Chapter 2
Heutagogy: A Holistic Framework for Creating Twenty-First-Century Self-determined Learners

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Abstract Heutagogy, a form of self-determined learning, is a holistic, learner-centered approach to learning and teaching, in formal and informal situations. The theory is grounded in humanistic and constructivist principles and brings together numerous threads of early learning theories into a composite picture of learning that is suitable for and much needed in today's educational systems. With its learner-centered approach, heutagogy shifts the focus from the teacher back to the learner and learning. This chapter discusses the principles, processes, and design of heutagogic learning environments with a specific emphasis on digital technologies.

Keywords Heutagogy · Self-determined learning · Learner-centered teaching

2.1 The Challenges for Education

There is a revolution occurring in the way in which people learn (Blaschke and Hase 2014). This revolution is affecting our educational and training systems, teachers and trainers of that system, workplaces and other organizations, our social systems, and learners. What is odd about this revolution is that it has been so long in coming. It may well have had its origins with Socrates as he walked the gardens answering the anxious questions of his pupils. However, it was the constructivists and psychological humanists building on the shoulders of Vygotsky, and Maslow

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and Rogers that identified the role of human agency in the learning process. Since then, and specifically relevant to this discussion, human agency has been connected to learning: Don Schön's notion of reflective practice (1983), Argyris and Schön's double-loop learning (1978), Bandura's self-efficacy theory (1977), Deci and Ryan's self-determination theory of learner motivation and autonomy (2002), learner-centered learning, Stephenson's ideas about capability (1992), action learning, and action research. At the same time, there has been a steady criticism of the structure of our educational systems (Doll 1989; Emery 1974; Kozol 1975; Doolittle 2000; Ackoff and Greenberg 2008; Sumara and Davis 1997) with Sir Ken Robinson (2010) providing the most contemporary call for a rethink of how we go about education. (For a summary of this argument, see Hase and Kenyon 2013b.)

The advent of heutagogy, a form of self-determined learning, in 2000 brought together these lines of evidence into a coherent framework for applying to education and training practice (e.g., Hase and Kenyon 2000, 2007, 2013b; Blaschke 2012). Like the theories that spawned it, heutagogy has gained some traction, particularly among practitioners and researchers in the e-learning world (Anderson 2010; Blaschke 2012, 2013; Cochrane et al. 2012; Gerstein 2013; Helmer 2014). It is contributing to the revolution, but the Bastille has yet to be breached. This despite some very successful experiments with learner-centered learning in the shape of Steiner and Montessori schools (Lillard 2005; Lillard and Else-Quest 2006; Woods and Woods 2005), which have been generally ignored by the establishment.

Where theory has failed, the interface between technology and social need may well succeed, driven by globalization and complexity. The revolution is occurring in the way in which individuals, teachers, and institutions obtain information and communicate or network to use today's parlance. It is occurring despite a reluctance of these three groups to fully understand the implications for formal education and training as a system. We are in the age of knowledge and skill emancipation. There are no barriers to knowing, and the skills required to be an effective learner in the twenty-first century have changed dramatically, as the learner evolves from passive recipient to analyst and synthesizer. On Bloom's taxonomy, these are levels that are rarely reached in formal education. Now, they are vital skills for survival in a complex environment where knowledge management, or what is now called curating, is more important than access. It is a revolution in which gurus can no longer lay claim to the stage as sole expert by virtue of access to information. The same power shift is occurring in the professions and bureaucracies of all sorts where, previously, people relied on "those who were in the know." Education is no exception.

The vision of lifelong learning, the education catch-cry of the 1990s, is now potentially achievable. Never before has the access to knowledge, skills, and competencies been easier. However, we are also in an age where competence is not enough, given the complex and rapidly changing world that we now inhabit. In addition to competency, people also need capability. When we talk to CEOs and talk to them about capability (Stephenson and Weil 1992; Stephenson 1996; Hase and Davis 1999; Davis and Hase 2001)—the capacity to use one's competence in novel as well as familiar circumstances—they reply positively and want capable people in their organizations. Capable people are simply more likely to function

effectively in ambiguous, changing environments, or turbulence, as Emery and Trist (1965) described the environment we are in.

Our educational and training systems are based on a model that was developed to meet the needs of the industrial revolution. They prepare and maintain people to fit an economic model of society. To a large extent, this is still the prevailing political mental model that drives educational policy. However, this model is no longer enough given our twenty-first-century world and the challenges briefly touched upon above. Increasingly, we are seeing a system that emphasizes standardization and performance but not learning, creativity, or innovation. Instead, we need a system that creates and develops capable lifelong learners who have a rounded set of skills that prepare them for managing rapid change, with a concomitant desire to learn.

It is within this context that the following chapter examines heutagogy as a holistic model for advancing lifelong learning within multiple contexts, and a model further supported and propagated by technological developments such as Web 2.0 and the potential for Web 3.0.

