Chapter 2

So, You Want to Do Heutagogy: Principles and Practice

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Design | Neuroscience | heutagogy principles | PAH continuum | learning leader

In this chapter we explore the practical application of heutagogy. It begins by looking at some of the literature describing how heutagogy has been used in various contexts. We also examine the concept of the learning leader and what attributes they need to have in order to use heutagogy. The learner also needs to be prepared to adopt a heutagogic approach and we view this through the lens of the Pedagogy-Andragogy-Heutagogy (PAH) continuum. Finally, a number of suggestions are made about how agency may be applied.

The heart of heutagogy

In the three years before the concept of heutagogy was derived (Hase & Kenyon, 2000), Chris Kenyon and Stewart Hase had been working together delivering a postgraduate program in an Australian university to members of the Royal Australian Airforce. Participants were changing roles from operational positions to organisational development consultants. Chris and Stewart had been involved in education for many years and shared a common view about how people learn best, most of which is described in Chapter 1. They were interested in developing people fit for the environment in which they were going to work. Experience in the world is largely non-linear, unpredictable and so is learning, but most curricula are linear and not suited for learning in workplaces (Hase, 2009).

Chris and Stewart designed a course that placed the learner at the centre of the learning process, as full partners in designing their own learning. This is at the heart of heutagogy. Of course, there were fixed outcomes to be achieved and certain essential content, but we wanted to engage the learner in doing three things. First, they gave their learners the detailed curriculum, complete with the minimum learning outcomes that needed to be achieved. They also provided suggestions for learning activities, projects and assessment, but these were all negotiable.

Second, they encouraged learners to go as far as they wanted in exploring things that interested them. This involved designing activities that encouraged research and increasing scope to explore particular topics. More importantly, they wanted participants to come up with novel ideas and approaches to whatever it was that they were researching. For example, the flipped classroom approach provided a forum for discussion, feedback and appraisal. Every learner had the responsibility to help develop the other as well as learn from them. Chris and Stewart used a lot of experiential learning in which they accessed emotions to motivate and embed learning. Project-based learning was a major learning process that was also negotiable. As much as possible, scaffolding was avoided so that many parts of the curriculum could be melded together in a project and not seen as sequential. Thus, didactic teaching was avoided completely,

enabling the learner to use the resources available to them on the Internet, in the library and by talking to experts in the field.

Third, the learners designed, in consultation with them, their own assessment. The assessment was formative rather than summative, aiming to be a learning experience rather than a challenge. Thus, assessment was chunked and associated with learning activities. So, Chris and Stewart were interested in developing people as capable learners, as well as capable practitioners – the two being seen as interrelated. The aim of enabling learners to engage in areas of interest to them was also at the front of negotiated assessment, while not losing the achievement of important outcomes.

Finally, Chris and Stewart focused on self-reflection as a central part of learning with the aim of developing lifelong learners as a part of being professional practitioners. Successful self-reflection is an important skill and it was treated as a developmental process, using group and individual activities to increase self-efficacy and capability.

It was from these humble beginnings that the concept of heutagogy was derived as an extension to andragogy, and antithetical to pedagogy (Hase & Kenyon, 2000). Since that early foray into applying their ideas, large numbers of educators around the world have been prepared to experiment with heutagogy and add to its body of knowledge.

One result of these experiments has been the identification of five main principles underpinning heutagogy (Blaschke & Hase, 2015, 2019; McAuliffe et al, 2011). These are:

- **Learner agency**: The fundamental, central principle of heutagogy is learner agency, where the student is the primary agent of his or her learning, with the learner making decisions about learning, from what will be learned and how, to whether learning has been achieved and to what degree (e.g., self-assessment).
- **Self-efficacy and capability**: Also central to the theory are the principles of 1) self-efficacy, which is the learner's belief in his or her own abilities, and 2) capability, which is the ability of the learner to demonstrate an acquired competency or skill in new and unique environments; the resultant experience of both has the potential to create transformational learning.
- **Metacognition and reflection**: Reflecting upon and critically thinking about what has been learned and the process of learning, in the form of double-loop learning (metacognition), is another principle of heutagogy.
- **Non-linear learning**: The learning path is directed by the learner, and is not pre-defined or sequential, as the learner is responsible for identifying what will be learned and how. As a result, this path can often be chaotic and divergent – much like learning in connectivist and rhizomatic learning environments.
- **Learning how to learn**: While this is partly inherent in the other principles, McAuliffe et al (2011) single out this factor as a key principle of heutagogy.

