

Heutagogy and Lifelong Learning: A Review of Heutagogical Practice and Self-Determined Learning



Lisa Marie Blaschke

Oldenburg University and University of Maryland University College (UMUC)

Abstract

Heutagogy, a form of self-determined learning with practices and principles rooted in andragogy, has recently resurfaced as a learning approach after a decade of limited attention. In a heutagogical approach to teaching and learning, learners are highly autonomous and self-determined and emphasis is placed on development of learner capacity and capability with the goal of producing learners who are well-prepared for the complexities of today's workplace. The approach has been proposed as a theory for applying to emerging technologies in distance education and for guiding distance education practice and the ways in which distance educators develop and deliver instruction using newer technologies such as social media. The renewed interest in heutagogy is partially due to the ubiquitousness of Web 2.0, and the affordances provided by the technology. With its learner-centered design, Web 2.0 offers an environment that supports a heutagogical approach, most importantly by supporting development of learner-generated content and learner self-directedness in information discovery and in defining the learning path. Based on an extensive review of the current literature and research, this article defines and discusses the concepts of andragogy and heutagogy and describes the role of Web 2.0 in supporting a heutagogical learning approach. Examples of institutional programs that have incorporated heutagogical approaches are also presented; based on these examples and research results, course design elements that are characteristic of heutagogy are identified. The article provides a basis for discussion and research into heutagogy as a theory for guiding the use of new technologies in distance education.

Keywords: Lifelong learning; heutagogy; self-determined learning; andragogy; self-directed learning; social media; capability; competency; double-loop learning; reflection

Introduction

Educators today are tasked with developing lifelong learners who can survive and thrive in a global knowledge economy – learners who have the capability to effectively and creatively apply skills and competencies to new situations in an ever-changing, complex world (The World Bank, 2003; Kuit & Fell, 2010). Pedagogical, even andragogical, educational methods are no longer fully sufficient in preparing learners for thriving in the workplace, and a more self-directed and self-determined approach is needed, one in which the learner reflects upon what is learned and how it is learned and in which educators teach learners how to teach themselves (Peters, 2001, 2004; Kamenetz, 2010). New technologies have also created a need for considering new pedagogical approaches, with andragogy falling out of favor with some educators, seemingly “outmoded in the light of recent rapid development in new teaching methods, learning resources, and digital media” (Wheeler, 2011 para. 1).

The concept of heutagogy offers certain principles and practices that could be considered as a response to these developments within higher education. A heutagogical learning environment facilitates development of capable learners and emphasizes both the development of learner competencies as well as development of the learner’s capability and capacity to learn (Ashton & Newman, 2006; Bhoryrub, Hurley, Neilson, Ramsay, & Smith, 2010; Hase & Kenyon, 2000). A renewed interest in heutagogy has also been generated by Web 2.0 as a result of the affordances of social media that complement and support this learning approach. Heutagogy has been called a “net-centric” theory that takes advantage of the key affordances of the Internet; it is also a pedagogical approach that could be applied to emerging technologies in distance education, as well as serve as a framework for digital age teaching and learning (Anderson, 2010, p. 33; Wheeler, 2011).

Heutagogy is of special interest to distance education, which shares with heutagogy certain key attributes, such as learner autonomy and self-directedness, and has pedagogical roots in adult teaching and learning. Self-determined learning, characteristic of distance education formats such as contract learning and prior learning assessment, is also an attribute of distance education. Distance education and heutagogy also have in common the same audience: mature adult learners. Specifically, heutagogy has the potential to become a theory of distance education, in part due to the ways in which heutagogy further extends the andragogical approach and also due to the affordances it offers when applied to emerging technologies in distance education (such as Web 2.0).

Research Method

This article provides an extensive review of the past and current research available on heutagogical practice and approaches. In approaching the research, the author sought to establish a basic understanding of the concept of heutagogy (for example, by relating the concept to andragogy) and how it has been applied within education environments. The review of the literature first presents definitions of andragogy and heutagogy, describing heutagogy in relation to established educational concepts of pedagogy and andragogy. The review incorporates discussion on the reasons for the re-emergence of heutagogy and spe-

cifically considers the role of social media in supporting heutagogical practice. Examples of instructional design elements and social media that support heutagogical practice are also included. The article provides a basis for further discussion and research into heutagogy as a theory for emerging technologies in distance education and for exploring the feasibility of adopting heutagogy within distance education practice.

