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ACADEMAGOGY FOR ENHANCING ADULT ONLINE LEARNER ENGAGEMENT IN HIGHER EDUCATION

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ACADEMAGOGY FOR ENHANCING ADULT ONLINE LEARNER ENGAGEMENT IN HIGHER EDUCATION

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Abstract:

The COVID-19 pandemic has escalated the online learning revolution in tertiary education. However, the commonly applied “one-size-fits-all” paradigm poses challenges such as high attrition rates among online adult learners. This paper highlights the potential benefits and limitations of academagogy to enable the personalisation of online learning in terms of fostering better learner engagement.

Keywords: online learning, one-size-fits-all, adult learner, personalisation, academagogy, engagement.

I. INTRODUCTION

The COVID-19 pandemic caused the mandatory closure of primary, secondary and tertiary institutions across the world. It is estimated that almost 90% of all students are currently unable to attend regular face-to-face classes [Kandri, 2020]. Consequentially, a widespread shift towards online learning has occurred within the education sector. In this paper, we focus on online adult learners at tertiary institutions.

The term “adult learner” (or sometimes “non-traditional learner”) refers to students who are at least 25 years old [Bowers and Bergman, 2016]. Typically, adult learners undertake tertiary education alongside family commitments, work and other life commitments [Bowden and Merritt, 1995; Bowers and Bergman, 2016; Smith, 2019; Tilley, 2014]. Adult learners are the largest group of online learners at tertiary institutions [Cercione, 2008; Moore and Shemberger, 2019; Seaman et al., 2018].

Unfortunately, adult learners have higher attrition rates at tertiary institutions [Ferreira and MacLean, 2017; Kahu et al., 2013; Morris et al., 2019]. For example, a recent calculation of six-year completion rates for adult learners at tertiary institutions was less than 50% [Shapiro et al., 2018]. This situation is attributable to 1) the complexities of work-life balance [Albinson, 2016]; 2)

the preference for alternative learning and teaching approaches [Ferreira and MacLean, 2017; Kennan et al., 2018]; 3) limited interaction with teachers [Matthews et al., 2017; Muhammad and Kainat, 2020]; and 4) the "one-size-fits-all" paradigm that delivers content the same way to all learners [Bajaj and Sharma, 2018; Ferreira and MacLean, 2017]. Studies have found that slower adult learners get overwhelmed while faster adult learners become bored and, in both cases, this tends to decrease learner engagement [Ferreira and MacLean, 2017].

Adult learners are self-directed, responsible, and resistant to handholding [Knowles, 1980]. They are diverse in terms of background, circumstances and learning needs [Laurian-Fitzgerald et al., 2018]. Also, adult learners have immediate goals for learning and prefer collaborative relationships with teachers [Bowers and Bergman, 2016]. The "one-size-fits-all" paradigm is not able to support the needs of adult learners online [Cercione, 2008; Ferreira and MacLean, 2017; McAuliffe and Winter, 2013; Kara et al., 2019]. Studies show that personalising the online learning experience is crucial to improving adult learner engagement and reducing their attrition rates [Smith, 2019; Stone, 2017; Rapanta et al., 2020].

In tertiary education, Bloom's taxonomy is used when designing learning objectives and evaluating learner performance [Aeiad and Meziane, 2018; Krathwohl, 2002]. Bloom's taxonomy is studied alongside adult learning theories such as andragogy, heutagogy and academagogy [Arghode et al., 2017; Caruth, 2014, 2015; Cercione, 2008; Wang & Farmer, 2008]. The goal of academagogy is "to incorporate higher levels of Bloom's taxonomy (cognitive domain) with an emphasis on learning by doing for the psychomotor domain" in learners [Murthy, 2011; Murthy et al., 2012]. Furthermore, studies show that academagogy enables the teacher to tailor the teaching process based on learner needs [McAuliffe and Winter, 2013; Winter et al., 2009].

