interpersonal skills quality (Lloyd and Maas, 1992). Empathy is the ability to put oneself in other people's shoes and understand a situation from their point of view. Several studies have emphasized the importance of empathy in online learning (Fuller, 2012; Osler, 2021), and this study fully supports those findings.

Sub-Theme 3: Technology Skills

Technology skills refer to the ability to integrate technology into teaching and learning (George et al., 1996). The instructor in this study emphasized that technology skills can help smoothen the learning process, as exemplified by the following incident:

> "...yes, instructors need to have skills in using not just one software but various! We cannot rely on just one software...anything can happen online, so we need to always have backup. There was once I used "zoom" and I had some problems with it, I quickly switch to "Facebook live"...learning continued and I didn't have to cancel the class."
>
> [Instructor, one-on-one interview]

Without technology skills, as mentioned by the instructor, students' learning experience may be adversely affected and become unpleasant. The instructor's skills in video recording were also mentioned by the students by referring to the video lectures that were made available for them to revisit if needed.

> "...the instructor managed to record her lectures and we were able to watch at any time. Just like books, I watched her lectures again before the final exam [laugh]."
>
> [Student C, one-on-one interview]

All the data indicate that instructors need to be prepared and open to any possibilities when teaching mature students through ODL. Instructors need to have skills in planning and handling their ODL classes with the aid of technology.

(1) How do the components of heutagogy and scaffolding affect students' empowerment through ODL?

To answer the second research question on students' empowerment, six codes were generated (**Table 3**), which were then categorized into three sub-themes (**Table 4**) leading to the formulation of key theme 2 (project-based assessment).

KEY THEME 2: PROJECT-BASED ASSESSMENT

Project-based assessments seem to play an important role in empowering students. All the three sub-themes identified in this study lead to the key characteristics of project-based assessment (Beckett and Slater, 2019). Therefore, this study suggests that project-based assessments should be incorporated in ODL and analyzed in future studies. Moreover, other studies have indicated that project-based assessments will encourage empowerment by improving self-confidence and promoting collaborative and

TABLE 3 | Codes and indications from semi-structured interviews.

Code	Indication	Definition	Sample of participants' quote
CT	Communication tool	Utilize communication tool for discussion and deep learning	"We used WhatsApp group for brief discussion followed by Zoom for deeper discussion. These tools allow us to communicate on the move. We can reach all members located in different state and country. Besides, it's cost-effective" [Student E]
CL	Collaborate	Working with another to produce or create something	"We were not competing with other groups, instead we were asked to provide feedback to improve the design produced by other groups and vice versa. This is healthy" [Student S]
SRP	Solving real problems	Solving situations that cause difficulties for people.	"I like the third assignment given where we have to solve real problems. This helps us make connections and gain deeper understanding" [Student L]
AVE	Assessment vs. Evaluation	Process oriented assessment instead of product or outcome oriented.	"Actually, I don't like having a final exam for this kind of course. We learn about design, something that is subjective and require constant improvement. So why is there a need for a final exam? We are not school students [Laugh]" [Student A]
RAB	Reduce assignment burden	Burden reduction from many assignments.	"Can I suggest reducing the number of assignments? when combined with all the assignments from other courses we feel burdened" [Student H]
FA	Focused assessment	Assessment focusing on a particular problem identified in real world.	". . .Instead of three, why not just give us one meaningful assignment to be completed throughout the semester for a course like this?" [Student J]

TABLE 4 | Categorizing codes from semi-structured interviews into three sub-themes.

Codes (see Table 1)	Categorization of codes into sub-theme
CC, CL	Collaborate and communicate
SRP, AVE	Real task
AVE, RAB, FA	Meaningful Assessment

problem-solving skills among students (Meyer, 2014; Amissah, 2019; Warnock and Duncan, 2019).