2.2   Heutagogy Essentials

Heutagogy is defined as the study of self-determined learning (Hase and Kenyon 2000) and was developed as an extension to andragogy, or self-directed learning (Blaschke 2012). One of the differences between andragogy and heutagogy is that heutagogy further expands upon the role of human agency in the learning process. Thus, the learner is seen as, "the major agent in their own learning, which occurs as a result of personal experiences" (Hase and Kenyon 2007, p. 112). The learner and teacher, or *learning leader* (Hase 2014), work in partnership as the learner negotiates what it is she or he will learn and how she or he will learn it. The learner is at the center of the learning process rather than the teacher or the curriculum. In fact, both of these agents need to be flexible, able to shift as learning occurs, and the learner forges new paths, new questions, and new contexts. Other differences to andragogy (Blaschke 2012) include the emphasis on developing *capability*, *self-reflection*, *and metacognition* or an understanding of one's own learning process, *double-loop learning*, and *nonlinear learning and teaching processes*. Table 2.1 describes the basic principles that form heutagogic design.

As well as building on constructivist and humanistic visions of learning, heutagogy also draws on the more recent advances in neuroscience that have shed considerable light on how it is people learn at a cellular level. A summary of this research and its relation to heutagogy can be found in Hase and Kenyon (2013a) and Blaschke and Hase (2014). What this research does is to support learner-centered approaches to education and casts doubt on much of the current orthodoxy surrounding teaching methods. In addition, these advances in understanding how the brain functions seem to have a strong association with the ways in which people learn naturally at work and play, and even in educational settings. It is no wonder that the Internet and all that it offers have been greedily embraced by humans eager to learn and to associate.

Table 2.1 The principles of heutagogy

Principles	Description	References
Learner-centered and learner-determined	The role of human agency in learning is a fundamental principle. The learner is at the center of all heutagogic practice. The learner is self-motivated and autonomous and is primarily responsible for deciding what will be learned and how it will be learned and assessed	Hase and Kenyon (2000, 2007, 2013b), Hase (2009), Deci and Flaste (1995), Deci and Ryan (2002), Long (1990), Pink (2009)
Capability	Capability is characterized by the following: being able to use one's competencies in unfamiliar as well as familiar circumstances, learner self-efficacy, communication, creativity, collaboration (teamwork), and positive values	Cairns (1996, 2000), Stephenson and Weil (1992), Gardner et al. (2008), Hase and Kenyon (2000, 2003, 2007)
Self-reflection and metacognition	Within heutagogy, it is essential that reflection occurs in a holistic way. This translates to the learner reflecting not only what she or he has learned, but also the way in which it has been learned—and understanding how it is learned (metacognition)	Schön (1983, 1987), Mezirow and Associates (1990), Blaschke and Brindley (2011)
Double-loop learning	Double-loop learning requires that learners are both psychologically and behaviorally engaged. They reflect on not only what they have learned, but also the way in which this new knowledge and the path to learning have influenced their values and belief system	Argyris and Schön (1978), Eberle and Childress (2009), Eberle (2013)
Nonlinear learning and teaching	As learning is self-determined, the path to learning is defined by the learner and is not established by the teacher. As a result of learners choosing their own path, learning happens in a nonlinear format	Peters (2002)

2.3 Developing Self-determined Learners

Heutagogy offers a variety of benefits to today's learners, in particular the way in which the approach gives them a learner-centered environment that supports them in defining an own learning path. From the learner's perspective, Brandt (2013) describes heutagogy as empowering education as, "The students' self-determined studies lead to transformational experiences; this benefits individual learners and ultimately society" (p. 111). Heutagogy can also equip learners with the skills and

capability that will help them better transition to the workforce. Our learners are faced with an environment that is vastly different from that experienced by previous generations. The pace of change is alarmingly rapid, particularly within the workforce. Employers want and need employees who are innovators, complex problem-solvers, and good communicators, and who are able to apply what they learn to real-life scenarios (Hart Research Associates 2013). Graduates need to be productive at the start of employment with little or no ramp-up time, *and* they must adapt quickly to new and disruptive innovations, continuously acquiring new skills:...*the complexities of the workforce in the 21st century require that employees have a wide range of cognitive and meta-cognitive skills, such as creativity, self-directedness, innovativeness, and knowledge of how they learn* (Blaschke 2014, p. 1).

