Heutagogy and e-learning in the workplace: some challenges and opportunities

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Abstract: It is clear that e-learning offers tremendous opportunities in terms of access in a global environment as well as in terms of the economics of delivery for workplace learning and, indeed, other learning environments. However, those designing and delivering workplace e-learning also have the potential to challenge existing dogmas about the curriculum, how we conduct education programs, manage knowledge, and access and harness learning. Complexity theory, in particular, prompts us to question how we understand education, training and learning. This article discusses some of these challenges and possibilities for workplace e-learning through the lens of the recently developed concept of heutagogy, defined as the study of self-determined learning.

Keywords: e-learning; workplace learning; heutagogy; complexity theory; capability

Some thoughts about how we understand learning

New frontiers open up the possibility for new ways of seeing the world, for rethinking prevailing dogmas and, ultimately, for innovation. E-learning is such a frontier, and its application to the workplace can provide insights into how we understand learning in an increasingly complex environment where rapid, exponential change is the norm and adaptation is an essential attribute for individuals and organisations alike. This article explores e-learning in the workplace though the conceptual lens of heutagogy, and does so from two perspectives. The first of these is the development and delivery of e-learning in the workplace; the other is how we can harness the enormous amount of learning that occurs naturally in workplaces. In particular, the article will look at how we can take advantage of high-speed information and communication technology (ICT) in ways that are consistent with contemporary views of learning rather than repeating conservative, modernist educational practices whose relevance diminished long ago. It is necessary, however, to first look at heutagogy and some of the theoretical underpinnings of this relatively new concept.

The term ‘heutagogy’ was first coined in 2000 (Hase & Kenyon, 2000; see also Hase & Kenyon, 2003, 2007). The idea came about initially because of an increasing frustration with rather conservative approaches to education prevalent in the higher education sector, and the recognition of the need to acknowledge learning as being an extremely dynamic experience occurring in a world that was (and is) highly complex, non-linear and ever-changing. The educational experiences provided to potential learners seemed to be failing to keep pace with this dynamism; it was also clear that this problem was not confined to universities but could be found in other education sectors, including vocational education and training (VET). In particular, the competency-based training and assessment movement
in Australian VET, which reached its zenith in the mid to late 1990s, seemed to limit rather than expand how learning was understood in organisations (Hase, 2002; Hase & Kenyon, 2003; Davis & Hase, 1999). At the same time, a number of other educationalists were similarly challenging prevailing views about the learner, the curricula and learning in ways that recognised a much greater complexity (eg Davis, Sumara & Luce-Kapler, 2000; Doll, 1989; Doolittle, 2000; Sumara & Davis, 1997). Much of the theorising around heutagogy has been influenced by constructivism and the notion that learners construct meaning from their experiences (eg Bruner, 1960; Dewey, 1933, 1938; Piaget, 1973; Vygotsky, 1978), as well as by the thinking of Freire (1972, 1995), among others.

Heutagogy is defined as the study of self-determined learning (Hase & Kenyon, 2000). This means that learning occurs when the learner is ready rather than when the teacher expects or intends for it to occur. Learning usually happens as a result of some experience outside of the educational setting (ie the classroom or the e-learning site) in which neuronal pathways in the brain suddenly become connected. Our experiences create new neuronal pathways, and these pathways can interconnect in unpredictable and complex ways; it is this interconnectedness that lies at the heart of understanding learning. Thus, when an individual learns something, the internal structures resulting from the new learning may interconnect with previous understanding to create an entirely new pattern or way of viewing the world. This might lead him/her to then ask various kinds of new, previously unanticipated questions in an effort to resolve internal dilemmas. The new learning may settle problems or questions, which then leads the learner to seek new horizons and challenges. As Sumara and Davis (1997, p. 107) eloquently put it, cognition needs to be seen “… as a process of organizing and reorganizing one’s own subjective world of experience, involving the simultaneous revision, reorganization and reinterpretation of past, present and projected actions and conceptions”.