Sub-Theme 1: Collaborate and Communicate

Despite the physical absence, students were able to collaborate through the online platform to complete their assignments. Learning in collaboration has been shown to have numerous benefits, such as developing higher-level thinking skills, improving confidence, and empowering students (Laal et al., 2012, 2013). Collaboration enables students to learn from each other as they discuss solving problems and making decisions. However, the students mentioned that they favor discussions in small groups due to the greater sense of commitment (Bondie, 2020).

> "I don't think this will work in bigger group! Three in a group should be enough. It's easier to manage and we gained quality discussion. Plus, everyone gets to participate."
>
> [Student C, one-on-one interview]

Students have used various technologies, such as WhatsApp and Zoom as a medium for communication. Nonetheless, WhatsApp was not considered the best communication tool for more in-depth discussions.

> "We used WhatsApp group for brief discussion followed by Zoom for deeper discussion. These tools allow us to communicate on the move. We can reach all members located in different state and country. Besides, it's cost-effective."
>
> [Student E, semi-structured interview]

This contrasts with one study (Urien et al., 2019) that stated WhatsApp is a key factor that helps undergraduate students working in groups solving complex tasks. With conflicting findings between undergraduate and postgraduate students, further studies can be done to see if age factor is the cause of differences in using communication applications such as WhatsApp for the learning process.

Sub-Theme 2: Real Task

Students in this study stated that they prefer to deal with assignments that are authentic or related to the real world because such assignments allow them to gain a better understanding of issues (Pieratt, 2019).

> "I like the third assignment given where we have to solve real problems. This helps us make connections and gain deeper understanding."
>
> [Student L, semi-structured interview]

Solomon (2003) in his study of project-based learning also stated that students feel more empowered when dealing with authentic tasks as they take learning more seriously.

Sub-Theme 3: Meaningful Assessment

It is important to highlight that the most distinguishing feature of an ODL course compared to a face-to-face course is the assessment part. According to the instructor in this study, there is a need to properly analyze the appropriate types of assessment for ODL courses. She specifically mentioned that the mastery learning approach is not as suitable for teaching ODL among adult students from diverse backgrounds:

> "We need to be more creative in using different approaches than the mastery learning. That approach does not encourage empowerment. We have students from diverse background and some of them are more advanced than the others. . .of course they wish not to learn the basic topics anymore."
>
> [Instructor, one-on-one interview]

Students also conveyed their disagreement with using final examinations to assess their learning achievements for the course.

> "Actually, I don't like having a final exam for this kind of course. We learn about design, something that is subjective and require constant improvement. So why is there a need for a final exam? We are not school students [Laugh]."
>
> [Student A, semi-structured interview]

Online final examinations cannot prevent cheating, and according to the instructor, many similarities were found in the final examination answers submitted by some students.

> "Final exam is no longer suitable for this course. Despite being given 2 days of open book exam, I found that there were students who plagiarize with more than 60% similarity."
>
> [Instructor, one-on-one interview]

Many studies have raised the issue of online assessment or e-assessment leading to plagiarism and fraud (Gathuri et al., 2014; Mellar et al., 2018). A study also showed that students of ODL-based learning had low trust in e-assessment and suggested that further studies to be conducted to identify the causes (Kocdar et al., 2018). Thus, this study provides some answers by asserting that e-assessment should first be tailored to course specific content e.g., for design courses, project -based assessment approach is considered appropriate.

CONCLUSION

This study has applied the HEIS model that combines heutagogy and scaffolding. Even though all the HEIS components have an impact on students' engagement and empowerment, there are still some suggestions for improvement. This study recommends that instructors' competencies and project-based assessments be considered in ensuring the effectiveness of the model.

The HEIS model has unearthed the importance of instructors' competencies in ODL. To implement all the criteria proposed by HEIS effectively, instructors must first develop competencies (conceptual, interpersonal, and technology) to scaffold mature learners in ODL courses. Therefore, the faculties with ODL courses should not assume that their existing instructors can teach these courses. Even with many years of teaching experience, instructors should still be given proper training on teaching mature students in a fully online environment. The findings also indicate that project-based assessment is more suitable for ODL design courses. Project-based assessments are indeed worth considering to deal with the issues of academic dishonesty and plagiarism when more learning institutions are moving online due to the COVID-19 pandemic situation.

