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Strategies for Implementing Self-Determined Learning (Heutagogy) within Education:
A Comparison of Three Institutions (Australia, South Africa, and Israel)

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ABBREVIATIONS

ICT	Information and communication technologies
K-12	Kindergarten to 12th grade level
LMS	Learning management system
MOOC	Massive open online course
OER	Open educational resource
PAH	Pedagogy – andragogy – heutagogy
PLE	Personal learning environment
SPS	St. Paul's School
Unisa	University of South Africa

ABSTRACT

Heutagogy, or the study of self-determined learning, has been gaining interest within the field of education as a response to market demand for creative and competent employees who can adapt quickly to continuously changing, complex workplace environments, and an increasing number of educational institutions have begun to explore and implement self-determined learning within their organizations. When combined with today's technology, heutagogy offers a holistic framework for teaching and learning that supports development of self-determined, autonomous learners and provides a basis for creating holistic, learner-centered education environments. However, the literature on self-determined learning contains limited guidance for realizing a self-determined learning approach within educational environments. This research presents three case studies of institutions – two in higher education, one at the K-12 level – where self-determined learning is being practiced. Strategies and methods used by the institutions, as well as emerging best practices, are identified and discussed.

1 INTRODUCTION

Globalization, the rise of the white-collar worker and the knowledge economy, and rapidly changing technology have all contributed to the growing complexity of today's work environments. A university or vocational degree is no longer the final threshold of learning, and employers expect their employees to continuously learn in order to remain productive and relevant entities within the organization. Learning has become a lifelong endeavor. Technology is on the forefront of leading this change, and the steady rise and expansion of today's technologies has made knowledge readily accessible and further opened new avenues of learning, as well as influenced the ways in which learners learn. Demand for new forms of education that better prepare students for lifelong learning are on the rise (Little & Ellison, 2015; Robinson & Aronica, 2015; Sharpe, Beetham, & de Freitas, 2010; Ackoff & Greenberg, 2008; Kamenetz, 2010). As a result of this increasing demand, educational theories such as heutagogy – or self-determined learning – have become even more relevant.

Heutagogy, or the study of self-determined learning, was first defined in Australia by Hase & Kenyon (2000; 2007) and provides a holistic framework for organizing and conducting learning and teaching within formal education, and also creates a foundation for practicing informal learning throughout one's lifetime. Vocational institutions and workplace training have been on the forefront of experimenting with heutagogy (Bhoryrub et al., 2010; Ashton & Elliott, 2007; Ashton & Newman, 2006; Canning, 2010; Canning & Callan, 2010; Gardner et al., 2008; Kenyon & Hase, 2001, 2010); more recently, self-determined learning has also gained interest within higher education and primary school settings due to its learner-centered approach (Msila, 2015; Baijnath, 2014; Andrews, 2014; Cochrane & Narayan, 2014; The Center for Progressive Pedagogy, 2016). Ongoing technological developments such as the Internet, social media, and MOOCs have resulted in an increased interest in the theory, as affordances of the new technologies align closely with heutagogic theory (Anderson, 2010; Cochrane & Bateman, 2010; Lee & McLoughlin, 2010; McLoughlin & Lee, 2007, 2008; Blaschke, 2012; Anders, 2015). Although implementation of heutagogy has been reported in a variety of educational settings (Blaschke, Kenyon, & Hase, 2014), there remains demand for information about the theory. In particular, guidance and strategies for implementing the approach are lacking within the research. This thesis will discuss the basic tenets of heutagogy, its fundamental principles and concepts and underlying theories, and presents case studies of three institutions that have introduced heutagogy into their classrooms.

2 LITERATURE REVIEW

2.1 What is Heutagogy, or Self-Determined Learning?

Heutagogy was first defined by Stewart Hase and Chris Kenyon (2000), both from Australia, as the study of self-determined learning. The theory applies a holistic, humanistic approach to developing learner capacity and capability and makes learners "the major agent in their own learning, which occurs, as a result of personal experience" (Hase & Kenyon, 2007, p. 112). In self-determined learning, learners not only define what they will learn, but how they will learn it – and given full agency of their learning environment, content, and process.