In addition to these skills, other twenty-first-century workforce skills include communication, collaboration, digital literacy, and curation (Prensky 2010; Partnership for 21st Century Skills (P21), no date; Thomas and Brown 2011; Trilling and Fadel 2009). Learners also need to be able to work independently, as well as on teams. Chattopadhyay (2014) has elegantly linked the Cynefin model (Snowden 2000) to learning needs. Cynefin distinguishes between four work environments: simple, which requires best practice; complicated, which needs good practice; complex, which requires emergent practice; and chaotic, which demands novel practice. In the twenty-first century, we are mostly faced with complex and chaotic environments in which events are rapidly changing and where the relationship between cause and effect is difficult to establish. This means that normal planning and problem-solving are inadequate. We often have to act long before we have been able to fully understand what is happening. Complex and chaotic environments require a different style of learning, which is informal, driven by the experience of work, involves double-loop learning, is collaborative, and is cooperative. People in these environments need to know how to learn, and the organization needs to be adept at harnessing knowledge as it emerges. There is no time for formal training programs. Learning is "just-in-time" and emergent.

Education, however, has been slow to respond to the needs of learners in preparing them for the workforce. Arum and Roksa (2011) found that students are not learning skills that are needed for the workplace, such as critical thinking and creativity. According to research by Bentley's PreparedU (2014), "thirty-seven percent of recent college graduates give themselves a grade of 'C' or lower on their individual level of preparedness" for the workforce, with 4 out of 10 blaming the institution issuing the degree (p. 9).

A heutagogic approach to teaching and learning provides a holistic framework for developing self-determined learners: the type of learners in demand by today's employers. Heutagogic learning can help prepare learners for employment, as many of the skills they need align well with and are nurtured and developed through heutagogic learning. This type of learning is further supported by the advent of numerous new technologies and Web developments such as Web 2.0 and Web 3.0, which support learner-centered design and activities, as well as learner exploration, creativity, reflection, collaboration, and networking (Gerstein 2013; Sharpe et al. 2010; Conole 2012; McLoughlin and Lee 2007). A heutagogic design has the

potential to turn that around and help students become more prepared for and productive in their roles in tomorrow's workplace.

2.4   The Heutagogic Design Process

Where to begin in realizing a heutagogic design in your classroom/training environment? A first step is to understand the process of designing for heutagogy (Fig. 2.1). Next, it is important to understand how to develop heutagogic learning environments (Fig. 2.2).

The first part of the heutagogic design process is *defining the learning contract*. During this phase, the learner and teacher work together to identify learning needs and outcomes. What does the learner want to learn/achieve? What should be the result of the learning experience (learning outcome)? In addition, specific course or program learning outcomes that may be required by the institutional environment should be taken into consideration. Next, the learner and teacher negotiate the assessment process. How will learning be assessed and who will assess it? In other words, how do we know that learning has been achieved? The curriculum should
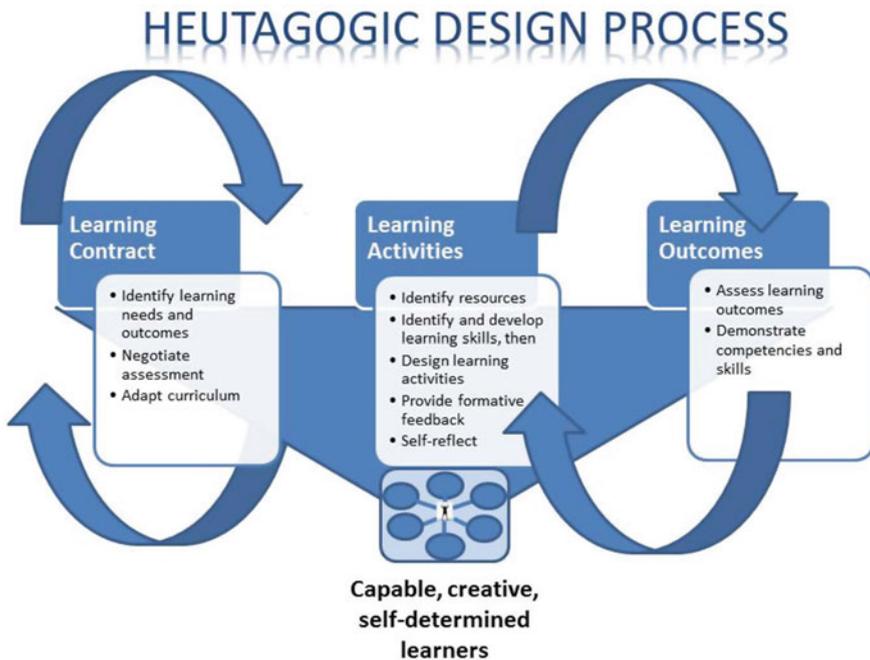