Is it also important to highlight that this study involved a small sample of university postgraduate students and academic in one of Malaysia public universities therefore the findings cannot be statistical generalized. However, this can be related to naturalistic generalization that focus on the discovery of general principles about phenomena rather than sample of representation (Yin, 2009). The findings can provide important information for future research on implementing heutagogical approach for online teaching and learning in Higher Education. It is hoped that faculties, researchers, and other practitioners will be able to use this study's findings and recommendations as a useful reference.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author/s.

AUTHOR CONTRIBUTIONS

ZA and MNH contributed to conception and design of the study. MNH organized the database/system and proofread the article and article submission. ZA performed the qualitative analysis and wrote the first draft of the manuscript. Both authors contributed to manuscript revision, read, and approved the submitted version.

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REFERENCES

Allen, M. (2017). *The SAGE Encyclopedia of Communication Research Methods*. Thousand Oaks: SAGE Publications.

Amissah, P. A. K. (2019). *Advantages and Challenges of Online Project Based Learning. (Master of Science in Media Arts and Technology)*. Ph.D. thesis. New York: Rochester Institute of Technology.

Anders, A. (2015). Theories and Applications of Massive Online Open Courses (MOOCs): the Case for Hybrid Design. *Int. Rev. Res. Open Distrib. Learn.* 16, 39–61. doi: 10.19173/irrodl.v16i6.2185

Ashton, J., and Newman, L. (2006). An unfinished symphony : 21st century teacher education using knowledge creating heutagogies. *Br. J. Educ. Technol.* 37, 825–840. doi: 10.1111/j.1467-8535.2006.00662.x

Baker, D. L. (2011). Designing and orchestrating online discussions. *MERLOT J. Online Learn. Teach.* 7, 401–411.

Beckett, G., and Slater, T. (2019). *Global Perspectives on Project-Based Language Learning, Teaching, and Assessment: key Approaches, Technology Tools, and Frameworks*. Milton Park: Taylor & Francis.

Blaschke, L. M. (2012). Heutagogy and lifelong learning: a review of heutagogical practice and self-determined learning. *Int. Rev. Res. Open Distrib. Learn.* 13, 56–71. doi: 10.19173/irrodl.v13i1.1076

Blaschke, L. M. (2018). "Self-determined Learning (Heutagogy) and Digital Media Creating integrated Educational Environments for Developing Lifelong Learning Skills," in *The Digital Turn in Higher Education*, eds D. Kergel, B. Heidkamp, P. Kjærsdam, T. Rachwal,and S. Nowakowski (Wiesbaden: Springer), doi: 10.1007/978-3-658-19925-8_10

Blaschke, L. M. (2021). The dynamic mix of heutagogy and technology: preparing learners for lifelong learning. *Br. J. Educ. Technol.* 52, 1629–1645.

Blaschke, L. M., and Hase, S. (2015). "Heutagogy: a holistic framework for creating 21st century self-determined learners," in *The Future of Ubiquitous Learning. Lecture Notes in Educational Technology*, eds B. Gros, Kinshuk, and M. Maina (Berlin: Springer), 25–40. doi: 10.1007/978-3-662-47724-3_2

Bloomberg, L. D. (2021). *Designing and delivering effective online instruction: how to engage adult learners*. New York: Teachers College Press.

Boettcher, J. V., and Conrad, R. M. (2016). *The Online Teaching Survival Guide: simple and Practical Pedagogical Tips*. Hoboken, NJ: Wiley.

Bondie, R. (2020). Practical tips for teaching online small-group discussions. *Assoc. Supervision Curr. Dev.* 15:16.

Bradford, S., and Cullen, F. (eds.). (2012). *Research and Research Methods for Youth Practitioners*. London: Routledge. 8.

Braun, V., and Clarke, V. (2006). Using thematic analysis in psychology. *Qual. Res. Psychol.* 3, 77–101. doi: 10.1191/1478088706qp063oa

Bryman, A. (2004). *Social Research Methods*. Oxford: Oxford University Press.