Towards an evidence-based practice

Heutagogy was built on the shoulders of giants in areas such as constructivism, humanism, capability, systems thinking, and action learning and this has been described extensively elsewhere (e.g. Hase & Kenyon, 2000, 2007; Hase, 2016) and is outlined in Chapter 1 of this book. Since that time, the principles and practice of heutagogy have expanded and refined considerably as more knowledge about how we learn have come to light and people have experimented with self-determined learning and learner agency. In particular, connectivism and rhizomatic learning are consistent with heutagogy (see Chapter 4 for a detailed discussion). In addition, recent advancements in the field of neuroscience have provided some support for heutagogic approaches.

Neuroscience and heutagogy

Heutagogy draws on recent advances in neuroscience, which provides us with a scientific basis for understanding how people learn. Imaging technology has advanced in recent years so that it is possible to study the anatomy of the brain in considerable detail. In addition, it has been possible to watch the brain in action when people are thinking, experiencing

emotions, and behaving. There is not enough space here to go into the full details of the neuroscience of learning, so we have included a summary of some of the interesting neuroscience research that underpins our understanding of how people learn

All brains are different, and our approach to learning is individualistic

People, even small children, come to learning encounters with different experiences, interests and motivations and each with a unique perspective on new information, skills, and experiences. The role of memory and the laying down of new pathways and associations with old learning, and previous experience (memory) is highly individualistic (Benfenati, 2007; Khaneman, 2011). Information might result in quite complex cognitive leaps, thus creating changes in behaviour and new questions arising in the face of new complexities (Jung-Beeman et al, 2004). Thus, learning involves, "…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" (Sumara & Davis, 1997, p. 107).

With this in mind, learning cannot be a one-size-fits-all undertaking. Given what we know about how people learn, personalising the learning experience and supporting exploration and hypothesis building and then testing enables the individual brain rather than constraining or confuse it.

The changing brain

The brain is incredibly plastic and changes dramatically, depending on where a person is concentrating his or her attention (Swartz et al, 2005). If we use one part of the brain more than another, say by playing the guitar for example, then those parts of the brain responsible for left- and right-hand fine movements become denser with neurons. The more we use a particular part of our brain, the more it develops through the release of chemicals called neutrophins (Willis, 2006). Brain plasticity research (Doidge, 2007) shows that highly focused techniques targeted at specific areas of the brain can assist learning. In addition, our motivation to learn is also innate and linked to survival, which might explain why we are good at learning from the beginning of life. Humans are pattern seekers, and there is no way of knowing what these patterns look like when they are formed except by observing behaviour.

As pattern seekers, we attempt to make sense of our environment (Sousa, 2011). Survival is dependent on being able to attend to relevant stimuli in our environment, generate and test hypotheses, create patterns, and then act on this processing. Learners who can establish relevancy through context building are more likely to focus and seek patterns. It has also been shown that arousal (attention and motivation) seems to change neural engagement that is associated with learning (Hennig et al, 2021). Thus, learners who are allowed to choose their own educational path based on need and passion, would be more focused and effective in the learning process

It also appears that working with others is a stimulus that can enhance creativity (Fink et al, 2010). Being exposed to the ideas of others acts as a cognitive stimulant by activating neural networks and creating original ideas.

Emotions and hormones

Emotions and hormones play a vital role in learning, memory, and decision-making (Damasio, 2003; Immordino-Yang & Damasio, 2007, Ingleton, 1999), particularly dopamine. The more satisfying, engaging, and exciting the education process, the more internally reinforcing it is to the learner through the release of dopamine (Willis, 2006). When people solve a problem themselves, they release a host of neurotransmitters such as adrenaline and dopamine in the brain, which create a sense of excitement (Stahl, 2002). Asking questions relevant to the learner has the same effect, which Socrates presumably knew well, although intuitively rather than from brain science. Dopamine has also been shown to be enhance encoding and recall from memory (McNamara et al., 2014), which are critical to learning.