Heutagogy is grounded in earlier learner-centered educational theories and concepts, and is itself a theory that has emerged over time, evolving through a process much like that described by Albert Einstein (1938):

> Creating a new theory is not like destroying an old barn and erecting a skyscraper in its place. It is rather like climbing a mountain, gaining new and wider views, discovering unexpected connections between our starting points and its rich environment. But the point from which we started out still exists and can be seen, although it appears smaller and forms a tiny part of our broad view gained by the mastery of the obstacles on our adventurous way up. (Albert Einstein, in Einstein & Infield, 1938, pp. 158–9, as cited in Anderson 2010, p. 23)

A variety of educational theories have contributed to the development of heutagogy, theories such as humanism (Maslow, 1943; Rogers; 1961), constructivism (Vygotsky, 1978), reflective practice (Schön, 1983, 1987), double-loop learning (Argyris & Schön, 1978), andragogy (Knowles, 1975), transformative learning (Mezirow, 1990), capabilities (Stephenson, 1996; Stephenson & Weil, 1992), and self-efficacy (Bandura, 1977). As such, the theory of heutagogy or self-determined learning can be considered a continuation, or extension, of the theories that have preceded it, a progression and refitting of older theories to fit the emergent demands of a global society and the digital age.

2.2 The Pedagogy-Andragogy-Heutagogy Continuum

Heutagogy is often considered to be a continuum of andragogy (self-directed learning), the study of teaching and learning for adults (Canning, 2010; Knowles, 1975), also known as the PAH continuum (Figure 1). Within the PAH continuum, learners progress from pedagogy to andragogy, and finally to heutagogy. Proponents of the PAH continuum argue that a greater level of learner maturity and self-organization is required in order to advance through the continuum (Luckin et al., 2010; Garnett, 2013). As learners become less dependent upon the instructor for guidance and structure within the learning process (pedagogy), they are able to advance through the continuum to more autonomous and less structured learning environments.

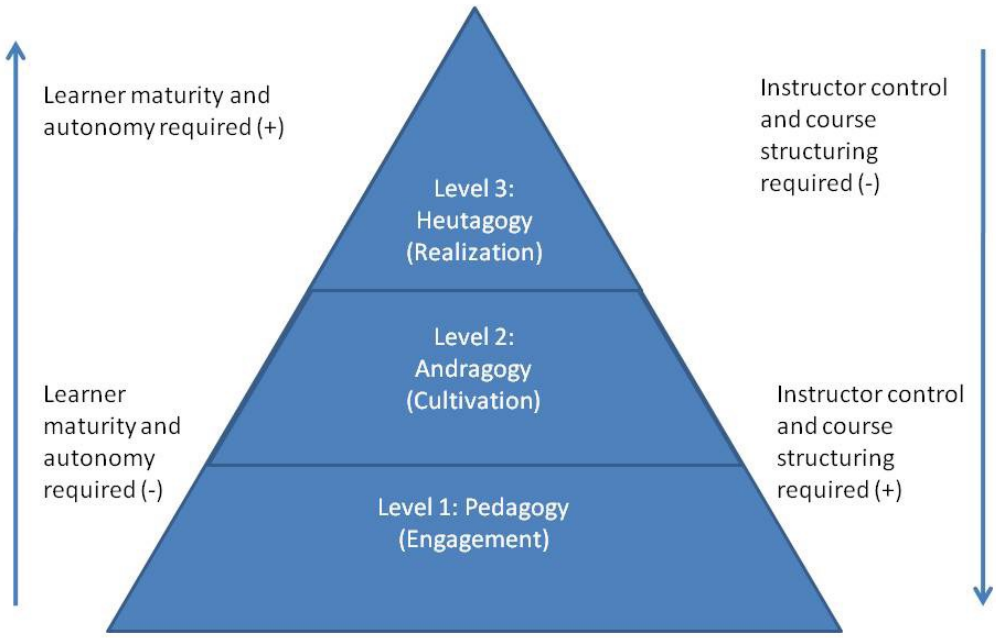

Figure 1. Progression from pedagogy to andragogy then to heutagogy (Blaschke, 2012, p. 60, based on Canning, 2010, p. 63).

At the first level 1 (pedagogy), instructors are firmly in control of the learning process, working toward motivating students to engage in learning content, for example, by defining specific instructional goals and learning objectives and activities along a structured, linear path. At the next level (andragogy), the instructor begins to cultivate the learner's ability to self-direct his or her learning, allowing him or her more freedom in directing how learning occurs and providing less structure in the course design. However, the instructor is still the primary agent in the learning process, continuing to scaffold and construct the learning experience, while allowing a higher degree of learner autonomy. At the heutagogy level (level 3), the learner assumes full control of his or her learning and is granted complete autonomy in deciding how he or she will learn.