Canning, N., and Callan, S. (2010). Heutagogy: spirals of reflection to empower learners in higher education. *Reflective Pract.* 11, 71–82. doi: 10.1080/14623940903500069

Chao, E. L., DeRocco, E. S., and Flynn, M. K. (2007). *Adult Learners in Higher Education: barriers to Success and Strategies to Improve Results*. Washington, DC: United States Department of Labor.

Crosslin, M., and Wakefield, J. S. (2016). What's cooking in the MOOC kitchen: layered MOOCs. *TechTrends* 60, 98–101. doi: 10.1007/s11528-016-0036-5

Darling-Hammond, L., Hyler, M. E., and Gardner, M. (2017). *Effective teacher professional development*. Palo Alto, CA: Learning Policy Institute.

Denscombe, M. (2010). *The Good Research Guide: for small-scale social research projects*. New York: McGraw-Hill Education.

Duffy, F. D., Gordon, G. H., Whelan, G., Cole-Kelly, K., and Frankel, R. (2004). Assessing competence in communication and interpersonal skills: the Kalamazoo II report. *Acad. Med.* 79, 495–507. doi: 10.1097/00001888-200406000-00002

Dzakiria, H., Idrus, R. M., and Atan, H. (2005). Interaction in Open Distance Learning: research Issues in Malaysia. *Malays. J. Distance Educ.* 7, 63–77.

Eachempati, P., Ks, K. K., Komattil, R., and Ismail, A. R. (2017). Heutagogy through Facebook for the Millennial learners. *MedEdPublish* 6:25. doi: 10.15694/mep.2017.000194

Feshbach, N. D., and Feshbach, S. (2009). Empathy and education. *Soc. Neurosci. Empathy* 85:98.

Flick, U. (2018). "Concepts of triangulation," in *Managing Quality in Qualitative Research*, 2nd Edn, ed. U. Flick (Thousand Oaks, CA: SAGE Publications Ltd), 38–54. doi: 10.4135/9781849209441.n4

Fuller, R. G. (2012). Building empathy in online courses: effective practical approaches. *Int. J. Inf. Commun. Technol. Educ.* 8, 38–48. doi: 10.4018/jicte.2012100104

Gathuri, J. W., Luvanda, A., Matende, S., and Kamundi, S. (2014). Impersonation Challenges Associated With E-Assessment of University Students. *J. Inf. Eng. Appl.* 4, 60–68.

George, M. D., National Science Foundation [U.S.], and Directorate for Education and Human Resources (1996). *Shaping the Future: new Expectations for Undergraduate Education in Science, Mathematics, Engineering, and Technology*. Arlington, VA: The National Science Foundation, Directorate for Education and Human Resources.

Gläser-Zikuda, M., and Fuß, S. (2008). Impact of teacher competencies on student emotions: a multi-method approach. *Int. J. Educ. Res.* 47, 136–147. doi: 10.1016/j.ijer.2007.11.013

Hase, S., and Kenyon, C. (2001). "Moving from andragogy to heutagogy: implications for VET," in *Paper presented at the 2001 Australian Vocational Education and Training Research Association (AVETRA) Conference*, (Adelaide: AVETRA).

Hayes, J. (2002). *Interpersonal Skills at Work*. Milton Park: Routledge.

Helin, J. (2021). *Transformative Competencies*. Paris: OECD.

Hsieh, Y. C. (2017). A case study of the dynamics of scaffolding among ESL learners and online resources in collaborative learning. *Comput. Assist. Lang. Learn.* 30, 115–132. doi: 10.1080/09588221.2016.1273245

Jones, J. E., Baran, M. L., and Cosgrove, P. B. (2018). *Outcome-Based Strategies for Adult Learning*. Pennsylvania: IGI Global.

Katz, R. L. (2009). *Skills of an Effective Administrator*. Boston: Harvard Business Press.