The term "personalisation" refers to instruction that is paced according to learning needs, learning preferences and the specific interests of individual learners [Bray and McClaskey, 2013]. Online learning that is personalised provides learner-centric education via technologies such as adaptive assessment, gamification, intelligent tutoring systems and learning analytics [FitzGerald et al., 2018]. Most studies about personalisation focus on those technologies but neglect other research angles such as when, how or why to use technology [Msila and Setlhako, 2012; Bartolomé et al., 2018; Dabbagh and Fake, 2017]. For instance, in response to COVID-19, recent studies about online learning at tertiary institutions highlighted the importance of instructional design, teacher presence and adaptive curriculum as a basis for teaching preparation during and after the pandemic [Azorin, 2020; Bao, 2020; Rapanta et al., 2020].

The purpose of this paper is to highlight the value of using academagogy to personalise online learning for adult learners. The rest of the paper is arranged as follows. Section II describes the terminology of academagogy and its related terms. Section III describes the state-of-the-art applications of academagogy theory and its research gaps. Section IV discusses the potential benefits of researching academagogy theory. Section V identifies the limitations of academagogy. Finally, Section VI argues the need for more research on academagogy to support online adult learners.

II. ACADEMAGOGY

The term academagogy means "scholarly leading" [Winter et al., 2008]. Academagogy is defined as a meshed model of pedagogy (teacher-centred), andragogy (learner-centred) and heutagogy (learner-driven) as shown in Figure 1. Academagogy allows a teacher to select appropriate parts from the models pedagogy, andragogy and heutagogy, and blend them in a context for better learning outcomes [Winter et al., 2008; Jones et al., 2019]. Academagogy highlights the vital role of a teacher in helping learners to actively engage in the process of knowledge discovery based on learner needs and interests [Jones et al., 2014; McAuliffe et al., 2008]. Academagogy can be used to facilitate learners of diverse cultural, generational, and disciplinary backgrounds and prior knowledge [Winter et al., 2008].

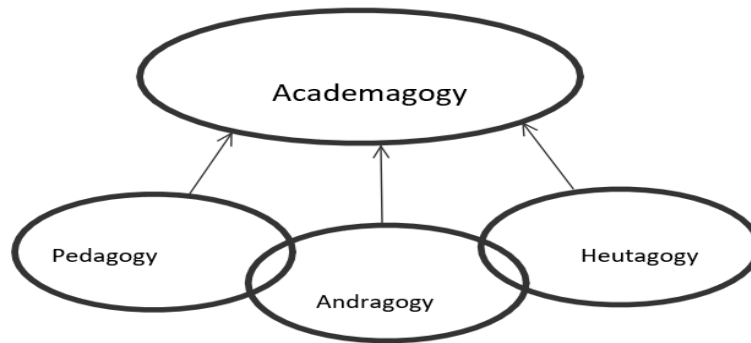


Figure 1: Academagogy covering pedagogy, andragogy and heutagogy.

Source: Winter et al., [2008]

Pedagogy (leading the boy)

Pedagogy is defined as the art and science of teaching children, evolved in the monastic schools of Europe between the 7th and 12th centuries [Holmes and Abington-Cooper, 2000]. It is a "teacher-centred" model where the teacher has full responsibility for the learning materials and how to deliver these materials [McAuliffe et al., 2008]. The learner has no control over the learning materials. Consequently, pedagogy acts as a starting point in the personalisation of the learning experience for all learners.

Andragogy (leading the man)

Alexander Kapp coined the term andragogy in 1833. Knowles defined andragogy as the art and science of helping adults to learn [Holmes and Abington-Cooper, 2000; Knowles, 1980]. Andragogy differentiates from pedagogy as a "learner-centred" model [Galustyan et al., 2019]. Here the learner plays an active role but still needs teacher assistance. The learner can choose some topics they are specifically interested in learning. Hence, the decision making, and ownership of learning outcomes are shared between the learners and teacher [Fornaciari and Lund Dean, 2013]. Consequently, the role of andragogy in helping to personalise the learning experience is to allow learners to collaborate with their teacher about what and how they can reach their learning goals by active participation.