The amygdala, which is central to driving emotions, is connected to areas of the cortex responsible for higher order cognitive functions and learning. Thus, emotions affect learning, as they do analysis, decision-making, and action. Den Ouden et al (2013) demonstrated that dopamine, the hormone that increases pleasure (Cools et al., 2009), reinforces learning in the long term, while serotonin secretion, which is involved with negative reinforcement, enhances learning

only in the short term. Thus, we are more likely to engage with learning that we care about and is relevant to us (Immordino-Yang, 2016).

Persuasion has the opposite effect, releasing hormones that increase resistance (Sagarin et al, 2002; Tormala &Petty, 2002). This will lead us to the conclusion that if learners are given agency to choose their own learning path according to individual passion and need (intrinsic motivation) and to engage in active exploration and problem-solving, learning would be a more pleasurable and longer lasting experience.

Applications of heutagogy

This book contains a number of examples of applications of heutagogy, specifically in promoting and developing learner agency within multiple settings. Below is an indicative, rather than exhaustive, list of of this literature including examples from this book and past research across multiple disciplines (Table 1).

Table 1

Applications of heutagogy

Discipline	In this book	Examples from the literature
K-12 Education	Carberry (2021, Chapter 8); Ecclesfield, Bhanu Kote, and Ecclesfield (2021, Chapter 12); Kaplan, Bar-Tov, Glassner, and Back (2021, Chapter 11)	Andrews (2014); Akyıldız (2019); Canning (2013)
Higher Education	Bali, el Ahwal, Hashad, Fahmy, and Hussein (2021, Chapter 5); Collis (2021, Chapter 14); Crosslin (2021, Chapter 6); Margarit (2021; Chapter 15); Setlhakoo (2021, Chapter 13)	Bul, 2014; Canning (2010); Canning and Callan (2021); Halsall, Powell and Snowden (2016); Richardson, McGowan, and Styger (2017); Snowden and Halsall (2017)
Caring Sciences		Maykut et al (2019)
Engineering		Gazi (2014): Mohammad et al (2019)
Nursing		Albers, (2016); Cordon, (2015); Hurley and Neilson (2013); Canning and Callan (2010); Cordon (2015) Green, and Schlairet (2017); Macdiarmid, Winnington, Cochrane, and Merrick (2021); Schlairet, Green, and Benton (2014)
Entrepreneurship	Garnett (2021, Chapter 16)	Barton (2012); Jones et al (2019)
Journalism		Narayan, Herrington, and Cochrane (2019)
Teacher education	O'Brien and Reale (2020, Chapter 7)	Akyildiz (2019); Ashton and Elliott (2007); Ashton and Newman (2006); Ceylan (2020); Glassner (2019); Hexom and Marlaire (2013); Jaakkola

Discipline	In this book	Examples from the literature
		(2015); Kung-Tech et al, (2019); Northcote and Boddey (2014); Preece and Hamed (2020)
Medical education		Abraham and Komattil (2017); Chacko (2018)
Computer science		Mann et al (2017); Oprean et al (2010)
Mathematics		Mohd Tajudin, Ashikin Suhaimi, Adnan, and Puteh (2020)
Massive open online courses (MOOCS)	Agonács and Matos (2021, Chapter 9)	Anders (2015); Agonács and Matos (2017)
Underprivileged environments		Nkuyubwatsi and English (2016); Kanwar et al (2014)
Theology		Oliver (2016)
Work-based learning	Hase (2021, Chapter 10)	Barton (2012); Hexom and Marlaire (2013); O'Brien et al. (in press); Ridden (2014); Willmott and Barry (2002)
Flexible assessment		Booth (2014); Eberle and Childress (2009); Oliver (2015)
Postgraduate education		Chişiu, (2018); Gregory et al (2018); Tay and Hase (2004); Kenyon and Hase (2010); Tay and Hase (2010)

Since learning in a digital environment has become very popular in recent years, and no less so, given the COVID-19 pandemic in 2020-21, we have provided a summary of some of the research in the area in Table 2.