Thus, heutagogy proposes that learning occurs at two main levels, although there are more that probably exist, and the extent of these levels will be revealed as our understanding of learning is further developed. The first of these has to do with the acquisition of knowledge and skills, or what are commonly called ‘competencies’. Pedagogy and andragogy best describe this level of learning (Hase & Kenyon, 2000). In pedagogy, there is a high degree of dependence on the teacher, given a lower level of experience of the learner in the domain or subject area. Knowles (1970) gave us andragogy, which recognises the greater life experience that adults bring to their learning and the need to tap into that experience in order to increase motivation and relevance in learning environments. Thus, adults can be said to be more inclined to be self-directed in their learning, in spite of the fact that the curricula and the learning experience are still highly teacher-driven and directed. Heutagogy was initially conceptualised as a natural extension to pedagogy and andragogy by taking into account the increasing complexity of learning and the corresponding implications for the role of the learner (Hase & Kenyon, 2000).

The second level, what could be called ‘deeper learning’, involves the complex neuronal interactions already described above. Here, the whole learning experience becomes much less predictable and the learner’s needs and motivation shift rapidly and not necessarily in concert with the aims of the teacher or the curriculum. Learning is seen here as learner-directed rather than teacher-directed, and this idea, as will be shown below, has a number of implications for harnessing learning in workplaces and the way in which we design learning experiences from an e-learning perspective. It is also clear that there are complex interactions between learning and emotions in that the latter may make learning more indelible (Ingleton, 1999). Learning, then, is probably enhanced by excitement and enjoyment, and when there is a gap in understanding that creates curiosity, confusion or a gentle unease. Thus, it is the questions that the learning experience raises rather than the provision of answers that are the primary concern of heutagogy.

Another set of important assumptions that have particular relevance to workplaces has to do with how we understand the learning environment. Complexity theory (eg Lissack, 1999;
Stacey, Griffin & Shaw, 2000; Waldrop, 1992) and systems thinking (Emery & Trist, 1965; Emery, 1993) suggest that the world is turbulent, complex and unpredictable. This is especially true for social systems and the specific context of education (Davis et al., 2000). Workplaces are also complex, adaptive systems. The main tenets of complexity and systems theory are as follows (summarised from Phelps, Hase & Ellis, 2005):

- systems are open and non-linear
- systems are affected by their environment (and visa versa) in complex ways
- environment systems are not in equilibrium but are constantly adapting to changes
- these changes are unpredictable and non-linear but are self-generating and self-maintaining (autopoiesis)
- the system is greater than the sum of its parts, and hence, we cannot understand a system by only considering its parts
- outcomes are dependent on initial conditions that may be unknowable and, therefore, attempts at prediction are often futile (the butterfly effect)
- adaptation and then stability (bifurcation) occur as a result of stress on the system
- big events may have small consequences and small events may have large consequences
- change is natural and evolutionary.

The confluence between heutagogy and complexity theory is relatively clear in terms of how learning is understood. Learning may be viewed as self-organised adaptation (Doolittle, 2000), dependent on context and inherently unpredictable, as are learning outcomes (Phelps et al., 2005). The learner and the context are in a state of “constant flux” (Davis & Sumara, 1997, p. 414) where one dynamically affects the other. Learning, then, is not caused but rather is occasioned (Phelps et al., 2005), is constructed by the learner and is fundamentally emergent.

Given these assumptions, heutagogy emphasises learner-centred rather than teacher-centred learning. As Hase and Kenyon (2003, pp. 3–4) state:

Teacher-centred learning has to be organised by others who make the appropriate associations and generalisations on behalf of the learner. Thus, random individual experiences are taken to be inadequate as sources of knowledge, the educational process is seen to need disciplined students, and literacy is seen to precede knowledge acquisition. Success is based on attending to narrow stimuli presented by a teacher, an ability to remember that which is not understood, and repeated rehearsal. Self-determined learning assumes that people have the potential to learn continuously and in real time by interacting with their environment, they learn through their lifespan, can be lead to ideas rather than be force fed the wisdom of others, and thereby they enhance their creativity, and re-learn how to learn. Heutagogy recognizes that people learn when they are ready and that this is most likely to occur quite randomly, chaotically and in the face of ambiguity and need.