Heutagogy (self-determined learning)

Heutagogy is a "learner-driven" model proposed by Hase and Kenyon in 2000 [Hase, 2016]. Heutagogy goes beyond the simple acquisition of skills and knowledge to become a more holistic approach [Hase and Blaschke, 2019]. The learner becomes an independent agent by questioning their values and assumptions [McAuliffe et al., 2008]. Here the learner can learn with or without the help of the teacher. Consequently, the role of heutagogy in helping to personalise the learning experience is to allow critical self-evaluation of the learning process by learners. Heutagogy enables learners to work on their goals, making them as self-determined learners.

Academagogical framework

The underlying concept of academagogy is social constructivism which highlights that "learning is shaped by context, conversation and collaboration" [McAuliffe and Winter, 2014b]. Based on social constructivism concept and Bloom's taxonomy, Murthy et al., [2012] developed an academagogical framework for effective university education by building an adaptive curriculum to a sample course, as shown in Figure 2. Also, the learning approach in universities should promote andragogy and heutagogy [Murthy, 2012; McAuliffe and Winter, 2014b; Jones et al., 2019]. The promotion of andragogical and heutagogical aspects in university students aligns with our thought of using

academagogy to enable the capabilities of adult learners by considering the affordances of online learning technologies.

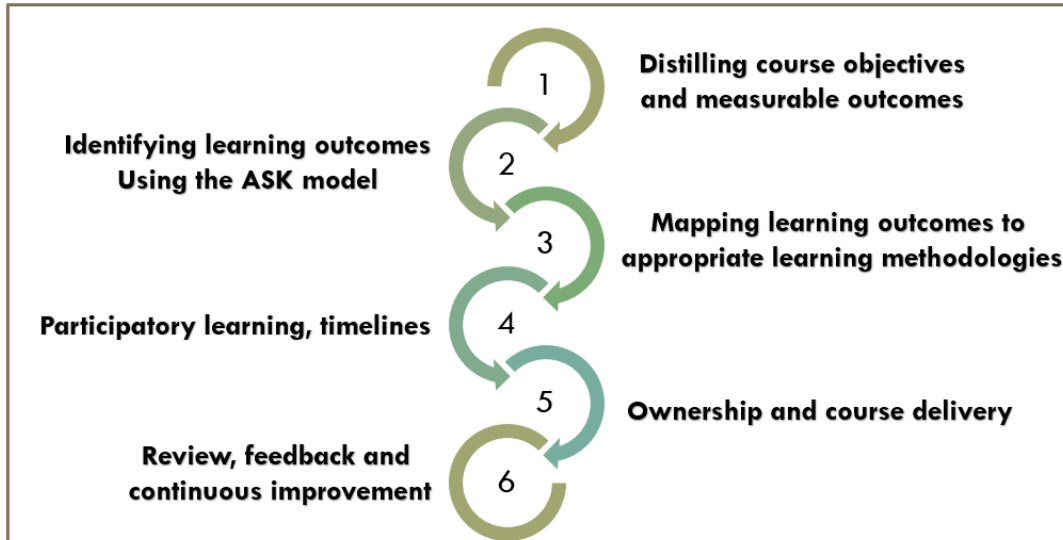


Figure 2: Academagological framework. Source: Murthy and Pattanayak, [2019]

The Pedagogy-Andragogy-Heutagogy continuum

Luckin et al., [2011] developed the Pedagogy-Andragogy-Heutagogy (PAH) continuum notion. The PAH continuum is a progression of learning and teaching activities from pedagogy to andragogy towards heutagogy [Agonács et al., 2019; Blaschke, 2016; Cochrane, 2014]. In our proposed research, the process of academagogy uses PAH continuum as a reference to identify the position and encourage the shift in the learner abilities, along the PAH continuum for personalisation, as shown in Figure 3.