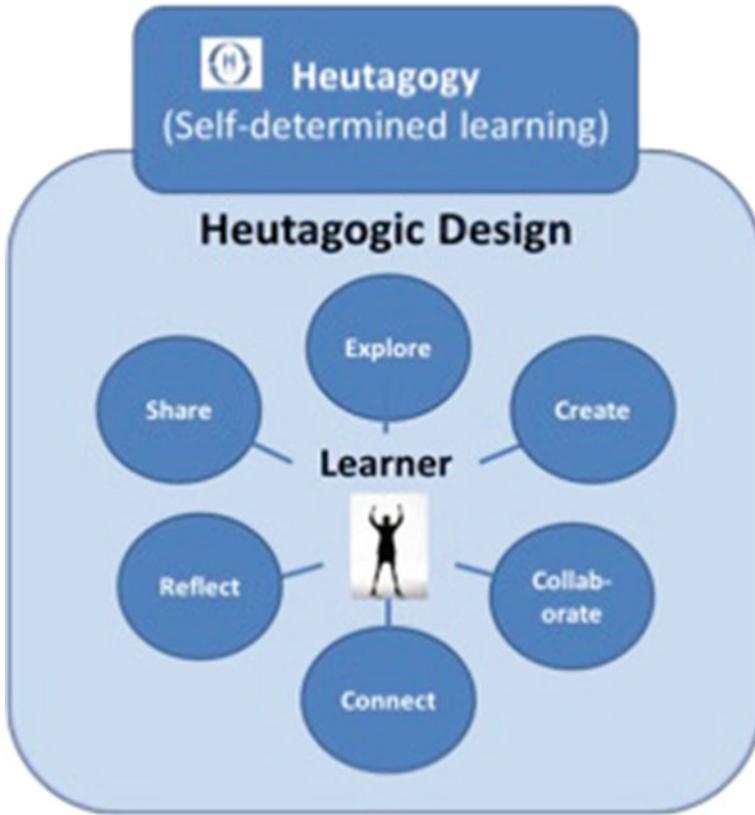**Fig. 2.1**   The heutagogic design process

Fig. 2.2 Heutagogic design elements

then be adapted to the learning outcomes, as well as throughout the learning process. At the end of this part of the process, a learner contract is created and agreed upon.

The next part of the process is *development of the learning activity*. Dick (2013) identifies three universal aspects in this activity: challenge, autonomy, and support. To be successful in this design process, teachers need to create "a challenging, achievable and worthwhile task, providing participants with as much autonomy as possible, and engendering support based on strong and collaborative relationships" (Dick 2013, p. 52). Once the learner and teacher have reached agreement on the design for the learning, the learner and/or teacher can then choose any media, application, or tool to support their learning activities. It is essential that learners and teachers select those that support the learning activity and the desired learning goal. During this phase of the process, teachers should support learners in defining activities for learning, providing ongoing, constructive feedback, and provide opportunities for learners to self-reflect on new knowledge gained and on the learning process. In the next section, you will find more details about the elements

of designing and developing learning activities for heutagogy. Examples of heutagogic learning activities can be found in Dick (2013).

In the last part of a heutagogic design process, *learning is assessed* in order to determine whether the agreed-upon outcomes have been achieved. How learning is assessed is based on the learner contract defined at the start of the process. Learning outcomes are reviewed and assessed, and specific competencies and skills acquired are identified. As heutagogy is learner-centered, the learner is the primary assessor of his or her learning.

In thinking about designing for heutagogy, a number of design principles for learning can be applied, no matter what the context is (Hase and Kenyon 2013a, b; Kenyon and Hase 2013). These can be summarized as follows:

- Learners need to be involved in negotiating what and how they learn (Kenyon and Hase 2013; Hase 2013)—throughout the design and learning process.
- Curricula should be flexible and take into account learners' questions and motivations and how thinking shifts as a result of things they have learned.
- The learner and teacher need to work together to negotiate how learning outcomes will be assessed. Evaluation could also include forms of participative (self- and peer) evaluation, allowing learners to learn from each other and through self-reflection (Dick 2013).
- The role of the teacher is to guide the learner, providing formative feedback that is personalized according to the learner needs.
- The learning environment needs to incorporate opportunities for learners to explore and reflect on what they have learned and how.

As a cautionary note, teachers should be aware that learning in a heutagogic classroom often creates inner conflict for learners. Learners are not accustomed to taking responsibility for their learning and being placed in such a position that can be intimidating and uncomfortable. However, as Brandt (2013) relates in her writings on heutagogy from a learner perspective, once learners have a taste for self-determined learning, few want to return to the restrictions of a fully structured curriculum.

2.5   Heutagogic Design Elements

Based on the negotiated learner contract, the learning activities for the heutagogic learning environment can be designed and developed, as shown in Fig. 2.2.

In the following sections, we will describe each of these design elements and provide examples of how each can be supported using technology.