With pedagogy and andragogy, the instructional focus is primarily on dissemination of the content and learning, which occurs in a linear way (that is, with instructor-defined learning outcomes). As a learner-centered theory, heutagogy places the emphasis on students determining their learning path and on helping students understand how they learn. Learning is active and participatory, driven by the learners, who are proactively involved in the process of learning (e.g., through discovery and reflection, creation of new content/information, and collaboration with others). This form of self-determined learning occurs in a non-linear manner, giving the learner full agency and following a self-defined learning path not designated by the instructor: from the early stages of learning design to final assessment of how and whether learning has occurred. While student learning is a persistent goal

of pedagogy, andragogy, and heutagogy, the approaches used for teaching and learning are different. Table 1 presents a delineation of the critical differences between pedagogy (teacher-directed learning), andragogy (self-directed learning) and heutagogy (self-determined learning).

Table 1. Heutagogy as a continuum of andragogy. (Based on Blaschke, 2012)[1]

Pedagogy (Teacher-directed)	**Andragogy (Self-directed)**	**Heutagogy (Self-determined)**
Some single-loop learning	Stronger emphasis on single-loop learning	Single and double-loop learning
Knowledge transfer and acquisition	Competency development	Capability development
Linear design of courses/curriculum and instructor-directed learning approach	Linear design of courses/curriculum with learner-directed learning approach (e.g., organizing his/her learning)	Non-linear design and learner-determined learning approach
Instructor-directed	Instructor-learner directed	Learner-determined
Getting students to learn (content)	Getting students to learn (content)	Getting students to understand how they learn (process)

2.3 The "Non"-PAH Continuum Perspective

A somewhat opposing view to the PAH continuum is held by Hase & Kenyon (2013), who believe that the ability to be a self-determined learner is innate to humans and exists at a very young age. They argue that: "…young children are very capable learners. But as we get older our education system seems to suppress our wish to ask questions, by telling us what we need to know" (p. 9). This belief in the basic human ability to be self-determined in learning is also well aligned with the educational approach used, for example, by the Montessori schools (Lillard & Else-Quest, 2006). Ackoff and Green (2008) assert that:

> The common view is that children are rather passive creatures at birth, and unless there is contestant active stimulation by adults, they will not develop properly. This view is also widely held to be true for older children, even adolescents…however, anyone who observes children closely soon comes to the conclusions that they cannot grow up and master the world quickly enough. Nature endows them with the innate drive to become adults…indeed, only an enormous effort can stop a child from realizing her tremendous drive to grow and mature. This drive is a fundamental characteristic of young animals that is essential to the survival of species throughout the living world. (p. 125)

[1] See also Kanwar, Balasubramanian, & Abdurrahman (2013) Table 1: Three approaches in learning for an expanded description (p. 23).

Others argue that both viewpoints are valid, but that there may be those learners who must relearn self-directedness in their learning approach in order to advance to a state where they can practice self-determined learning (Blaschke, 2014a).

2.4 Heutagogy vs. Self-regulated Learning and Self-determination Theory

Heutagogy should not be confused with self-regulated learning or with self-determination theory. In self-regulated learning, "students are self-regulated to the degree that they are meta-cognitively, motivationally, and behaviorally active participants in their own learning process…students monitor the effectiveness of their learning methods or strategies and respond to this feedback" (Zimmerman & Schunk, 2001, p. 5; 2011); however, with self-regulated learning, instructors continue to direct student learning and what they will learn. Self-determination theory from Deci & Ryan (1995; 2002) places a significant emphasis on the role of motivation in psychological growth and development. Self-regulation and self-motivation are both components of heutagogy, where the learner must be motivated to learn in a self-determined way, but these are not the singulars aspects of the theory, the principles of which will be described further in the next section.

2.5 Principles of heutagogy

Heutagogy is built around the following key principles: human agency (learner-centeredness), capability, self-reflection and metacognition (double-loop learning), and non-linear teaching and learning (Figure 2). It is holistic and centered around the learner, with the student defining his/her learning journey and supported by the teacher as guide. In applying the theory, there is a shift to learner-centeredness, moving away from traditional pedagogical and andragogical teaching where the instructor is the sage-on-the-stage. In heutagogy, the learner becomes the sage and the instructor the guide-on-the-side.