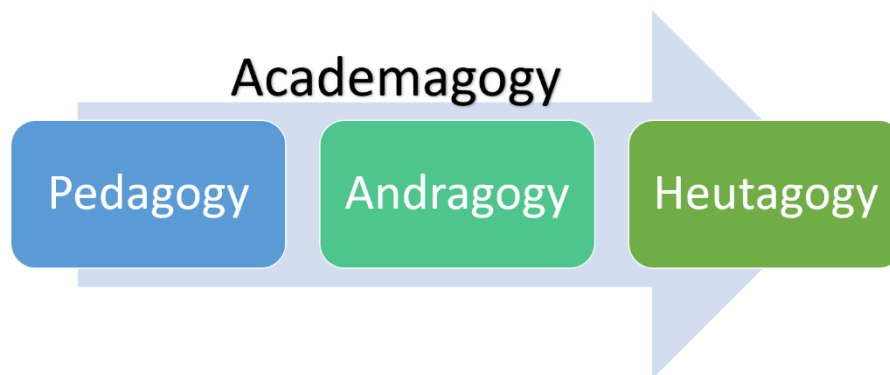


Figure 3: Using PAH continuum for applying academagogy to personalise the online learning experience for adult learners.

The value of academagogy is its ability to assist the teacher in observing the needs of individual learners and facilitating learners as they explore the learning materials. Moreover, personalisation through academagogy enables adult learners to obtain personalised learning experience, which we believe can improve their engagement, consequently reducing attrition rates. Hence, the main aim of the proposed research is to personalise the learning process for each learner by applying academagogy using the PAH continuum.

III. PREVIOUS WORKS

Based on the previous works of academagogy, this section will highlight the research gaps in academagogy literature with some directions to future work. The model of academagogy in traditional face-to-face classroom settings was able to strengthen self-confidence among learners and improved teaching experience for teachers, with examples given in Table 1.

Table 1: Examples of usage of academagogy in traditional face-to-face classrooms

Focus of the paper	Reference
Discussing the experiences of implementing academagogy	Winter et al., [2009]
Meeting the teaching and learning needs of millennial learners using academagogy	McAuliffe and Winter [2014b]
Testing the plausibility of project-based teaching method using academagogy theory	Kennedy [2018]
Applying academagogical framework to a training course in a corporate setting	Murthy and Pattanayak [2019]

The first case study of implementing academagogy showed a reduction in the failure rates and received positive comments from learners [Winter et al., 2009]. In the same way, another study reported that academagogy enabled more learners to achieve higher grades compared to grades achieved by earlier teaching process [McAuliffe and Winter, 2014b]. Besides, a business management program built on academagogy theory found that the program was appealing to teachers and learners [Kennedy, 2018]. Even though the application of academagogy received a positive response from learners and teachers, there is a lack of qualitative studies explaining the reasons behind positive feedback.

Also, the application of academagogical framework to a structured training course in a corporate setting had a positive impact on behavioural skills, whereas marginal improvement in learner technical skills [Murthy and Pattanayak, 2019]. However, the framework needs to be validated by its scalability, learner maturity for technical and professional skills. Though the application of academagogy seemed to be advantageous, it is limited by the workload for teachers [McAuliffe and Winter, 2014b; Winter et al., 2009].

In online learning contexts, academagogy has a potential research gap to be addressed. Academagogy has limited evidence except for the works by Marisha and Abigail in online learning, as shown in Table 2. A case study using academagogy found that the majority of online undergraduate learners felt more conscientious [McAuliffe and Winter, 2013]. However, more research is required to understand why some learners felt conscientious and others not.

Table 2: Examples of usage of academagogy in online learning

Focus of the paper	Reference
Examining the transition of an engineering subject from traditional to online learning using the learner-centric concept of academagogy	McAuliffe and Winter [2013]
Reviewing the heuristic construct of academagogy and discussing the first application of academagogy to online delivery of an undergraduate design subject	McAuliffe and Winter [2014a]

In another case study, the authors used a new form of e-tutorial applying heuristic organisation of learning materials based on academagogy [McAuliffe and Winter, 2014a]. The use of the e-tutorial

showed the development of cognitive knowledge among learners as independent thinkers challenging them to “step up to the plate” in terms of their learning but identified that the work is intense and time-consuming [McAuliffe and Winter, 2014a].

Future research should also focus on the heuristic application of academagogy. For example, the applications of learning analytics such as personalised constant support through appropriate notifications, automatic feedback, and learning path visualisations can acknowledge online learners and teachers about the learning process instantaneously [Rienties and Jones, 2019; Tiili et al., 2019; Vesin et al., 2018]. Hence learning analytics may simplify the application of academagogy.