2.5.1   *Explore*

Fundamental to heutagogy is the element of exploration. Learners must be given the freedom and opportunity to explore a variety of paths and sources of knowledge on

their journey. They need to be able to develop and test hypotheses, and ask and answer questions—all of which arise during the process of exploring. Structured curricula are out; learner-defined curricula are in. With its nonlinear structure, the Internet provides the ideal environment for self-determined exploration. Google (www.google.com) and Wikipedia (www.wikipedia.com) are primary examples of online sources that can be used as starting points for one's learning explorations. Another source of information are digital libraries and magazines. Applications such as Flipboard (www.flipboard.com) allow learners to organize their discoveries and information resources in one place, thus beginning to create their own personal learning environment. Social media provides the opportunities to access people with expert opinion or with ideas. Not all learners find it easy to be explorers and may need additional guidance initially, and the role of the teacher is to provide possible resources to help learners orient themselves and begin moving forward in the process. As learners learn to roam free, they become more self-directed in their learning and will begin to seek out new pathways and resources to further their learning.

2.5.2 Create

Another important design element of heutagogy is giving the learner the freedom to create. This can be achieved using a variety of learning approaches, e.g., writing, designing, and drawing. One useful learning approach is creating mind maps. Within the online environment, learners can use a variety of tools to create mind maps of their learning, such as Popplet (http://popplet.com/) and bubbl.us (https://bubbl.us/). Learners can also use online blogs, such as WordPress (www.wordpress.com), PBWorks (www.pbworks.com), and Weebly (www.weebly.com), for designing and writing activities. Creations do not have to be limited to individual blogs and Web sites, however. Learners can also create an online presence by collaborating with others.

2.5.3 Collaborate

Collaboration is another key element to heutagogy and aims to provide the kind of environment where learners can learn from each other. Working together toward a common goal, learners are able to solve problems and reinforce their knowledge by sharing information and experiences, continuously practicing, and experimenting by trial and error. They simply help each other along the way. The teacher serves as coach during the collaboration process, letting learners forge forward together and stepping in only when absolutely necessary. In applying heutagogic practice in teams, Dick (2013) recommends giving team members complete autonomy,

allowing teams to manage learning activities and the learning process. For online and blended learning environments, numerous Web 2.0 tools are available for learners who want to bring their collaboration online. Using tools such as GoogleDocs and Wiggio, teams can work together in real time, share resources, *and* develop skills that are easily transferable into tomorrow's work environment.

2.5.4 Connect

Networks and connections are a critical aspect within heutagogy, as it is through these connections that new avenues of learning can be created. Making connections is easy with today's social media, which gives learners an opportunity to network with people across the world. As Brandt (2013) relates, "Virtual connections, made through the Internet, can provide opportunities for real-time input from experts in the field of study" (p. 110). Whenever possible, learners should be encouraged to connect with others within their discipline using the media available. Examples of social networking sites include Twitter (www.twitter.com), LinkedIn (www.linkedin.com), Academia.edu (www.academia.edu), Facebook (www.facebook.com), WhatsApp (www.whatsapp.com), and Google+ (https://plus.google.com).

2.5.5 Share

Once learners have started connecting, they can begin sharing. Numerous Web 2.0 tools are available for this purpose, such as SlideShare (www.slideshare.net), ResearchGate (www.researchgate.net), Twitter (www.twitter.com), and Facebook (www.facebook.com). By sharing information with each other, learners are able to learn from each other's discoveries and experience, as well as identify others with similar interests, which can lead to potential opportunities for future collaboration. Teachers can help learners identify and use information sharing tools and applications, as well as provide guidance for evaluating online information. Included as part of the sharing process is curation. To curate information online, learners browse for information, critically review the relevance and value of the work, publish the information (usually a link) to an online space, and then share the information with their followers/friends. ScoopIt! (http://www.scoop.it/) is one such online curation site that is currently popular. Using the tool, learners can create an online space around a specific topic and then publish their news scoops directly from the Web while saving the *scoops* to their individual news page. An example ScoopIt! site can be found here: http://www.scoop.it/t/future-of-learning-self-determined-supported-by-technology. Using tools like ScoopIt! to curate and publish information encourages exploration, development of digital literacy skills, and network and community building.

2.5.6 Reflect

Finally, within every heutagogic learning environment, learners need to have opportunities to reflect. This is where there is potential for new learning to occur and previous learning to be consolidated. Reflection provides an opportunity to ascend to higher levels of cognitive activity such as analysis and synthesis. Repetition helps information move from short- to long-term memory. This reflective activity should include reflecting on the new knowledge that the learner has gained, as well as how she or he has learned—and the ways in which this learning experience has influenced his or her value system and beliefs. One common method for reflection is the use of reflective learning journals, which can also be created and shared with others online (Blaschke and Brindley 2014). The teacher can support the learner throughout the reflective process by providing formative feedback and nurturing inquiry-based learning.

2.6 Skilling Learners and Learning Leaders

One of the challenges of any kind of change is to overcome cognitive schema or mental models. Education and training is no different. Politicians, policy makers, the recipients, and many practitioners have cognitive schemas about educational practice that are based on their previous experiences of education. This may explain why constructivist and humanistic models of learning have been slow to catch on, despite the evidence of their effectiveness.