Andragogy (Self-Directed Learning)

Knowles (1978, as cited in Moore & Kearsley, 2012) defined andragogy in the 1970's as specific to adult education and characterized by learner control and self-responsibility in learning, learner definition of learning objectives in relation to their relevance to the learner, a problem-solving approach to learning, self-directedness in how to learn, intrinsic learner motivation, and incorporation of the learner experience. In an andragogical approach to teaching and learning, learners are actively involved in identifying their needs and planning on how those needs will be met (McAuliffe, Hargreaves, Winter, & Chadwick, 2008; Rachal, 2002). A key attribute of andragogy is *self-directed learning*, defined by Knowles (1975) as

a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes (p. 18)

The goals of self-directed learning include helping learners develop the capacity for self-direction, supporting transformational learning, and promoting “emancipatory learning and social action” (Merriam, 2001, p. 9). Within transformational learning, learning occurs along a self-directed path; as the learner matures and reflects on life experiences in relation to his or her self-perception, beliefs, and lifestyle, the learner perspective is adjusted and transformative learning can occur (Mezirow, 1997).

The role of the educator in an andragogical approach is that of tutor and mentor, with the instructor supporting the learner in developing the capacity to become more self-directed in his or her learning. The instructor shows learners how to find information, relates information to the learner experience, and places a focus on problem-solving within real-world situations (McAuliffe et al., 2008). Instructors establish objectives and curriculum based on learner input and guide students along the learner path, while the responsibility for learning lies with the learner.

Heutagogy (Self-Determined Learning)

Heutagogy (based on the Greek for “self”) was defined by Hase and Kenyon in 2000 as the study of *self-determined learning*. Heutagogy applies a holistic approach to developing learner capabilities, with learning as an active and proactive process, and learners serving

as “the major agent in their own learning, which occurs as a result of personal experiences” (Hase & Kenyon, 2007, p. 112). As in an andragogical approach, in heutagogy the instructor also facilitates the learning process by providing guidance and resources, but fully relinquishes ownership of the learning path and process to the learner, who negotiates learning and determines what will be learned and how it will be learned (Hase & Kenyon, 2000; Eberle, 2009).

A key concept in heutagogy is that of *double-loop learning* and self-reflection (Argyris & Schön, 1996, as cited in Hase & Kenyon, 2000). In double-loop learning, learners consider the problem and the resulting action and outcomes, in addition to reflecting upon the problem-solving process and how it influences the learner’s own beliefs and actions (see Figure 1). Double-loop learning occurs when learners “question and test one’s personal values and assumptions as being central to enhancing learning how to learn” (Argyris & Schön, 1978, as cited in Hase, 2009, pp. 45-46).

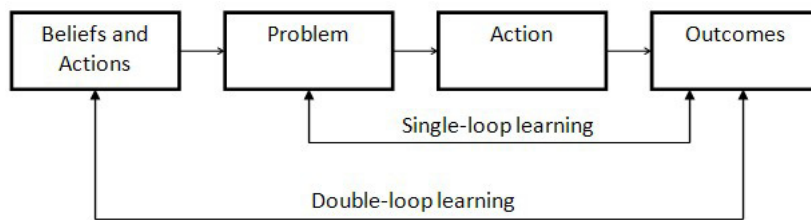


Figure 1. Double-loop learning (Eberle & Childress, 2005, as shown in Eberle, 2009, p. 183).

In self-determined learning, it is important that learners acquire both competencies *and* capabilities (Stephenson, 1994 as cited in McAuliffe et al., 2008, p. 3; Hase & Kenyon, 2000, 2007). Competency can be understood as proven ability in acquiring knowledge and skills, while capability is characterized by learner confidence in his or her competency and, as a result, the ability “to take appropriate and effective action to formulate and solve problems in both familiar and unfamiliar and changing settings” (Cairns, 2000, p. 1, as cited in Gardner, Hase, Gardner, Dunn, & Carryer, 2007, p. 252). Capable people exhibit the following traits:

- self-efficacy, in knowing how to learn and continuously reflect on the learning process;
- communication and teamwork skills, working well with others and being openly communicative;
- creativity, particularly in applying competencies to new and unfamiliar situations and by being adaptable and flexible in approach;
- positive values (Hase & Kenyon, 2000; Kenyon & Hase, 2010; Gardner et al., 2007).

When learners are competent, they demonstrate the acquisition of knowledge and skills; skills can be repeated and knowledge retrieved. When learners are capable, skills and knowledge can be reproduced in unfamiliar situations. Capability is then the extension of one's own competence, and without competency there cannot be capability. Through the process of double-looping, learners become more aware of their preferred learning style and can easily adapt new learning situations to their learning styles, thus making them more capable learners. With its dual focus on competencies and capability, heutagogy moves educators a step closer toward better addressing the needs of adult learners in complex and changing work environments (Bhoryrub et al., 2010).