Thus, learning can be said to occur mainly in non-formal situations, and probably less so in the formal interaction we call ‘teaching’. It is non-linear, given the autopoietic nature of humans and the complex environment in which they live. Humans make their own sense of the world and behave purposefully. Need arises from an internal discomfort, not from the security of a fixed curriculum.

However, being an independent learner requires skill. Heutagogy, borrowing from the work of Stephenson and colleagues on capability (eg Stephenson, 1996; Stephenson & Weill, 1992; Coomey & Stephenson, 2003), is concerned with developing a strong self-efficacy for learning how to learn and being able to harness learning, when it occurs, in meaningful ways. It involves the ability to recognise the learning moment. Here, heutagogy sees the development of double-loop learning (Argyris & Schon, 1978) through reflexive processes that
question and test one’s personal values and assumptions as being central to enhancing learning how to learn. Action learning and action research also provide a number of techniques and approaches that facilitate the capacity for reflection and reflexivity. This will be discussed further below.

Having looked at some of the principles underpinning the concept of heutagogy, in the next section the article’s attention turns to two areas in which it might be applied in workplace e-learning, namely the development and delivery of learning programs and the quest to harness learning that occurs in the workplace.

Challenges and opportunities for e-learning in the workplace

Heutagogy and workplace e-learning

Since its inception heutagogy has been applied in a variety of contexts, including e-learning and work-based learning. Willmott and Barry (2002), for example, discovered in a review of VET that there had been a shift in the sector from pedagogical to heutagogical approaches to learning. They found that curricula in the sector had begun to emphasise the following strategies:

- increased learner responsibility for learning
- increased choice in learning activities
- workplace problem-based learning activities
- group work
- adult learning behaviours
- reciprocal feedback between teacher and learner.

The e-learning environment provides even more opportunities for collaboration, the identification and sharing of content by the learner to meet his or her particular needs, and continuous feedback, for example. The workplace is an ideal learning environment in which to identify knowledge and skill gaps as part of everyday experience and then pursue learning with colleagues and ‘teacher’ in an endeavour to fill those gaps.

Lee and McLoughlin (2007), in the context of higher education, have challenged, through the notion of ‘learner-generated content’, many of the orthodoxies of teaching in higher education institutions that have invaded the move to e-learning. They argue that supplying content is not everything, and that there needs to be an emphasis on learning process, learning to learn, and discriminating between content. The e-learning environment provides opportunities to use “…[new and emerging tools such as] blogs, wikis, RSS, podcasting, social networking, folksonomies and peer-to-peer media sharing [to] enable connectivity and make it easier for students to connect with and learn from one another… [as well as] allow[ing] them to exercise their creativity… [and] enabling collaboration and the production of shared artifacts [that] transcend the boundaries of the classroom or institution” (Lee & McLoughlin, 2007, p. 29). Presumably this involves the lecturer as an active participant who is able to mentor the learner with regards to content validity, verification, linking concepts and generally pointing the way. The lecturer’s role in this is about serving as a compass rather than simply supplying a map, and the learner is far more active in the learning process mediated by Web 2.0 technology.

The recently derived concept of learner-generated contexts draws from heutagogy (Whitworth, 2008; see also Whitworth’s article in this inaugural issue of Impact) and builds upon the central idea of learner-centred learning and the collaborative nature of the relationship between teacher and learner. According to Whitworth, a learner-generated context is characterised by: learner agency in identifying a learning need; the learner being involved in generating content that is validated through others; the learner knowing enough about the technology to manipulate it to meet their learning needs; freedom of choice for
the learner; and learning that is meaningful and involves the environment. Furthermore, Whitworth elegantly cements the idea of learner and teacher in an action research cycle of “… problem recognition, research, design and evaluation” (p. 66). From an e-learning perspective this opens the way for reflection on the application of technologies and their refinement using an action research approach for continuous improvement. In this way, action learning and other reflexive processes can be facilitated collaboratively in an e-learning environment and around real workplace problems.