Khan, A., Egbue, O., Palkie, B., and Madden, J. (2017). Active Learning: engaging Students To Maximize Learning In An Online Course. *Electron. J. e-Learn.* 15, 107–115.

Kocdar, S., Karadeniz, A., Peytcheva-Forsyth, R., and Stoeva, V. (2018). Cheating and plagiarism in e-assessment: students' perspectives. *Open Prax.* 10, 221–235. doi: 10.5944/openpraxis.10.3.873

Laal, M., Laal, M., and Kermanshahi, Z. K. (2012). 21st Century Learning. Learning in Collaboration. *Procedia Soc. Behav. Sci.* 47, 1696–1701. doi: 10.1016/j.sbspro.2012.06.885

Laal, M., Naseri, A. S., Laal, M., and Khattami-Kermanshahi, Z. (2013). What do we achieve from learning in collaboration? *Procedia Soc. Behav. Sci.* 93, 1427–1432. doi: 10.1016/j.sbspro.2013.10.057

Lasmawan, I. W., and Budiarta, I. W. (2020). Vygotsky's Zone Of Proximal Development and The Students' Progress in Learning (A Heutagogcal Bibliographical Review). *J. Pendidikan Indonesia* 9:545. doi: 10.23887/jpi-undiksha.v9i4

Lee, M., and McLoughlin, C. (2007). Teaching and learning in the Web 2.0 era: empowering students through learner-generated content. *Int. J. Instruct. Technol. Distance Learn.* 4, 1–17. doi: 10.4324/9781351206877-1

Linnenbrink-Garcia, L., and Pekrun, R. (2011). Students' emotions and academic engagement: introduction to the special issue. *Contemp. Educ. Psychol.* 36, 1–3. doi: 10.1016/j.cedpsych.2010.11.004

Lloyd, C., and Maas, F. (1992). Interpersonal skills and occupational therapy. *Br. J. Occup. Ther.* 55, 379–382. doi: 10.1177/030802269205501005

Lock, J., Lakhal, S., Cleveland-Innes, M., Arancibia, P., Dell, D., De Silva, N. (2021). Creating technology-enabled lifelong learning: a heutagogical approach. *Br. J. Educ. Technol.* 52, 1646–1662.

Marcut, I. G., and Chisiu, C. M. (2018). Heutagogy – an appropriate framework for computer aided learning course with post-graduate teacher students. *J. Plus Edu.* 204–216.

McAuliffe, M., Hargreaves, D., Winter, A., and Chadwick, G. (2009). Does Pedagogy Still Rule? *Aust. J. Eng. Educ.* 15, 13–18. doi: 10.1080/22054952.2009.11464018

Mellar, H., Peytcheva-Forsyth, R., Kocdar, S., Karadeniz, A., and Yovkova, B. (2018). Addressing cheating in e-assessment using student authentication and authorship checking systems: teachers' perspectives. *Int. J. Educ. Integr.* 14:2. doi: 10.1007/s40979-018-0025-x

Meyer, C. (2014). Project based assessment as a tool for evaluating student learning: an evaluative analysis of classroom procedures. San Marcos: California State University.

Mohamed Ibrahim, E., and Ali Eldemerdash, D. (2018). The Effect of Learning Contract Educational Strategy on Nursing Students' Motivation and LearningOutcomes. *Egypt. J. Health Care* 9, 256–280. doi: 10.21608/ejhc.2018.46495

Moore, R. L. (2020). Developing lifelong learning with heutagogy: contexts, critiques, and challenges. *Distance Educ.* 41, 381–401. doi: 10.1080/01587919.2020.1766949

Musingafi, M. C. C., Mapuranga, B., Chiwanza, K., and Zebron, S. (2015). Challenges for Open and Distance learning (ODL) Students: experiences from Students of the Zimbabwe Open University. *J. Educ. Pract.* 6, 59–67.