Table 2

Heutagogy and digital media

Digital Media	Examples from the Literature
Mobile devices and online communities of practice	Cochrane et al. (2014); Cochran and Bateman (2010); Cochrane and Narayan (2013); Gerstein (2013); Narayan and Herrington (2014); Narayan, et al (2017). Price (2014); Narayan, Herrington and Cochrane (2019)
Twitter, blogs, and GoogleDocs	Blaschke (2014b); Chawinga (2017); Junco, Heiberger, and Loken (2010); Wong, Abdullah, and Hamdan, (2020)

Digital Media	Examples from the Literature
Personal learning environments	Hayworth (2016); Hicks and Sinkinson (2015); Mann et al (2018).
Online portfolios and learning journals	Blaschke (2014a); Blaschke and Brindley (2011); Blaschke and Marin (2020)

Later, we look at some ways that you might be able to use heutagogical methods in your learning programs, derived from the literature summarised above. But before we do this let's look at what it takes to implement heutagogy from the perspective of the 'teacher' or who we prefer to call, the learning leader. Then, we'll look at the perspective of the learner who learns within a heutagogic framework.

The learning leader

It should be evident from what you've read so far that an educator wanting to implement heutagogy is going to need to have a particular set of beliefs and attitudes about learning and people. To accept that people have agency means being able to see the learner as central to the learning process rather than the teacher. Be able to resist the urge to teach is a challenge, as traditionally, the teacher is considered the guru or sage-on-the stage (King, 1993) believing that, 'if I don't explain it then the student will not understand'. Instead, the teacher needs to become a guide-on-the-side (King, 1993). It is a question of relinquishing control and being partner with learners in designing their learning, in meeting the curriculum outcomes, and in enabling them to explore and expand the boundaries of their learning.

Hase (2014) proposed a number of attributes and skills that were required for a learning leader using heutagogy. These are shown in Table 3 below.

Table 3

The Learning leader framework/categories (Hase, 2014, pp. 100-101)

Category	Attributes	Skills
The capacity to accept and manage ambiguity	Low need for control Openness to experience * Moderate on perfectionism scale * High stability and low anxiety * Capability NB *Some of "The Big 5 Personality Traits"	Project management Ability to use social media
The ability to foster engagement	Empathy	Interpersonal effectiveness

Category	Attributes	Skills
	Optimism Flexibility to change approaches as circumstances change	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
The capacity to learn	Willingness to change own ideas and beliefs	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 and knowledge (practical skills)
The ability to use open systems thinking	Willingness to empower others	Capacity to frequently scan the external environment and respond to changes Ability to foster participative democracy/collaboration decision-making processes Capacity to work in a team as both leader and as a member Ongoing internal and external analysis of effectiveness (continuous improvement) The ability to filter information (research skills)

The attributes and skills presented here are underpinned by a belief in learner agency and are as much about the relationship between the learner and the learning leader as it is about practical skills.

The readiness of the learner

As well as the learning leader needing to be ready, so must the learner. Hase (2016) argues that humans are born hard-wired to learn, but upon entering the formal school system, they learn to become passive learners. Research by Glassner and Back (2020) and Andrews (2014) further supports this argument and indicates that school children can be self-determined learners when given the opportunity – and can actually transition more quickly to this form of learning than their teachers. The stories shared within this book (Carberry, Chapter 8, & Kaplan et al, Chapter 11) further support these findings.

As we mentioned in Chapter 1, humans are hard wired to learn from the moment they are born by exploring, developing hypotheses about how the world works and then testing them out, failing, watching others, building knowledge and skills, and generally seeking patterns and identifying exceptions: it is both a reactive and a proactive world. It is later that – aided and abetted by schools, gurus, and other adult figures – the child starts to doubt their observations. Teaching, and especially traditional, didactic methods, interpret the world on behalf of us, and remove agency.

Learner skills are never lost, however, despite the best efforts of rigid, teacher-centred school and higher education curricula. If you ask a group of teenagers or adults how they learn when taking up a hobby or new interest, they will tell you that they search the Internet, watch YouTube and TED Talk videos, talk to or watch experts, maybe enrol in a class, experiment, fail, mess around, and test out ideas, even innovate. People know how to learn. But when they enrol in a course, particularly one that is accredited, they give over control to the 'teacher', the curriculum. They become passive rather than remain in their natural state as an active learner.

The pedagogy-andragogy-heutagogy (PAH) continuum

What of those learners who have become accustomed to a more passive, teacher-led, learning experience and find it difficult to transition to a full-on self-determined approach? How can we support students in engaging in more active learning and embracing their agency?