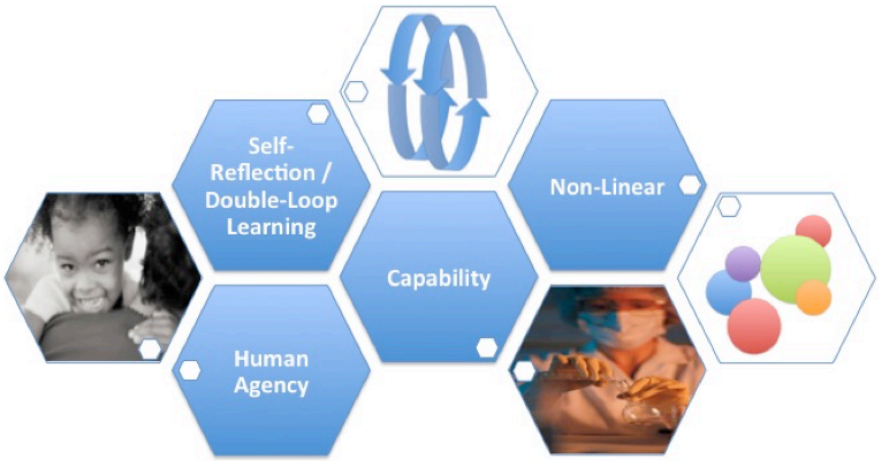

Figure 2. Principles of heutagogy.

2.5.1 Human agency (learner-centeredness)

Human agency, the ability of humans to make own choices in life, is a central principle of heutagogy, where the learner is the agent or driver of his or her learning. Within a heutagogic learning environment, learners are given complete responsibility of the learning process and determine what they will learn and the way in which they will learn and ultimately assess the success of their learning (Hase & Kenyon, 2000, 2007, 2013b; Hase, 2009). Learners become the drivers of the learning process – thus requiring them to be highly autonomous, which can then help them feel more competent and in turn promote development of intrinsic, self-motivation (Deci & Ryan, 2002; Pink, 2009). Giving learners autonomy in defining an own learning path can also empower learners rather than oppress them (Freire, 1970).

2.5.2 Capability

One of the major goals of heutagogy is to create capable learners who are well equipped for the demands of complex and changing work environments. Stephenson (1992) describes capability as more than skills and knowledge and considers it to be necessary in order for students to succeed outside of formal learning environments. According to Stephenson, three factors have established the relevance of capability – factors that continue to be relevant today: "feedback on the quality of graduates; uncertainty and change in society and the work-place; and the growing importance of individual responsibility and interdependence" (p. 3). Competent learners can demonstrate what they have learned, for example, a skill or set of knowledge within a specific context, while capable learners exhibit their capabilities by applying skills and knowledge in new and unfamiliar situations or contexts. While andragogy focuses on the development of skills and competencies, heutagogy takes student learning a step further by placing a focus on building and expanding upon competencies and giving students ownership of learning. This active involvement and ownership of the learning path and process increases learner self-motivation, eventually leading to development of capability. Capability then emerges from a sense of self-efficacy, where learners feel confident in coping with and performing in new and unfamiliar situations and contexts. Other characteristics of the capable learner include creativity, ability to communicate and work with others, and self/confidence (Cairns, 1996; Stephenson, 1992; Stephenson & Weil, 1992; Gardner, Hase, Gardner, Dunn, & Carryer, 2007).

2.5.3 Self-reflection and metacognition (double-loop learning)

Additional and related key principles of heutagogy are that of self-reflection and double-loop learning. Having an understanding of how they learn is essential in order for learners to be successful in adopting self-determined learning. This reflection occurs in a holistic way, with learners reflecting on the new knowledge that they have acquired, as well as the way in which they have acquired it. Dewey (1910) described this process as one in which the learner suspends his or her assumptions and

searches for new information that corroborates or refutes those assumptions or suggestions. In doing so, the learner engages in "systematic and protracted inquiry… (which) are the essentials of thinking" (p. 13). In preparation for the complexities of the work environment, Schön (1983; 1987) argues that learners – and future employees – must become reflective practitioners and adopt certain practices in order to be able to adapt to the demands of the workplace. He describes the reflective practitioner as one who is able to:

- *Know-in action*: Apply what is learned in making decisions.
- *Reflect-in-action*: Think about an activity as it is being carried out (e.g., "thinking on your feet" or "learning by doing").
- *Reflect-in-practice*: Consider the activity that has been carried out and how it has been done so, while applying corrective action (e.g., improvements) to current and future activities.