In their book on ‘renaissance e-learning’, Chapnick and Meloy (2005) have applied the key principles underpinning heutagogy to the practical aspects of offering education online. They suggest that many teachers in e-learning environments are still trying to over-control learning. They contend that instead, learning experiences need to be more organic and spontaneous. As mentioned in the discussion above, people have a natural inclination to find things out for themselves when there is confusion, mild anxiety or some disquiet. Furthermore, the fixed curriculum has less relevance if the person knows how to learn for him/herself.

The idea of a flexible curriculum has been previously noted by complexity theorists working in education, such as Doll (1989), for example, who thought that one of the problems with curricula was the tendency to be fixed and linear – largely modernist in their basic assumptions. Heutagogy proposes, given its somewhat alternative perspective on learning, that the curriculum needs to be flexible, open to change and negotiated with the learner. This does not mean educational anarchy; clearly, there are essential content and competencies to be covered whose inclusion is somewhat mandatory. However, learners need to be able to negotiate how, when, where and to what upper (rather than minimal) level they want to take their learning.

This idea of a flexible, changing curriculum driven by the learning itself, and hence by the learner, has some implications. One of these is that academic boards or accrediting agencies will need to rethink the way in which they approve and/or endorse curricula. They will need to be comfortable with a high degree of flexibility that does not simply rely on fixed objectives, resources and outcomes. There may be a minimum but no maximum level, for example. Another is that the role of the educator changes from lecturer or instructor to facilitator and coach. This requires a new set of skills in negotiating individual learning based on changes the learner might have experienced in his/her own thinking: the ‘Oxbridge’ model comes to mind here. The learner becomes much more of a partner in the learning experience rather than a passive recipient. Given that learning time in education and training programs is almost invariably at a premium, clever resources that facilitate continuous self-assessment, reflection and then re-design of the learner’s personal curriculum could enable this negotiation process.

Another implication, and perhaps most controversial, is that assessment needs to be flexible and negotiated. E-learning environments provide affordances that offer the potential to achieve the level of flexibility demanded, while aligning assessment with the objectives or content of a course of study. Assessment can be designed so that the learner has to engage with and actively demonstrate understanding/achievement of content and competencies. Heutagogy additionally proposes that learners should be able to negotiate assessment depending on their level of development. The employment of formative, flexible assessment is certainly more in accord with the principles of heutagogy than is the sole use of summative assessment.

Formative assessment, coupled with negotiation or coaching sessions with the learner, provides opportunities to monitor progress as the learner develops. In face-to-face environments, where training might be delivered intensively over two or three days or through meetings that are spread out over several weeks, these strategies can be difficult to manage. However, e-learning tools such as asynchronous discussion groups, as well as synchronous chats and Web conferences that entail time commitments in much shorter instalments, make this much easier and more feasible. Given easy access for learners and
educators, assessment in e-learning (e-assessment) formats can involve smaller and more frequent tasks and deliverables, which consequently lend themselves to the formative assessment paradigm. Using the principles of heutagogy, assessment can also be designed to be collaborative (Albon, 2006), where the collaboration encompasses both peer-to-peer and learner–teacher interaction.

Negotiating assessment can increase learner motivation and involvement by improving its meaning in the eyes of the individual. One of the obvious examples of assessment in workplace learning that has become commonplace is projects that have a relationship with the learner’s work and that may have practical, job-related outputs and outcomes. This may involve learning contracts, which in an e-learning environment can be in the form of ‘living’ documents that are subject to ongoing negotiation, development and evolution. Given an appropriate platform for the facilitation of e-learning, there is ample opportunity, both asynchronous and in real time, for negotiation between educator and learner in regard to these issues. Furthermore, the process can involve groups of learners who simultaneously measure themselves against agreed criteria as well as against the performance of others. Negotiation using e-learning technologies can be much easier to conduct in a formative manner compared with a face-to-face setting, and it can also be significantly less time-consuming.