One instructional approach to supporting this "unlearning" process is the pedagogy-andragogy-heutagogy (PAH) continuum. Luckin et al (2010) described how learners can shift from traditional pedagogical learning, transitioning through andragogical (self-directed learning) approaches to finally become heutagogic or self-determined learners. They termed this transition the pedagogy-andragogy-heutagogy or PAH continuum. Using this approach, teachers guide their students from passive to more active learning and toward taking more responsibility in directing their learning. For example, Garnett (2013), an expert on the Beatles, described how, initially, the Beatles were influenced by artists such as Chuck Berry (among many others), which was evident in the Beatles' rock and roll style. He described this as their pedagogy phase. When it came to their Revolver album, Garnett describes how the Beatles started to apply learning obtained from their experience and other influences: this was andragogical learning. Garnett says that we see heutagogy in action with the Beatles' Sergeant Pepper's Lonely Hearts Club Band album as the group were able to be full agents in their own learning by exploring and experimenting with their music.

Embracing one's own agency is not without its challenges, as it requires learners to take more responsibility for their learning. As a student in an online learning environment, Brandt (2013) described the difficulties of adapting to a heutagogic approach, which included frustration with moving out of one's comfort zone. Although she initially struggled with the approach, once Brandt adapted to being self-determined in her learning, she found that she enjoyed the freedom to learn independently. Moreover, she did not want to return to the more traditional pedagogic methods in subsequent courses where teachers did not support heutagogy. This finding is similar to that of Wark (2018) in her research exploring incorporation of emerging technology into the classroom and learner self-determined learning, and also Blaschke (2014a) when incorporating self-determined learning in a graduate program.

Similarly, Msilav and Setlhako (2012) have found that that they needed to nurture students and help them become more active learners in order for them to make the transition from familiar passive forms of learning to self-determined learning. Cochrane and Narayan (2014) found that students needed to be motivated to use digital technology in self-determined learning environments and required support and guidance from instructors during the process. Tay and Hase (2013) showed how they observed doctoral candidates going through the three stages of the PAH continuum while undertaking research using an action research, which was unfamiliar to them. Price (2014) and Andrews (2014) reported a similar experience in school education as students became more independent learners through the support of their teachers. Becoming a lifelong learner might involve the same transition though the PAH continuum with an increase in self-efficacy and competence (Blaschke, 2012, 2019).

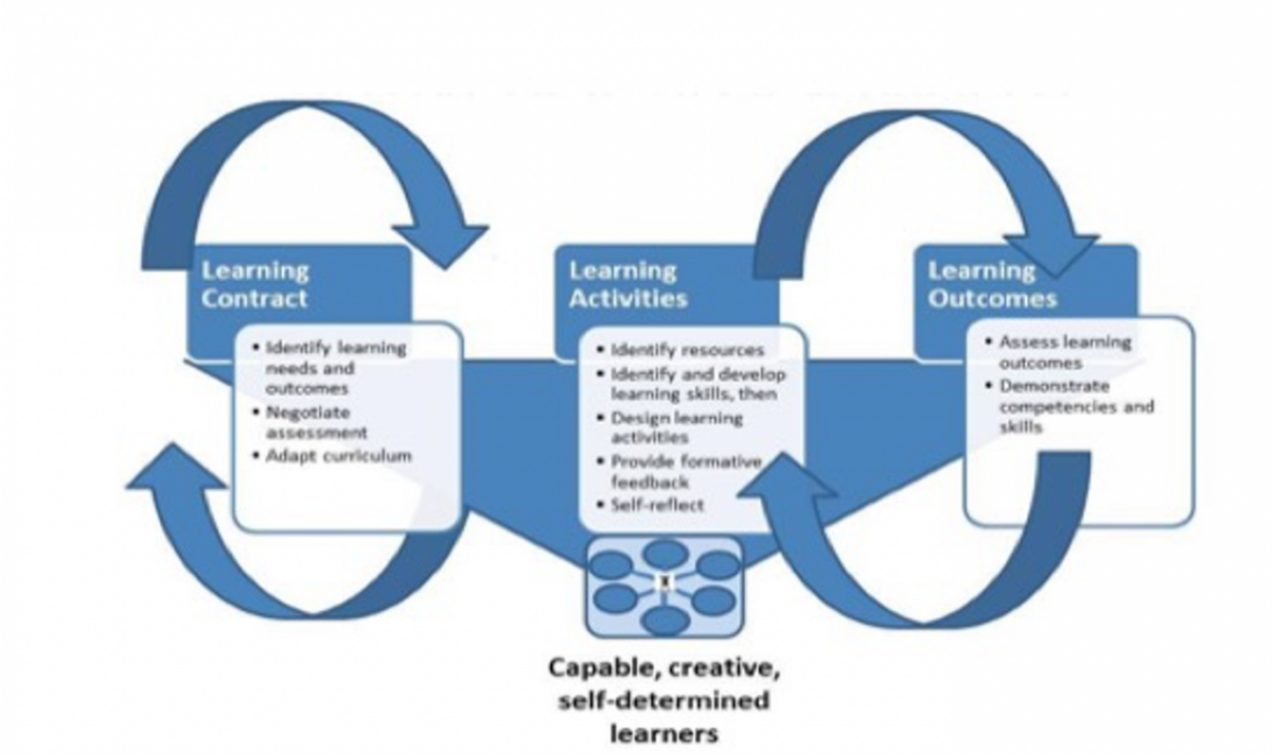
The PAH continuum is a form of scaffolding, but it is aimed more at releasing the inherent agency in those who have become passive learners, rather than increasing conceptual complexity. It has been described in relation to using technology supported personal learning environments (PLEs) to develop self-determined and lifelong learners (Blaschke, 2019), in the use of digital learning networks (Blaschke & Hase, 2019), and in using mobile and social media to help learners become more self-determined learners (Narayan, Herrington and Cochrane, 2019).