IV. POTENTIAL BENEFITS

This paper highlights our intention to use academagogy for personalisation to improve adult online learner engagement. The proposed research can add to the scholarly context of personalised online learning for adult learners with the following potential benefits:

- 1) Helps learners to reach higher levels of cognitive skills in Bloom's taxonomy
- 2) Supports the teacher to develop the scholarship of teaching and learning
- 3) Develops 21st-century employability skills in the learners
- 4) Contributes to adult education and online learning literature

As the primary focus of academagogy is the learning paradigm shift from pedagogy towards heutagogy, we suggest that the application of academagogy can help learners achieve higher levels of cognitive skills in Bloom's taxonomy. Figure 4 illustrates our loose alignment of PAH with Bloom's levels based on the academagogy literature [Murthy, 2011; Murthy et al., 2012; Halupa, 2017; Wang & Farmer, 2008]. Initially, parts of pedagogy will be used to encourage basic understanding and remembering skills of the learning material. Secondly, parts of andragogy will be selected to encourage applying and analysing skills of the material. Finally, parts of heutagogy will be chosen to enable the capabilities of learners, such as critically evaluating and creating new knowledge from the learning material [Halupa, 2017]. Thus, academagogy may help the learner in achieving higher levels of Bloom's taxonomy.

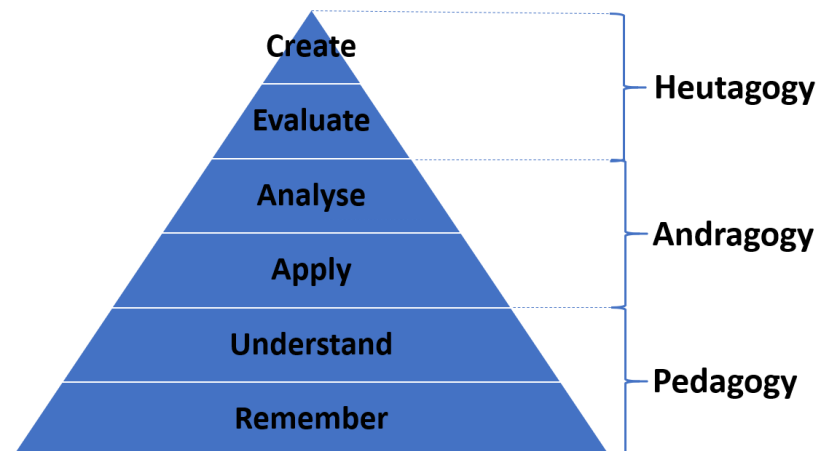


Figure 4: Loose alignment of PAH with Bloom's levels

Theories such as andragogy and heutagogy require teachers to learn how to provide learners with a positive social environment using electronic media [Cercione, 2008]. Also, based on academagogy, previous researchers were able to embed metacognitive skills in learners by engaging and critically analysing the issues surrounding theory and practice [McAuliffe et al., 2015].

Hence academagogy applications may be expected to enhance both teaching and learning activities.

The primary working skills required for the 21st-century industry include self-directed learning, communication, collaboration, and readiness to use new Information and Communications Technology (ICT) tools in online environments. There is a dire requirement for these skills because of the massive reorganisation of the workforce due to COVID-19 [Blustein et al., 2020; Boeren et al., 2020]. The social constructivism concept of the academagogy framework may enable online learners to understand the learning context and apply it while working in the digital world. To obtain those skills, other researchers have also advised for a shift along the PAH continuum in learning and teaching activities [Agonács et al., 2019; Bagustari and Santoso, 2019; Gerstein, 2014; Jones et al., 2014].

Further, learning theories such as andragogy (nearly 180 years old), heutagogy (20 years old) and academagogy (12 years old) were developed for traditional classroom environments. Because of the present situation with ubiquitous ICT tools and COVID-19 pandemic, there is a considerable need for a mechanism to use those theories effectively for upskilling and reskilling the adult learners in online learning contexts [Chametzky, 2014; Boeren et al., 2020]. Thus, the proposed research on academagogy for online learning sets the context very well, thereby contributing to the literature of both adult education and online learning during the pandemic era.