Learning strategies and ongoing evaluation of learners can and should be designed to take into account their level of knowledge and skill. As noted above, heutagogy was envisaged as a natural extension to pedagogy and andragogy. Tay and Hase (2004) report on a study involving doctoral candidates undertaking research in business settings using what was, for the learners, a new methodology – namely, action research. It was observed that initially, the candidates, since they had no prior knowledge of action research, were extremely dependent on their supervisors; as such, a large amount of teacher-directed learning (pedagogy) took place as basic competencies in research methods were developed. The candidates then appeared to move into an andragogical stage, as described by Knowles (1970), in which they started to bring in their own experiences to contextualise the new learning. Dependence on the supervisors started to wane at this point, with a coaching relationship being established. Finally, as the research progressed to the point of collecting and analysing data (or in some cases, slightly further on), the candidates’ actions and behaviours were seen to exhibit many of the attributes of heutagogy and the supervisors had to adjust their approach accordingly, which mostly meant taking a back seat, observing and providing advice and guidance only as needed and on request.

The heutagological stage, however, poses some very particular challenges. The educator needs to be able to identify when the learner has reached this level of sophistication, be prepared to relinquish control, and then negotiate new learning and assessment strategies depending on the direction in which the learner is heading. McNickle (2003) believes that the online training environment offers rich opportunities for promoting independent and lifelong learning; heutagogy provides an appropriate foundation and framework for fostering the achievement of these goals.

It is well known that people come to structured learning experiences with multiple characteristics likely to affect engagement and performance. Entering a learning situation whereby the learning ‘game’ and its ‘rules’ are somewhat different from previous experiences poses its own set of problems. In other words, suddenly finding that there is opportunity to negotiate learning, that the ‘teacher’ is in fact more of a mentor or coach, that content is provided but there is an emphasis on processes that facilitate the journey through the content rather than delivering it, that assessment appears to be fragmented, and that there is much interaction with people (facilitators, peers, outside experts) in which the learner is expected to actively participate/contribute can all be very stressful to the uninitiated. Coupled with this is the added overhead of having to learn to manage the technology (Whitworth, 2008).
Therefore, not only do learners need a map to negotiate the learning system, they also need a compass to manage the whole process of negotiated learning, particularly early on in the process. The negotiation itself needs to be clear and well structured. There needs to be ample opportunity for explanation and clarification as the learner comes to grips with the question of “just what do I need to do to get through this course?” Much support and scaffolding is then needed on the part of the educator/facilitator, who must take steps to assist the learner in increasing his/her self-efficacy for managing the learning process, and imbue a focus on learning how to learn. It is important to clearly articulate and achieve agreement on expectations, and even consider explicating the philosophy underpinning the design of the learning experience. Structured learning contracts can be helpful, particularly in the early phases when there is a higher degree of facilitator direction.

Again, processes such as action learning provide a way to manage the dynamism of negotiation with the steps of planning, implementing, monitoring and reflecting, which are repeated in a cyclical fashion. Action learning is especially suited to formative assessment and workplace projects in particular. Involvement in the negotiation process is not necessarily restricted to the learner and facilitator; for example, other learners (peers) can be brought into the process as they post their ideas, draft assessment items and/or responses to questions to the discussion forum or shared repository on the workplace intranet, Internet-based blog, or personal communication device. Once again, newcomers to this idea may have problems committing or ‘buying in’, owing to a lack of self-confidence in their ability to take the lead in shaping their learning pathways and those of others, as well as in their ability to assume responsibility for self and peer assessment. In apprehension of being critical of the work of others, for instance, learners may provide trite comments that their peers’ submissions are ‘excellent’ or ‘nice’. It is up to the facilitator to explain and reinforce what is required and assist learners in understanding the underlying rationale.