Heutagogy as an Extension of Andragogy

The heutagogical approach can be viewed as a progression from pedagogy to andragogy to heutagogy, with learners likewise progressing in maturity and autonomy (Canning, 2010, see Figure 2). More mature learners require less instructor control and course structure and can be more self-directed in their learning, while less mature learners require more instructor guidance and course scaffolding (Canning & Callan, 2010; Kenyon & Hase, 2010). Cognitive development of learners, a requirement for critical reflection and discourse to occur, could also be integrated into this pyramid, with cognitive development progressing in parallel with learner maturity and autonomy (Mezirow, 1997).

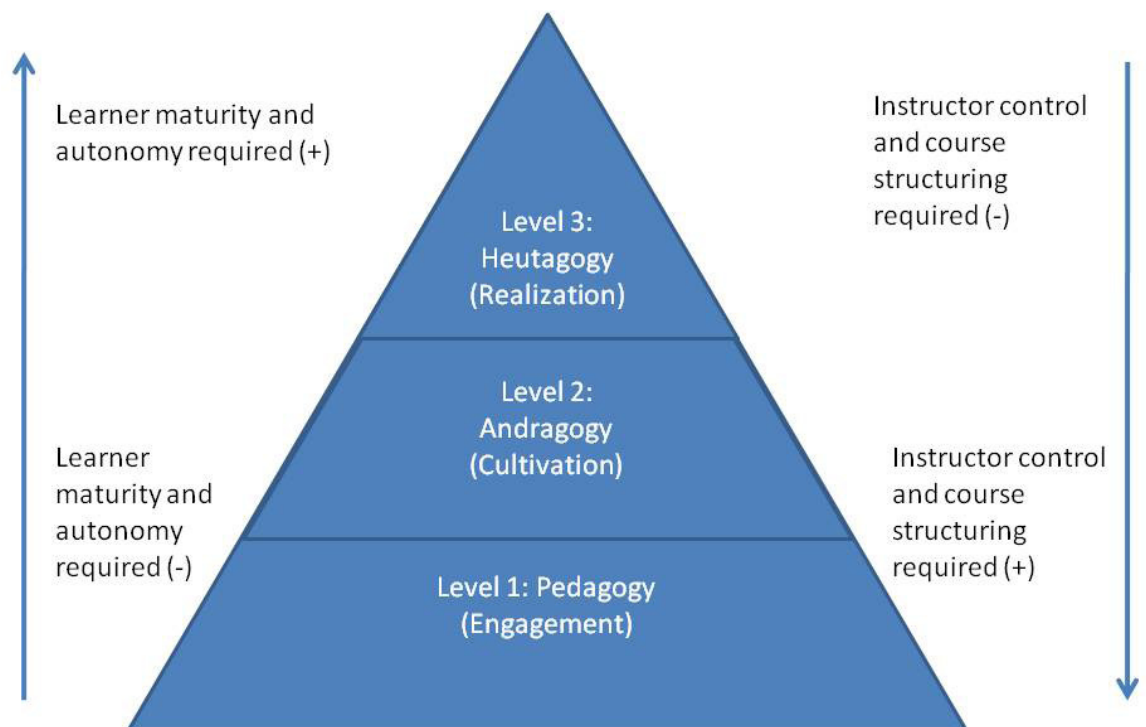


Figure 2. Progression from pedagogy to andragogy then to heutagogy (based on Canning, 2010, p. 63).

With its basis in andragogy, heutagogy further extends the andragogical approach and can be understood as a continuum of andragogy (Table 1). In andragogy, curriculum, questions, discussions, and assessment are designed by the instructor according to the learner needs; in heutagogy, the learner sets the learning course, designing and developing the map of learning, from curriculum to assessment (Hase, 2009). Heutagogy emphasizes development of capabilities in addition to competencies (andragogy). Table 1 provides an overview of traits that help demonstrate ways in which heutagogy builds upon and extends andragogy.

Table 1

Heutagogy as a Continuum of Andragogy

Andragogy (Self-directed)	▶	Heutagogy (Self-determined)
Single-loop learning	▶	Double-loop learning
Competency development	▶	Capability development
Linear design and learning approach	▶	Non-linear design and learning approach
Instructor-learner directed	▶	Learner-directed
Getting students to learn (content)	▶	Getting students to understand how they learn (process)

These traits and the continuum from andragogy to heutagogy require further consideration and definition. What can be derived from this comparison, however, is that heutagogy is an approach founded in andragogy and can be considered an expansion of the existing concept.