Nachowitz, M. (2018). Scaffolding progressive online discourse for literary knowledge building. *Online Learn.* 22, 133–156. doi: 10.24059/olj.v22i3.1261

Olaniran, S. O. (2020). Literacy Library and the Functional Literacy Skills of the 21st Century Adult Learners. *Libr. Philos. Pract.* 2020, 1–12.

Osler, L. (2021). Taking empathy online. *Inquiry* 1–28. doi: 10.1080/0020174X.2021.1899045

Parra, J. (2016). Moving Beyond MOOC Mania: lessons from a Faculty-Designed MOOC. *Curr. Issues Emerging eLearn.* 3:10.

Pattalitan, A. P. Jr. (2016). The Implications of Learning Theories to Assessment and Instructional Scaffolding Techniques. *Am. J. Educ. Res.* 4, 695–700.

Pieratt, J. (2019). *Keep It Real With PBL, Elementary: a Practical Guide for Planning Project-Based Learning*. Thousand Oaks: SAGE Publications.

Pit-ten Cate, I. M., Markova, M., Krischler, M., and Krolak-Schwerdt, S. (2018). Promoting Inclusive Education: the Role of Teachers' Competence and Attitudes. *Insights Learn. Disabil.* 15, 49–63.

Punch, K. F. (2013). *Introduction to Social Research: quantitative and Qualitative Approaches*. Thousand Oaks: SAGE Publications.

Saleem, A., Huma, K., and Farah, D. (2021). Social Constructivism: a New Paradigm in Teaching and Learning Environment. *Perenn. J. Hist.* 2, 403–421. doi: 10.52700/pjh.v2i2.86

Shah, T., and Rashid, S. (2017). Applying Vygotsky to Adult Learning. *J. Soc. Sci. Gov. Coll. Univ. Faisalabad* 8, 1–13.

Silverman, D. (Ed.). (2020). *Qualitative Research.* sage.

Soffer, T., and Cohen, A. (2019). Students' engagement characteristics predict success and completion of online courses. *J. Comput. Assist. Learn.* 35, 378–389. doi: 10.1111/jcal.12340

Solomon, G. (2003). Project-based learning: a primer. *Technol. Learn. Dayton* 23, 20–20. doi: 10.1128/jmbe.v17i3.1115

Stylidis, D., Woosnam, K. M., and Kim, S. (2022). Perceptions of attractions, residents as "more knowledgeable others" and destination image: evidence from two destinations. *Int. J. Tour. Res.* 2022, 1–15.

Taherdoost, H. (2018). Validity and Reliability of the Research Instrument; How to Test the Validation of a Questionnaire/Survey in a Research. *SSRN Electron. J.* 5, 28–36.

Tinungki, G. M. (2019). Zone Proximal development gives a new meaning to the students'intelligence in statistical method lesson. *J. Honai Math* 2, 129–142.

Urien, B., Erro-Garcés, A., and Osca, A. (2019). WhatsApp usefulness as a communication tool in an educational context. *Educ. Inf. Technol.* 24, 2585–2602. doi: 10.1007/s10639-019-09876-5

Vygotsky, L. S. (1980). *Mind in Society: the Development of Higher Psychological Processes*. Cambridge: Harvard University Press.

Wang, V. C. X. (2016). *Theory and Practice of Adult and Higher Education*. Charlotte: Information Age Publishing.

Warnock, C., and Duncan, J. (2019). Project-based learning in initial teacher training curricula: incorporating a visual method to enhance student agency and reflexive engagement in the learning process. *J. Eur. Teach. Educ. Network* 14, 64–75.

Weinstein, S., and Preiss, D. (2017). Scaffolding to Promote Critical Thinking and Learner Autonomy Among Pre-Service Education Students. *J. Educ. Train.* 4, 69–87. doi: 10.5296/jet.v4i1.9871

Wood, D., Bruner, J. S., and Ross, G. (1976). The role of tutoring in problem solving. *J. Child Psychol. Child Psychiatry* 17, 89–100. doi: 10.1111/j.1469-7610.1976.tb00381.x

Yin, R. K. (2009). *Case study research: Design and methods*, Thousand Oaks: Sage.

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