An important shift of perspective needed in twenty-first-century learning is recognizing that the needs of the learner and the skills of the teacher, or *learning leader*, are different from those needed in a more structured environment. The idea of capability already mentioned in this chapter touches on the need for a changing skill set given the complexities of the world in which we live.

The learners of the twenty-first century, or *heutagogic learners*, primarily need to be highly skilled learners. They need to be able to respond to a knowledge or skill deficit by knowing where to go to fill the gap, whether this is by networking or searching the monstrous database that is the Internet or library. They need to be good researchers with the appropriate digital literacies. Given the vast amount of information now available on the net, learners more than ever need to be able to separate the wheat from the chaff by being able to check data with reputable sources, to analyze and synthesize information, to recognize a good argument, and to differentiate between correlational and causal relationships. According to Gerstein (2014), today's learners need to:

- be agile and adaptable,
- have good oral and written communication skills,
- be able to collaborate across networks, be curious, and be imaginative,
- be optimistic,

Table 2.2 Attributes and skills for learning leaders

The capacity to accept and manage ambiguity	The ability to foster engagement	The ability to learn	The ability to apply open systems thinking
Attributes			
Low need for control Openness to experience (one of the Big 5 personality traits) Moderate on perfectionism scale (Big 5) High stability (low anxiety) (Big 5) Capability	Empathy Optimism Flexibility to change approaches as circumstances change	Willingness to change own ideas or beliefs	Willingness to empower others
Skills			
Project management Ability to use social media	Interpersonal effectiveness Ability to self-regulate Understanding of how to motivate others Ability to foster a shared purpose and vision Maintaining direction Fostering the joy (and rewards) of learning	Ability to research and learn Being thoroughly on top of one's subject areas Having wide and accessible networks Ability to share openly with others Knowledge management skills The ability to foster collaborative learning Ability to apply learning Willingness to change own ideas and beliefs	The capacity to frequently scan the external environment Ability to foster participative democracy/collaboration decision-making and process Capacity to work in a team as leader and member Ongoing internal and external analysis of effectiveness (continuous improvement) The ability to filter information (research skills)

- have critical thinking and problem-solving skills,
- demonstrate initiative,
- be entrepreneurial,
- have vision,

- be resilient, and
- have empathy and a sense of global stewardship.

Learning leaders also need special abilities to cope with the turbulent environment they inhabit, as well as the challenges of twenty-first-century learning such as those espoused by heutagogy (Hase 2014). These attributes and skills are provided in Table 2.2.

You can see that these skills and attributes have more to do with leadership than they do with technique. They involve particular cognitive schema as an attribute and facilitation rather than direction as the core skill. The learning leader needs to be able to relinquish the need for control and to adapt to the changing needs of the learner. Command over process and resources is critical, as well as the ability to be a colearner together with the student.

2.7   Conclusion

Change is no longer an exception in the current world we inhabit. It is the normal state and is discontinuous. The ability to learn, for both individuals and institutions, is critical to survival. While it has always been so, adaptation in the past could comfortably take place over a long period of time. Now, that is no longer possible. And we have the tools to be able to learn quickly and effectively: whenever and wherever we are. What needs to happen now is a concomitant shift in our thinking about educational and training systems that keeps pace with both the need to learn effectively and the technology that enables it. This change in our cognitive schema about how we learn needs to become based on the readily available science that tells us clearly about how people learn best rather than outdated models that were built for the industrial revolution. Learners, learning practitioners, policy makers and politicians, and managers of organizations need to be prepared to use this science and to adjust their thinking about learning in the twenty-first century. Heutagogy, or self-determined learning, provides them with a framework to think about learning in a revolutionary way.

References

Ackoff, R. L., & Greenberg, D. (2008). *Turning learning right side up: Putting education back on track*. New Jersey: Wharton School.

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

Argyris, C., & Schön, D. (1978). *Organizational learning: A theory of action perspective*. Reading, Mass: Addison Wesley.

Arum, R., & Roksa, J. (2011). *Academically adrift: Limited learning on college campuses*. Chicago/London: University of Chicago Press.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191–215.

Bentley University. (2014). *The PreparedU Project: An in-depth look at millennial preparedness for today's workforce. [White Paper]*. Retrieved from https://www.bentley.edu/files/prepared/1.29.2013_BentleyU_Whitepaper_Shareable.pdf

Blaschke, L. M. (2012). Heutagogy and lifelong learning: A review of heutagogical practice and self-determined learning. *International Review of Research in Open and Distance Learning*, *13*(1), 56–71. Retrieved from http://www.irrodl.org/index.php/irrodl/article/view/1076/2113

Blaschke, L. M. (2013). E-learning and self-determined learning skills. In S. Hase & C. Kenyon (Eds.), *Self-determined learning: Heutagogy in action*. Bloomsbury Academic: London, United Kingdom.