Relevance to Distance Education

Distance education is in a unique position for creating learning environments for supporting a heutagogical teaching and learning approach, as well as for contributing to further research into heutagogy. Specific characteristics of distance education that align themselves with heutagogy include:

- *Technology*: Technology's symbiotic relationship with distance education requires that, with each emerging technology, distance educators consider the implications of the technology on distance education theory and practice. Heutagogy has been identified as a potential theory for applying to emerging technologies in distance education (Anderson, 2010; Wheeler, 2011), although additional research and discussion is necessary in order to determine the credibility of heutagogy as a theory of distance education.
- *Profile of the distance education learner*: Traditionally, distance education has been designed, developed, delivered, and targeted to the adult learner, usually working

adults with extensive life experience and more maturity than campus-based students (Holmberg, 2005; Peters, 2001; Moore & Kearsley, 2012; Richardson, Morgan, & Woodley, 1999). Distance education practice has historically been strongly influenced by Knowles' andragogical theory of teaching and learning, and as an extension of andragogy, heutagogy could be considered as a relevant theory for adult distance education.

- *Learner autonomy*: Distance education, as a distinct form of education, both requires and promotes autonomy, a learner skill that is central to a heutagogical teaching and learning approach (Peters, 2001). Because learner autonomy is characteristic of and promoted in distance education learning environments, distance education inherently supports heutagogical practice.

How Web 2.0 and Social Media Enable Heutagogy

Web 2.0 and social media has played an important role in generating new discussions about heutagogy within higher education. Web 2.0 design supports a heutagogical approach by allowing learners to direct and determine their learning path and by enabling them to take an active rather than passive role in their individual learning experiences. Key affordances of social media – connectivity with others, information discovery and sharing (individually and as a group), and personal collection and adaptation of information as required – are also affordances that support self-determined learning activities (McLoughlin & Lee, 2007, p. 667). In addition, Web 2.0 encourages interaction, reflection in dialogue, collaboration, and information sharing, as well as promotes autonomy and supports creation of learner-generated content (Lee & McLoughlin, 2007; McLoughlin & Lee, 2008, 2010). With Web 2.0 as its supporting technological framework, heutagogy can now be seen as further developing pedagogy 2.0 (as defined by McLoughlin & Lee, 2007): learners are self-directed to continue to learn on their own and “can personalize their learning paths in the way they desire” (Kuit & Fell, 2010, p. 320).

Recent research also indicates that the use of social media can support self-determined learning.

- *Mobile learning*: Cochrane and Bateman's (2010) research showed that mobile learning supports collaboration, data and resource capturing and sharing, and reflective practice. Use of mobile learning was also found to increase learner-learner and learner-external interaction, as well as reflective practice (learning journals).
- *Virtual Philosopher*: Hornsby and Maki (2008) report on an asynchronous learning tool meant to build learners' skills in developing, reflecting upon, and transforming thinking processes and logic. The online tool provides active learning activities built around various scenarios that the learner works through in a process of self-discovery. Through these scenarios and the responses provided by students, the Virtual Philosopher identifies flaws in the learner's thought processes, forcing the learner to evaluate and re-evaluate why she or he thinks in a certain way. According to Hornsby and Maki

(2008), the asynchronous environment “seemed to reinforce deeper learning” and promotes problem solving and critical analysis (para. 30).

- *Twitter*: A recent study by Junco, Heiberger, and Loken (2010) showed that students who used Twitter (as compared to those who did not) were more actively engaged in their learning processes and had higher GPAs. Junco et al. (2010) also found that the use of Twitter boosted student-student and student-instructor interaction, as well as promoted active learning.
- *Learner-generated content (active media use)*: Active use of social media in creating learner-generated content seems to contribute to development of skills of self-directedness. Initial research findings by Blaschke, Porto, and Kurtz (2010) indicate that active use of social media, for example, development of learner-generated content, supports cognitive and metacognitive skill development, whereas passive use (consumption) is less effective in supporting development of these skills.

These examples illustrate how social media has the potential to support elements of a heutagogical approach, such as creation of learner-generated content, active engagement in the learning process and with instructors and other learners, group collaboration, and reflective practice through double-loop learning. Research on the use of social media and its role in supporting heutagogy is limited, however, indicating that this is an area for further investigation.

Heutagogy in Practice

The higher education response to heutagogy so far has been one of reluctance, which could be due to the impracticality of implementing a full-blown educational framework of heutagogy. While acknowledging the need for pedagogy and andragogy, McAuliffe et al. (2008) argue that “the removal of the educator makes the concept of heutagogy impractical in a credentialing institution” and that it is not possible or even reasonable to implement heutagogy’s trademark of learner-guided assessment (p. 4). Despite this, educators in the nursing, engineering, and education professions have found heutagogy to be a credible response to the critical issues that their learners are faced with in the workplace and have designed their learning environments based on the approach (Bhoryrub et al., 2010; Ashton & Newman, 2006; Gardner et al., 2007). For example, within the nursing profession, Bhoryrub et al. (2010) report that heutagogy provides a learning framework that addresses needs of nursing students, who must learn in an ever-changing environment that is both complex and unpredictable; a heutagogical approach to learning helps them to become lifelong learners, as well as “makes sense of the necessary uncertainties that defines nursing” (p. 326).