Heutagogic design

Designing a heutagogic learning experience is a dynamic process that incorporates feedback loops which enable the learner and the learning leader to modify content and the learning process as the learner identifies new needs, new learning. (See Figure 1 below).

Figure 1

Heutagogy Design (Blashke and Hase, 2015)



Narayan, Herrington and Cochrane (2019) used design-based research in a journalism course to explore heutagogic design elements using digital and social media tools, and discovered these key elements:

1. Design learning activities, tasks and a learning environment that encourage elements of learner participation, personalisation and productivity underpinned by the affordances of mobile and social media tools.
2. Facilitate learning using tools that are open, platform independent and learner-owned.
3. Situate learning in authentic contexts chosen by the learner to enable exploration and experimentation.
4. Design formative assessment events that encourage learner participation and reflection in authentic contexts to inform the process of learning to be.
5. Provide technological support and pedagogical modelling of the use of the mobile and social media tools. (Narayan, Herrington & Cochrane, 2019, p. 99).

It is important to set expectations right from the start. That might mean telling the learner that your approach may be a little different and spelling out what you expect from the learner and what they can expect from you. Using the guide-on-the side approach is easy to understand. You might explain that there will be no lectures in your course or presentation, that meetings will be discussions in which learners will ask the questions or be asked to participate in some way. You will point out that you have provided all the resources needed to complete the course and achieve the outcomes, which you then present to the learners. The main aim is to increase the confidence of the learners in the process and in their ability to achieve course outcomes.

You will explain your role as a guide on the side: that you are available to receive questions and to engage in conversations about the subject material using whatever forum is available. It can be useful to suggest to learners that they are effective learners and that the learning material provides everything they need, but that you are there to make sure that outcomes are achieved.

Heutagogic methodologies

The methodologies that can be used to design a heutagogic learning experience are not hierarchical or prescriptive. Moreover, the learning leader needs to adapt whatever methods are available to their own needs and the needs of the learner. Each learning experience is different. In this section, we provide only a brief note on each methodology, leaving the reader to interpret and adapt to their own experience and practice[1].

Negotiated learning

We've made the point in this chapter that the learner is at the centre of heutagogy. Learners need to be able to negotiate the learning process and content, depending on what learners want to explore and how they want to reach learning outcomes. One way of facilitating this process is to have the learner review her or his unique context. So, while there may be some minimal outcomes, the learner should be able to expand upon these to meet personal needs. Where possible, the outcomes can be flexible to facilitate personal context.

One way of organising a course (formal or informal) is around the personal learning needs of the learner. When conducting a leadership course, for example, you could ask the learner to identify their personal leadership challenges and design it around those. In short, make the learning relevant to the learner.