It must be noted that it is not just learners who may find heutagogical and negotiated approaches to learning difficult to come to terms with. Indeed, adapting to the role of facilitator and coach can also pose quite a challenge for educators, particularly in an e-learning environment. This involves a new culture where motivation, challenge, questioning, feedback and discovery are ongoing rather than restricted to a once-off experience. Relinquishing control may feel like a risk, and the mere thought of it may provoke insecurity and fear.

Harnessing learning in the workplace

Workplaces are dynamic learning environments. More importantly, they are an excellent example of a learner-centred, ‘moving’ curriculum. The learner (worker) is constantly placed in situations where he/she has the potential to become aware of knowledge or skill deficits (if he/she is appropriately reflexive) and then design his/her own strategies and processes for bridging the gap. Similarly, there is an enormous amount of learning occurring daily in workplaces that is at risk of being forgotten or lost. Knowledge management has been shown to be a critical issue for organisations given the changing nature of the workforce that is increasingly casualised and mobile (Gupta & McDaniel, 2002). Problems in designing knowledge management systems lay not so much in data retrieval but in identifying and capturing the knowledge in the first place (Davenport, De Long & Beers, 1998; Lim & Hase, 2007).

There are two key challenges in determining how to approach this dynamic curriculum. The first lies in the process of testing what was discovered. The second involves solving the problem of how to harness that learning and then use it more productively by sharing it with others or at least saving it in some way.

Reflexivity is a critical learning skill associated with knowing how to learn, and thus designing learning strategies that foster its development is essential to the notion of self-determined learning (Hase & Kenyon, 2007). Regular e-learning discussion groups are a way of doing this,
as is using some of the techniques found in action learning such as reflective journals and critical incident reporting. These techniques lend themselves very well to e-learning environments.

Similarly, communities of practice (e.g., Seely-Brown & Duguid, 1991; Wenger, McDermott & Snyder, 2007) are an excellent means of identifying learning and establishing ways to test the newly acquired or generated knowledge through accepted avenues such as empirical research, finding an expert or reviewing the literature. The author of the present article is currently engaged in a project involving facilitating communities of practice with middle managers in an organisation over a two-year period, which includes the use of an online learning environment interspersed with face-to-face meetings. The outcomes yielded thus far have included the addressing of learning gaps as identified by the group, the accessing of expertise within and outside the group, the mutual development and sharing of knowledge and skills, the development of improved facilitation skills, and the development of increased skills in learning how to learn.

At this point, the author invites readers to join him, for a moment, in a flight of fantasy derived from the thinking of Argyris and Schon (1978). It is one in which learning, harnessing that learning and knowledge management are each seen as an integral part of everyday practice in organisations. Intranets and related technology provide a great opportunity to facilitate this by encouraging people to share, discuss, develop and record their learning and content, as suggested by Lee and McLoughlin (2007), cited earlier. This would necessitate something of a cultural shift in which the requirement to engage in these activities became an integral part of the job description and stipulated work activity. Using e-learning environments and techniques could well be the way to facilitate action in busy workplaces.

**Conclusion**

Given the rapid rate of technological change in terms of how we work and communicate, the jury is out on what the future holds. What we can be sure of is that this future will be exciting and equally rapidly changing for those involved in education and training. In order to keep pace we need to be prepared to continually challenge prevailing dogmas, and to find new ways of examining and improving current practices. Heutagogy has been one attempt to do this. Our understanding of learning will continue to change as advances in neurophysiology cast more light on how the human brain functions and the interaction between cognition and emotion, for example. It will also be interesting to see how technology and the brain interface in future generations.

What is clear is that learning is no longer solely the jurisdiction of educational institutions and formal or structured education programs, a situation that has been made even more apparent by ICT. People are learning continuously and in multiple contexts, and workplaces are dynamic sites or environments in which such learning occurs. One key challenge is to understand the principles of how to harness, store and share the learning that occurs in terms of both tacit and explicit personal and organisational knowledge. Another is to ascertain how best to use developing technology to integrate this understanding with workplace practice and put it into action.

**References**


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