University of Western Sydney in New South Wales, Australia, is an example of one institution that has implemented a heutagogical approach in its teacher education program by redesigning programs to integrate learner-directedness through blended learning. The approach has been integrated into course design, development, and delivery, however not in

the area of summative assessment. Through the use of this approach, the university has identified the following benefits: improved teacher outcomes, more capable teachers (learners) who are better-prepared for the complexities of the learning environment, increased learner confidence in perceptions, engaged learners in communities of practice, learner scaffolding of peers' learning processes, improved ability of the learner to investigate ideas, and further development of the learner's ability "to question interpretations of reality from their position of competence" (Ashton & Newman, 2006, p. 829; Ashton & Elliott, 2008).

Canning and Callan (2010) report on three higher education institutions in the UK that have used a heutagogical approach. Findings from their research show that the approach supports learner control of learning, collaborative reflection, learner's self-perception and professional development, and critical thinking and reflection. Reflective practice was found to help learners gain more control over learning, as well as comprehend and apply what they have learned in practical situations. Reflecting on the learning experiences and relating these experiences to professional practice helped keep learners motivated to learn, to connect with other learners, and to continue on with the reflective process (Canning & Callan, 2010; Canning, 2010). Learners demonstrated both competency and capability through self-awareness, articulation of "feelings, experiences, and ideas," engagement in group discussion, self-directed investigation in developing independent ideas, and self-confidence (Canning & Callan, 2010, p. 80).

Design Elements of a Heutagogical Approach

When designing a self-determined learner experience, certain considerations should be made. A heutagogical approach to learning and teaching is characterized first and foremost by *learner-centeredness* in terms of both learner-generated contexts and content. Course design elements that support learner-centeredness in a heutagogical approach are presented below.

- *Learner-defined learning contracts:* Learning contracts support students in defining and determining their individual learning paths. These individualized contracts, such as those used at distance education institution Empire State College (see www.esc.edu), define what will be learned (e.g., scope), how it will be learned (e.g., teaching and learning approaches, learning activities), and what will be assessed and how it will be assessed (Kenyon & Hase, 2010; Gilbert, 1975; Cristiano, 1993).
- *Flexible curriculum:* In a self-determined learning environment, the learner is the driver in creating flexible curriculum, which is defined by the student: learners create the learning map, and instructors serve as the compass (Hase & Kenyon, 2007; Hase, 2009). Flexible curriculum in this sense is negotiated action learning, which adapts and evolves according to learner needs (Hase, 2009; Hase & Kenyon, 2007). Learners negotiate "how, when, where and to what upper (rather than minimal) level they want to take their learning" (Hase, 2009, p. 47).
- *Learner-directed questions:* Learner-directed questions and the discussion that re-

sults from these questions are what guide learners and serve as mechanisms for helping learners make sense of course content, bring clarity to ideas, and promote individual and group reflection (Kenyon & Hase, 2001; Eberle, 2009). Guiding learners to define self-directed questions is one of the biggest challenges facing developers of heutagogical courses, as designers must be “creative enough to have learners ask questions about the universe they inhabit” (Kenyon & Hase, 2001, para. 29).

- *Flexible and negotiated assessment:* In heutagogy, the learner is involved in designing his or her assessment. Negotiated and learner-defined assessment has been shown to improve the motivation of learners and their involvement in the learning process, as well as make learners feel less threatened by instructor control of their learning process (Hase & Kenyon, 2007, p. 115; Hase, 2009; Ashton & Elliott, 2007; Canning, 2010). One way of incorporating negotiation into the assessment process is through the use of learning contracts (Hase, 2009). The assessment should include measurable forms of assessing understanding of content, including whether the learner has achieved the competencies desired. Rubrics can also be used effectively in guiding learners in their self-assessment process, for example by assessing “discussion skills, quality of work, outcomes, collaboration, academic soundness and knowledge of material” (Eberle, 2008, p. 186).

Another dually important characteristic of heutagogy is that of *reflective practice*, “a critical learning skill associated with knowing how to learn” (Hase, 2009, p. 49). According to Schön (1983), reflective practice supports learners in becoming lifelong learners, as “when a practitioner becomes a researcher into his own practice, he engages in a continuing process of self-education” (p. 299). Heutagogy’s holistic approach takes into account the learner’s prior learning experiences and the way in which these influence how she or he learns; by considering these past experiences and the learner’s current experience and reflecting upon these, the learner moves into a growth process that has the potential to lead to transformative learning – a process described by Canning and Callan (2010) as “spirals of reflection” (p. 71). The following course design elements can be incorporated to support reflective practice.