Blaschke, L. M. (2014). Moving students forward in the PAH continuum: Maximizing the power of the social web. In L. M. Blaschke, C. Kenyon, & S. Hase (Eds.), *Experiences in self-determined learning*. United States: Amazon.com Publishing.

Blaschke, L., & Brindley, J (2011). Establishing a foundation for reflective practice: A case study of learning journal use. *European Journal of Open, Distance, and E-Learning*. Available from http://www.eurodl.org/materials/special/2011/Blaschke_Brindley.pdf

Blaschke, L.M. & Brindley, J (in press, 2014). Using social media in the online classroom. In M. Ally & B. Khan, *The international handbook of e-learning*. Athabasca, Canada: Routledge.

Blaschke, L. & Hase, S (in press, 2014). Heutagogy, technology and lifelong learning: curriculum geared for professional and part-time learners. In A. Dailey-Herbert (ed.), *Transforming processes and perspectives to reframe higher education*. New York: Springer.

Brandt, B. (2013). The learner's perspective. In S. Hase & C. Kenyon (Eds.), *Self-determined learning: Heutagogy in action*. Bloomsbury Academic: London, United Kingdom.

Cairns, L. (1996). Capability: Going beyond competence. *Capability, 2*, 80.

Cairns, L. (2000). The process/outcome approach to becoming a capable organization. In *Australian Capability Network Conference*, Sydney (pp. 1–14).

Chattopadhyay, S. (2014). *Heutagogy, self-directed learning and complex work*. http://idreflections.blogspot.co.uk/2014/03/heutagogy-self-driven-learning-and.html

Cochrane, T., Antonczak, L., Gordon, A., Sissons, H. & Withell, A (2012). *Heutagogy and mobile social media: Post Web 2.0 pedagogy*. Retrieved from http://www.ascilite.org.au/conferences/wellington12/2012/images/custom/cochrane,_thomas_-_heutagogy_and_mobile.pdf

Conole, G (2012). *Designing for learning in an open world: Explorations in the learning sciences, instructional systems and performance technologies*. New York, Heidelberg: Springer

Davis, L., & Hase, S. (2001). The river of learning in the workplace. In *Proceedings of Research to Reality: Putting VET Research to Work. Australian Vocational Education and Training Research Association (AVETRA), Adelaid*, *SA*, March 28–30, 2001, Crows Nest, NSW. Retrieved from http://epubs.scu.edu.au/cgi/viewcontent.cgi?article=1148&context=gcm_pubs

Deci, E. L., & Flaste, R. (1995). *Why we do what we do: Understanding self-motivation*. London: Penguin Books.

Deci, E. L., & Ryan, R. M. (2002). *The handbook of self-determination research*. Rochester, NY: The University of Rochester Press.

Dick, B. (2013). Crafting learner-centred processes using action research and action learning. In S. Hase & C. Kenyon (Eds.), *Self-determined learning: Heutagogy in action*. Bloomsbury Academic: London, United Kingdom.

Doll, W. E. (1989). *A post-modern perspective on curriculum*. New York: New York Teachers College.

Doolittle, P. E. (2000). *Complex constructivism: A theoretical model of complexity and cognition*. Retrieved from: www.tandl.vt.edu/doolittle/research/complex1.html

Eberle, J. (2013). Lifelong learning. In S. Hase & C. Kenyon (Eds.), *Self-determined learning: Heutagogy in action*. Bloomsbury Academic: London, United Kingdom.

Eberle, J., & Childress, M. (2009). Using heutagogy to address the needs of online learners. In P. Rogers, G. A. Berg, J. V. Boettecher, & L. Justice (Eds.), *Encyclopedia of distance learning* (2nd ed.). New York: Idea Group Inc.

Emery, F. (1974). Educational paradigms. Unpublished Paper.

Emery, F. E., & Trist, E. L. (1965). The causal texture of organizational environments. *Human Relations, 18*(21), 21–32.

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.

Gerstein, J. (2013). *Education 3.0 and the pedagogy (andragogy, heutagogy) of mobile learning. [Blog post.] User generated education*. http://usergeneratededucation.wordpress.com/2013/05/13/education-3-0-and-the-pedagogy-andragogy-heutagogy-of-mobile-learning/

Gerstein, J. (2014). *The other 21st century skills. [Blog post.]* http://usergeneratededucation.wordpress.com/2013/05/22/the-other-21st-century-skills/

Hart Research Associates. (2013). *It takes more than a major: Employer priorities for college learning and student success. Association of American Colleges and Universities (AACU) 99:2*. Retrieved from http://www.aacu.org/liberaleducation/le-sp13/hartresearchassociates.cfm

Hase, S. (2009). Heutagogy and e-learning in the workplace: Some challenges and opportu-nities. *Impact: Journal of Applied Research in Workplace E-learning, 1*(1), 43–52. doi:10.5043/impact.13.