Context

Enabling the learner to explore how they will apply the learning to their own context is critical to heutagogy. Learners do not enter into or leave a learning experience as a blank slate. Rather, they bring with them previous experiences, and they will take the learning from those experiences and apply it to new experiences. It is not that the learning leader needs to know each learner context, which can be impossible given the number of learners in a learning setting. However, the learner can be encouraged to discover how some phenomenon that is being studied makes sense to them.

Learning resources

Ensuring that the learner can access appropriate learning resources is key to any heutagogic learning experience. The provided resources are not intended to be exhaustive; rather they should be adequate and indicative, so that learners can explore further as part of learning to be an effective researcher. If we choose to apply the PAH continuum, then the resources you provided may be relatively comprehensive at the start but will taper off as the learner pursues their own interest.

In fact, a major component of a heutagogic approach is that the learner is encouraged to discover their own resources as part of their learning journey. A key skill in this information rich world is that of critical thinking and evaluation, where learners are able to sort the wheat from the chaff, fact from fiction, and how to ask the right kind of questions.

Collaborative learning

Learners learn from each other, so the learning leader needs to be able to establish a means of communication amongst learners either face-to-face or using mobile technology, or both. Joint projects, complex questions in which you indicate that discussion needs to take place, flipped classroom, reflection with feedback, and negotiated learning provide opportunities for collaboration.

Questioning

As Eugene Ionesco said, *"It is not the answer that enlightens, but the question."* (1969, pp. 35–36)

The provision of information involves telling. We are doing that right now. But it is not until the learner applies learning or thinks about it within a novel context that real learning occurs. So, an important skill for the heutagogue is the skilled design and asking of questions. The questions should not concern content, since these are more likely to be statements masquerading as questions. Instead, questions should encourage exploration, reflection, insight, and creativity.

Negotiated assessment

The design of assessment that provides the learner with the freedom to assign context, explore beyond the outcomes, to be creative, to innovate and to demonstrate capability is an important skill and a departure from providing standardised assessments. When it comes to demonstrating competency, this needs to be seen as the minimum standard. What we want to encourage is the demonstration of capability, the use of competencies in novel situations rather than just the familiar

Project-based learning

Projects can be as simple and as complex as the learning leader and the learner wish. One project I witnessed in a school involved the purchase of a shipping container which the class turned into a classroom and then shipped overseas to a needy country. This project involved multiple aspects of the curriculum such as mathematics, business, English, geography, politics and social science, for example. Learners are involved in every aspect of the project, including thinking of a useful project, design and planning.

Portfolios and learning journals

Portfolios and journals can be used as a part of assessment or can be a learning strategy in their own right. Here we are encouraging the learner to become more aware of their learning, areas to be explored, to be reflective and to manage their own learning.

Flipped classroom

We've discussed the flipped classroom previously. It is a powerful approach to having learners do their own research and have to present it to their peers. The learners take control of the curriculum, in a sense, by presenting selected parts of it to their colleagues and then reflecting on it together to identify personal meaning.

Action learning/research

Action learning and action research are related ideas that fit well within a heutagogic framework. They are both emergent activities and reflect agency. Action Learning provides a process of Plan, Act, Reflect and then Plan again that is particularly useful as a reflective process in learning.

Reflection

Reflection is central to heutagogy as a major way in which we learn. It provides an opportunity for not only simple learning but also double loop learning and metacognition. Reflection can be an individual or a group activity and accompany almost any other learning activity.

Conclusion

This chapter has presented the central principles of heutagogy, alignment of heutagogy with neuroscience research, and examples of applications of heutagogy within multiple disciples and across multiple settings, from K-12 to higher education and vocational education, as well as within professional development and lifelong learning communities. Learner agency, the primary principle of heutagogy, is essential in order for learners to fully experience self-determined learning. Principles of self-efficacy and capability, reflection and metacognition, and non-linear learning are essential characteristics of any heutagogic learning setting, while learning to learn is a critical outcome for any self-determined learning experience. For a heutagogic learning experience to be truly realised, it must occur in an environment where learners not only have agency, but where there is also trust: trust of the teacher in the ability of students to be self-determined in their learning, trust in the teacher in themselves that they can be guides of students in their learning, and trust of the student in their ability to be self-determined learners and trust in their teachers to guide them in their learning.

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[1] A detailed description of methodologies that support self-determined learning can be found here: https://learnlife.com/alliance/methodologies

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