- *Learning journals:* Reflective learning journals can be used for learners to document their learning journey, reflect upon the course content and discussions, and explore new ideas. Learning journals have also been found to support students in developing cognitive and metacognitive skills, as well as help establish an ongoing practice of reflection (Blaschke & Brindley, in press).
- *Action research:* Another form of reflective practice, which can be done individually or as a group, is action research. Action research gives learners an opportunity to experiment with real-world scenarios, which can help prepare them for the professional workplace (Hase & Kenyon, 2007, p. 113).
- *Formative and summative assessment:* Ongoing, personalized assessment and feedback support the learner in developing his or her reflective practice. Canning and Cal-

lan (2010) recommend that as part of the formative assessment, instructors should recognize and reinforce examples of reflective practice demonstrated by learners.

Collaborative learning is also a critical component of the heutagogical classroom. When learning collaboratively, learners work together in a collaborative space to create shared meaning and to reflect and think about how they learned and how to apply it in practice (Canning & Callan, 2010). Kenyon and Hase (2001) and Hase (2009) recommend team-based approaches to learning such as communities of practice, where the focus of learning is primarily on the learning process and how learners learn. Knowledge sharing should be strongly encouraged and can be achieved by encouraging learners to share resources and information (Ashton & Newman, 2006).

To implement a self-determined learning environment, instructors need to alter their teaching approach, primarily by placing value on learner self-direction of the learning process. Such a shift would require minimal change within distance education environments as distance education teaching methods support self-directed learning and the instructor role is already one of guide-on-the-side. They would also need to accept the heutagogical approach as one that is unconventional, where the instructor becomes a facilitator in the learning students' learning process (Cristiano, 1993). Instructors not only must change their approach to teaching and learning, but also ensure that they explain this type of learning to their students from the very start of class. As in a distance learning environment, students also need to understand that a heutagogical learning environment is quite different from the traditional learning experience with which they are familiar. Instructor expectations of learners should be clearly stated: learners are responsible for knowledge creation and deciding upon the learning path (Ashton & Newman, 2006; Schwier, Morrison, & Daniel, 2009). Empathy helps create a comfortable learning environment for learners unaccustomed to self-determined learning, and, as with self-directed learning, it is important to create a climate of mutual trust and respect with a clear delineation of instructor and learner roles and one that supports dialogue (Knowles, 1975). Ongoing guidance and feedback, as well as sharing of resources, support students along their learning journey, and learners will require ongoing instructor guidance and support throughout the learning process if they are to develop the capability of self-direction (Collis and Moonen, 2001, as cited in Ashton & Newman, 2006).

Further Research

When considering emerging technologies in distance education, Veletsianos (2010) calls for additional inquiry and research into the relationship of technology, pedagogy, and the Web, and for further research and discussion into new pedagogies for emerging technologies. The literature review conducted here indicates that there is substantial work to be done in researching heutagogy within this research construct, for example examination of the means in which Web 2.0 and social media support a self-determined teaching and learning approach, and investigation of the effectiveness of the approach in higher education and in creating lifelong learners able to effectively and successfully translate compe-

tencies into capability in complex, real-world situations. Another area of research includes defining and testing criteria for heutagogy as a framework for teaching and learning.

Conclusion

Since its beginnings in Australia in 2000, heutagogy has been presented as an extension of andragogy, but has received limited attention from higher education and from researchers. Challenges of adopting a heutagogical approach are many, such as academic resistance to change and a “fear of relinquishing power” (from instructor to student), increased financial and learning pressure on students due to new technology requirements, and a continued student focus on assessment and grades rather than the learning process (Ashton & Newman, 2006, p. 832; Lee & McLoughlin, 2007; McAuliffe et al., 2008). While higher education is more accepting of pedagogical and andragogical approaches within the institutional framework, it views heutagogy with more wariness, as heutagogy places full control of all aspects of learning into the hands of the student, from curriculum development and instructional format to assessment. A lack of student preparedness and acceptance would require a shift in learner attitude and a greater emphasis on scaffolding within the course design process and on the development of learner autonomy skills.

Creating competent and capable learners is “critical to life in the rapidly changing economy and cultures that characterize postmodern times” (Anderson, 2010, p. 33). By incorporating heutagogical practice, educators have the opportunity to better prepare students for the workplace and for becoming lifelong learners, as well as to foster student motivation by cultivating students who “are fully engaged in the topic they are studying because they are making choices that are most relevant or interesting to them” (Kenyon & Hase, 2010, p. 170). Distance education has a particular affinity to the heutagogical approach, due to distance education’s inherent characteristics of requiring and promoting learner autonomy, its traditional focus on adult learners, and its evolutionary and symbiotic relationship with technology – all characteristics shared with this emerging theory. Because of this affinity, distance education is in a unique position to provide a sustainable environment for studying and researching this teaching and learning method – and for assessing and evaluating the theory’s appropriateness as a theory of distance education.