V. LIMITATIONS

Academagogy application has the following limitations:

1. Scalability: The execution of academagogy is very time-consuming as it requires the teacher to tailor the content for the learners' and may change for each cohort [McAuliffe and Winter, 2014b]. Extra support and planning are the primary requirements for academagogy [McAuliffe and Winter, 2014b; Murthy et al., 2012]. Researchers have recommended that the framework to be applied for a small class size where meaningful interactions and mentoring by teachers is possible [Murthy et al., 2012]. Also, the academagogy process is context-specific depending upon the willingness of learner and maturity level of the learner. However, this problem could be worked out by the assistance of adaptive learning management systems and learning analytics.
2. Change of management: Academagogy is hard for some teachers to apply if they stick to "sage-on-stage" notion to plan in advance based on previous experiences and present learning skills of the learner [Gerstein, 2014; Murthy et al., 2012; Pembridge and Piretti, 2010]. Moreover, the generation gap between teachers and learners might adversely affect the application of academagogy [Malliarakis et al., 2018; McAuliffe and Winter, 2014b]. However, the teachers' primary responsibility is the success of the learner, so they must be prepared to facilitate the present generation learners with various ICT tools [Cretchley, 2009]. The management should also encourage the teachers and learners using academagogy to optimise the learning process [Barcelona, 2009; Hattie, 2015; Jones et al., 2019; Murthy et al., 2012].
3. Limited awareness: Information is scarce regarding the theory and practice of academagogy. Though the presence of various books and applied research works of andragogy and heutagogy; there is less awareness among teachers and administrators regarding the existence of various models like academagogy, andragogy and heutagogy [Akyıldız, 2019; Pembridge and Piretti, 2010]. Even, if the teachers do not know the names of the models or techniques, they most likely use self-determination, life-long learning, capabilities, double-loop learning and self-reflection, which are all concepts found in andragogy, heutagogy and academagogy models. Research on andragogy and heutagogy has been active for the last two decades [Agonács, 2019; Hase, 2016; Kennan et al., 2018]. However, the wholistic development of learners by academagogy is only partially understood [Jones, 2019].

V. THE VALUE OF ACADEMAGOGY

Economically speaking, the COVID-19 crisis has deepened the vulnerability of adult learners in the workforce due to massive job losses as a result of automation and digitalisation [Boeren et al., 2020; International Labour Organization, 2020]. Adult learners represent the current and future workforce, and the job market requires agility in their working skills, digital literacy and self-learning capabilities more than ever before [Boeren et al., 2020]. These skills are hard to achieve through the "one-size-fits-all" paradigm of online learning [Stoten, 2020]. Adult learners should not be instructed by uploading the learning material to the learning platform and expecting learners to learn on their own [McAuliffe and Winter, 2014a]. Instead, online learning instruction should drive social constructivism by motivating them to actively interact with peers and teachers for knowledge construction [Muhammad and Kainat, 2020].

The teacher does not merely deliver static learning material in an academagogical framework. Instead, the teacher changes the instruction based on the learning needs of the cohort of students [Winter et al., 2009]. Furthermore, an academagogical framework promotes shared ownership between learners and teachers by tailoring the curriculum to include technology, past experiences and future expectations of stakeholders at tertiary institutions [Jones et al., 2019; McAuliffe and Winter, 2013]. Thus, academagogy allows the teacher to provide learner personalisation which is an urgent requirement for designing online courses during and after the pandemic.

COVID-19 has prompted the sudden shift to online learning in the education sector, which now needs to be followed by another necessary step: improving the quality of online learning and teaching [Murphy, 2020; Kandri, 2020]. Many tertiary institutions around the world are focusing on next-generation pedagogies for online learning aiming to design and organise learning environments that can engage learners through active participation [Rapanta et al., 2020; Witthaus et al., 2016]. We believe that research on academagogy learning theories has the potential to improve online instruction for adult learners.

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