Double-loop learning is related to self-reflection, extending the self-reflection process further in that the learner (1) engages in his or her thinking about the ways in which his or her personal belief and values systems align with what has been learned and how it has been learned, and then (2) adapts actions and mental models accordingly (Argyris & Schön, 1978; Eberle & Childress, 2005; Eberle, 2013). Double-loop learning is not the same as the single-loop learning characteristic of pedagogy and andragogy, where the learner sets out to find a solution to a problem: first identifying a problem, then potential actions, and finally evaluating outcomes. In double-loop learning, the learner engages in a similar process, but also considers the steps taken to learn and, through self-reflection, how this influences learner beliefs and actions (Argyris & Schön, 1996). As a result, double-loop learning engages learners on both behavioral and psychological levels. In undertaking this process, learners fully engage in reflective practice and begin to challenge their previously held assumptions, thus opening up opportunities for transformative learning to occur (Mezirow & Associates, 1990).

2.5.4 Non-linear teaching and learning

A final element of heutagogy is non-linear learning, where the learner is responsible for learning and defines the learning pathway; as each learner's experiences and mental model varies, the path taken can be divergent and unpredictable (Long, 1990). The aspect of non-linear learning aligns closely with Thorndike's ideas about connectionism "the neural connection between stimuli (S) and responses (R)" (Olson & Hergenhahn, 2009, p. 53), and the theory of constructivism, where learners are actively involved in learning as a process of discovery, and interpret new information and construct new knowledge based on existing models of understanding and by thinking and reflecting upon what has been learned (Tinkler, 1993).

When learners practice non-linear learning, instruction must also be adapted. Dewey (1997) characterized the processes of teaching and learning "as correlatives or corresponding processes, as much so as selling and buying" (p. 29). In adapting to a learner-determined learning path, the role of

the instructor in the process then becomes one of mentor and guide of the learning experience, and there is a "transition of the perception of power away from the teacher or facilitator to the learner" (Long, 1990, p. 69). Hase (2014) refers to instructors in this role as *learning leaders*, exhibiting characteristics such as the ability to handle ambiguity, the capacity to nurture learner engagement and to learn themselves, and the capability of applying open systems thinking (see Table 3 later in this chapter).

2.5.5 Elements of heutagogic design

As heutagogy is centered on the philosophy that learners determine their own learning paths, the learning environment is entirely designed, defined, and built around and by the individual learner, centered on the belief that "the objective of education is learning, not teaching" (Ackoff & Greenberg, 2008, p. 5). Instructors and institutions are no longer at the center of the learning experience – learners are. Due to its learner-centered focus and the learner role as self-determined and autonomous, heutagogy creates a new dynamic in education and designing for heutagogy requires all stakeholders in the system to adapt: from instructors and learners to the institution as a whole. Table 2 identifies the central elements that should be considered when designing for heutagogy. Central to heutagogic design is human (learner) agency, with the learner driving the design process while guided by the instructor.

Table 2. Designing for heutagogy: Elements. (Based on Blaschke & Hase, 2015a)

Element	**Description**
Exploration	Non-linear searching of new paths of learning; creation of a culture of learner discovery and inquiry
Creation (Creativity)	Development of new content by building upon what has been learned
Collaboration	Working with others to build and construct new knowledge and content
Connection (Community)	Connecting with others both inside and outside of the classroom to create new networks for supporting learning; creating personal learning environments for lifelong learning
Reflection	Thinking about what has been learned and how it has been learned, as well as how this process and the new knowledge acquired influences mental models, beliefs, and values
Assessment	Considering how and whether learning has occurred both individually and as a group; establishing the means by which learning will be assessed
Openness (Sharing)	Sharing of new content with others in the community; showcasing acquisition of skills and competencies

2.6 Strategies and Methods for Realizing Heutagogy

How do we implement these elements to support development of self-determined leaders? What strategies need to be in place within the educational institution? Creating an environment that supports self-determined learning is not solely an endeavor of the individual learner. It requires a holistic approach involving instructors and organizational management and leadership, and one where all stakeholders have a solid understanding of heutagogy and its principles and how implementation of self-determined learning will impact them.