References

- Anderson, T. (2010). Theories for learning with emerging technologies. In G. Veletsianos (Ed.), *Emerging technologies in distance education*. Edmonton: Athabasca University Press. Retrieved from http://www.aupress.ca/books/120177/ebook/02_Veletsianos_2010-Emerging_Technologies_in_Distance_Education.pdf
- Ashton, J., & Elliott, R. (2007). Juggling the balls – study, work, family and play: Student perspectives on flexible and blended heutagogy. *European Early Childhood Education Research Journal*, 15(2), 167-181.
- Ashton, J., & Newman, L. (2006). An unfinished symphony: 21st century teacher education using knowledge creating heutagogies. *British Journal of Educational Technology*, 37(6) 825-840. DOI: 10.1111/j.1467-8535.2006.00662.x.
- Bhoryrub, J., Hurley, J., Neilson, G.R., Ramsay, M., & Smith, M. (2010). Heutagogy: An alternative practice based learning approach. *Nurse Education in Practice*, 10(6), 322-326.
- Blaschke, L.M., & Brindley, J. (2011). Establishing a foundation for reflective practice: A case study of learning journal use. *European Journal of Open, Distance, and E-Learning (EURODL), Special Issue*. Retrieved from http://www.eurodl.org/materials/special/2011/Blaschke_Brindley.pdf
- Blaschke, L.M., Porto, S., & Kurtz, G. (2010). Assessing the added value of Web 2.0 tools for e-learning: The MDE experience. In *Proceedings of the European Distance and E-learning Network (EDEN) Research Workshop*, October 25-27, 2010. Budapest, Hungary.
- Canning, N. (2010). Playing with heutagogy: Exploring strategies to empower mature learners in higher education. *Journal of Further and Higher Education*, 34(1), 59-71.
- Canning, N. & Callan, S. (2010). Heutagogy: Spirals of reflection to empower learners in higher education. *Reflective Practice*, 11(1), 71-82.
- Cochrane, T., & Bateman, R. (2010). Smartphones give you wings: Pedagogical affordances of mobile Web 2.0. *Australasian Journal of Educational Technology*, 26(1), 1-14.
- Cristiano, M.J. (1993). *I want to learn what I want to learn in the way I choose to learn it: Using learning contracts*. Paper presented at the Western States Communication Association Great Ideas for Teaching Speech (GIFTS), Community College Interest Group, February 14, 1993.
- Eberle, J. (2009). Heutagogy: What your mother didn't tell you about pedagogy and the conceptual age. In *Proceedings from the 8th Annual European Conference on eLearning*, October 29-30, 2009. Bari, Italy.

- Gardner, A., Hase, S., Gardner, G., Dunn, S.V., & Carryer, J. (2008). From competence to capability: A study of nurse practitioners in clinical practice. *Journal of Clinical Nursing, 17*(2), 250-258. DOI: 10.1111/j.1365-2702.206.0188.x
- Gilbert, J. (1975). *Contract learning*. Paper presented at the Annual Meeting of the American Society for Engineering Education, June 16-19, 1975. Ft. Collins, Colorado.
- Hase, S. (2009). Heutagogy and e-learning in the workplace: Some challenges and opportunities. *Impact: Journal of Applied Research in Workplace E-learning, 1*(1), 43-52. DOI: 10.5043/impact.13
- Hase, S. & Kenyon, C. (2007). Heutagogy: A child of complexity theory. *Complicity: An International Journal of Complexity and Education, 4*(1), 111-119.
- Hase, S., & Kenyon, C. (2000). From andragogy to heutagogy. In *UltiBase Articles*. Retrieved from <http://ultibase.rmit.edu.au/Articles/decoo/hase2.htm>
- Holmberg, B. (2005). *The evolution, principles, and practices of distance education*. Oldenburg, Germany: BIS – Bibliotheks- und Informationssystem der Univesität Oldenburg.
- Hornsby, K.L., & Maki, W.M. (2008). The virtual philosopher: Designing Socratic method learning objects for online philosophy courses. *Journal of Online Learning and Teaching, 4*(3). Retrieved from http://jolt.merlot.org/vol4no3/hornsby_0908.htm
- Junco, R., Heiberger, G., & Loken, E. (2010). The effect of Twitter on college student engagement and grades. *Journal of Computer Assisted Learning*. DOI: 10.1111/j.1365-2729.2010.00387.x
- Kamenetz, A. (2010). *Edupunks, edupreneurs, and the coming transformation of higher education*. Canada: Chelsea Green Publishing Company.
- Kenyon, C., & Hase, S. (2010). Andragogy and heutagogy in postgraduate work. In T. Kerry (Ed.), *Meeting the challenges of change in postgraduate education*. London: Continuum Press.
- Kenyon, C., & Hase, S. (2001). Moving from andragogy to heutagogy in vocational education. Retrieved from http://www.avetra.org.au/abstracts_and_papers_2001/Hase-Kenyon_full.pdf
- Knowles, M. (1975). *Self-directed learning: A guide for learners and teachers*. United States of America: Cambridge Adult Education.
- Kuit, J.A., & Fell, A. (2010). Web 2.0 to pedagogy 2.0: A social-constructivist approach to learning enhanced by technology. In *Critical design and effective tools for e-*