Hase, S. (2013). Learner defined learning. In S. Hase & C. Kenyon (Eds.), *Self-determined learning: Heutagogy in action*. Bloomsbury Academic: London, UK.

Hase, S. (2014). Skills for the learning leader in the 21st century. In L. M. Blaschke, F. Garnett, C. Kenyon. & S. Hase (Eds.), A practical guide to heutagogy. Amazon.

Hase, S., & Davis, L. (1999). From competence to capability: The implications for human resource development and management. In *Proceedings of Millennial challenges in management, education, cybertechnology, and leadership: Association of International Management, 17th Annual Conference, San Diego*, 6–8 August 1999.

Hase, S., & Kenyon, C. (2000). *From andragogy to heutagogy. UltiBase*. Retrieved from http://ultibase.rmit.edu.au/Articles/dec00/hase2.htm

Hase, S. & Kenyon, K. (2003). Heutagogy and developing capable people and capable workplaces: strategies for dealing with complexity. In *Proceedings of the Changing Face of Work and Learning Conference. Edmonton, AB: University of Alberta*. Retrieved June 23, 2014, from www.wln.ualberta.ca/papers/pdf/17.pdf

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. (2013a). *Self-determined learning: Heutagogy in action*. London, UK: Bloomsbury Academic.

Hase, S., & Kenyon, C. (2013b). The nature of learning. In S. Hase & C. Kenyon (Eds.), *Self-determined learning: Heutagogy in action*. London, UK: Bloomsbury Academic.

Helmer, J. (2014). *Heutagogy: Designing for self-directed learners. Inside Learning Technologies and Skills*, 131–135. Retrieved from http://viewer.zmags.com/publication/658352e7?utm_content=buffer4e1d6&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer#/658352e7/132

Kenyon, C., & Hase, S. (2013). Heutagogy fundamentals. In S. Hase & C. Kenyon (Eds.), *Self determined learning: Heutagogy in action*. London: Bloomsbury.

Kozol, J. (1975). *The night is dark and I am far from home*. Boston: Houghton Miflin.

Long, D. (1990). *Learner managed Learning: The key to life long learning and development*. New York: Kogan Page.

Lillard, A. S. (2005). *Montessori: the science behind the genius*. New York: Oxford University Press.

Lillard, A., & Else-Quest, N. (2006). Evaluating Montessori education. *Science, 313*, 1893–1894.

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

Mezirow, J., & Associates. (1990). *Fostering critical reflection in adulthood: A guide to transformative and emancipatory learning*. San Francisco, CA: Jossey-Bass Publishers.

P21. (no date). *21st Century student outcomes and support systems framework*. Retrieved from: http://www.p21.org/overview/skills-framework

Peters, O. (2002). *Distance education in transition: New trends and challenges* (4th ed). Oldenburg, Germany: BIS-Verlag der Carl von Ossietzky Universität Oldenburg. Retrieved from http://www.uni-oldenburg.de/fileadmin/user_upload/c3l/master/mde/download/asfvolume5_4_ebook.pdf

Pink, D. H. (2009). *Drive: The surprising truth about what motivates us*. Great Britain: Cannongate Books Ltd.

Prensky, M. (2010). *Teaching digital natives: Partnering for real learning*. Thousand Oaks, CA: Corwin Press.

Robinson, K. (2010). Sir Ken Robinson: Bringing on the learning revolution! TED Talk. http://www.ted.com/talks/sir_ken_robinson_bring_on_the_revolution.html. Accessed 30 May 2014.

Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. United States: Basic Books Inc.

Schön, D. A. (1987). *Educating the reflective practitioner*. San Francisco, CA: Jossey-Bass.

Sharpe, R., Beetham, H., & De Freitas, S. (2010). *Rethinking learning for a digital age: How learners are shaping their own experiences*. New York, NY: Routledge.

Stephenson, J. (1996). Beyond competence to capability and the learning society. *Capability, 2*(1), 60–62.

Stephenson, J., & Weil, S. (1992). *Quality in learning: A capability approach in higher education*. London: Kogan Page.

Snowden, D. (2000). Cynefin: a sense of time and space, the social ecology of knowledge management. In C. Despres & D. Chauvel, (eds.) *Knowledge Horizons: The present and the promise of knowledge management*. London: Butterworth Heinemann.

Sumara, D. J., & Davis, B. (1997). Enactivist theory and community learning: Toward a complexified understanding of action research. *Educational Action Research, 5*(3), 403–422.

Thomas, D., & Brown, J. S. (2011). *A new culture of learning: Cultivating the imagination for a world of constant change*. United States: CreateSpace Independent Publishing Platform.

Trilling, B., & Fadel, C. (2009). *21st century skills: Learning for life in our times*. San Franciso, CA: Jossey-Bass.

Woods, P., & Woods, G. (2005). *Steiner schools in England*. Bristol: University of West England.

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