learning in higher education: Theory into practice (pp. 310-325). United States: IGI Global.

- Lee, M.J.W., & McLoughlin, C. (2007). Teaching and learning in the Web 2.0 era: Empowering students through learner-generated content. *Instructional Technology and Distance Learning*, 4(10). Retrieved from: http://itdl.org/Journal/Oct_07/article02.htm
- McAuliffe, M., Hargreaves, D., Winter, A., & Chadwick, G. (2008). Does pedagogy still rule? In *Proceedings of the 2008 AAEE Conference*, December 7-10, 2008. Yeppoon, Queensland. Retrieved from: http://www.engineersmedia.com.au/journals/aaee/pdf/AJEE_15_1_McAuliffe%20F2.pdf
- McLoughlin, C. & Lee, M.J.W. (2007). Social software and participatory learning: Pedagogical choices with technology affordances in the Web 2.0 era. In *Proceedings from ascilite*, December 2-5, 2007. Singapore. Retrieved from <http://www.ascilite.org.au/conferences/singapore07/procs/mcloughlin.pdf>
- McLoughlin, C., & Lee, M.J.W. (2008). Mapping the digital terrain: New media and social software as catalysts for pedagogical change. In *Proceedings ascilite*, November 30, December 3, 2008. Melbourne, Australia. Retrieved from <http://www.ascilite.org.au/conferences/melbourne08/procs/mcloughlin.pdf>
- McLoughlin, C., & Lee, M.J.W. (2010). Personalised and self regulated learning in the Web 2.0 era: International exemplars of innovative pedagogy using social software. *Australasian Journal of Educational Technology*, 26(1), 28-43. Retrieved from <http://www.ascilite.org.au/ajet/ajet26/mcloughlin.pdf>
- Merriam, S.B. (2001). Andragogy and self-directed learning: Pillars of adult learning theory. *New Directions for Adult and Continuing Education*, 89, 3-13. San Francisco, CA: Jossey-Bass.
- Mezirow, J. (1997). Transformative learning: Theory to practice. *New Directions for Adult and Continuing Education*, 74, 5-12. United States: Jossey-Bass Publishers.
- Moore, M. G., & Kearsley, G. (2012). *Distance education: A systems view of online learning* (3rd ed.). Belmont, CA: Wadsworth.
- Peters, O. (2004). *Distance education in transition - New trends and challenges* (4th ed., Volume 5). Oldenburg, Germany: Bibliotheks- und Informationssystem der Universität Oldenburg.
- Peters, O. (2001). *Learning and teaching in distance education: Analyses and interpretations from an international perspective* (2nd ed.). London: Kogan Page.
- Rachal, J.R. (2002). Andragogy's detectives: A critique of the present and proposal for the

future. *Adult Education Quarterly*, 52(3), 210-227.

- Richardson, J. T.E., Morgan, A., & Woodley, A. (1999). Approaches to studying distance education. *Higher Education*, 37, 23-55. Netherlands: Kluwer Academic Publishers.
- Schön, D.A. (1983). *The reflective practitioner: How professionals think in action*. United States: Basic Books, Inc.
- Schwier, R.A., Morrison, D., & Daniel, B. (2009). A preliminary investigation of self-directed learning activities in a non-formal blended learning environment. *Online Submission*. Retrieved from EBSCO host.
- Veletsianos, G.(2010). *Emerging technologies in distance education*. Canada: Athabasca University Press. Retrieved from http://www.aupress.ca/books/120177/ebook/99A_Veletsianos_2010-Emerging_Technologies_in_Distance_Education.pdf
- Wheeler, S. (2011, July 8). Learning with e's: Digital age learning. [Blog post.] Retrieved from <http://steve-wheeler.blogspot.com/2011/07/digital-age-learning.html>
- The World Bank. (2003). *Lifelong learning in the global knowledge economy: Challenges for developing countries*. Washington, D.C.: The World Bank. Retrieved from http://siteresources.worldbank.org/INTLL/Resources/Lifelong-Learning-in-the-Global-Knowledge-Economy/lifelonglearning_GKE.pdf

Athabasca University 