2.6.1 The role of strategy

According to Chandler (1962), strategy is defined as: "the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals" (p. 13, as cited in Mann & Götz, 2000, p. 232). Schermerhorn & Chappell (2000) provide a further definition, describing strategy as "a comprehensive plan that sets direction and guides the allocation of resources to achieve long-term objectives" (p. 89). Context plays a central role in defining the strategy used by an institution, taking into consideration aspects such as organizational strengths and weaknesses, industry opportunities and threats, values of those implementing the strategy, and the expectations of society (Figure 3, Porter, 1980).

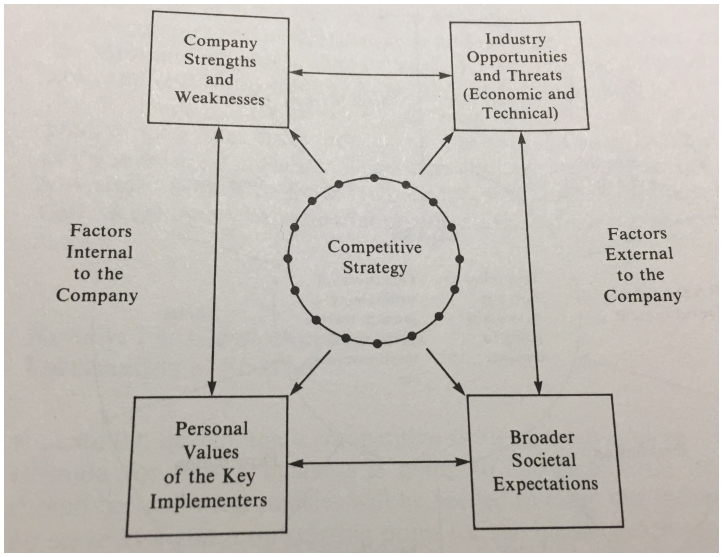

Figure 3. Role of context in defining strategy (Porter, 1980, p. xxvi)

Types of organizational strategies include 1) *growth strategies*, where organizations are expanding their current business into a new segment either by either concentrating on a strength or through diversification; 2) *retrenchment strategies*, in which the organization is increasing efficiency through improved processes; and 3) *stability strategies*, where the organization attempts to sustain its current status in the market by focusing on core strengths (Schermerhorn & Chappell, 2000).

The model most often used in defining strategy is the SWOT analysis, where the organization identifies its internal strengths and weaknesses and then compares these to external opportunities and threats (Mann & Götz, 2000; Schermerhorn & Chappell, 2000; Zimmer, 2014). Scheidigger (2001) proposes another model for defining institutional strategy, as shown in Figure 4, where the institution defines its strategy by identifying and analyzing its internal resources and the external influencers.

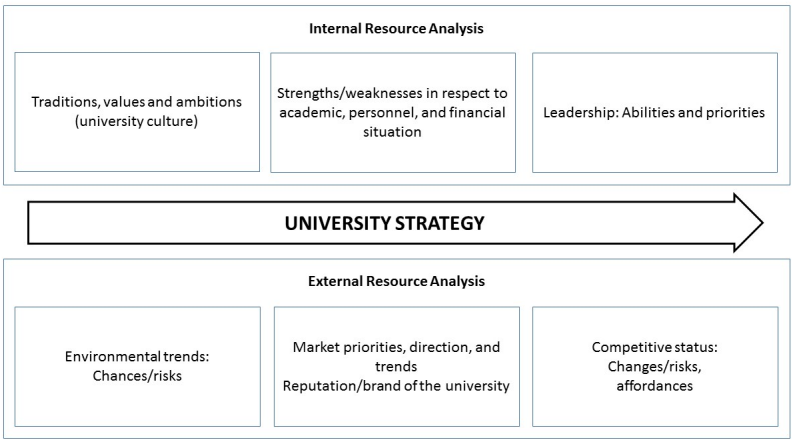

Figure 4: Analysis model for generating university strategies (Scheidigger, 2001, as cited in Zimmer, 2014)

Due to the nature of educational organizations, which can be highly autonomous and sovereign while at the same time heavily influenced by external factors such as federal regulations and funding, defining strategy and realizing change can be extremely challenge (Zimmer, 2014; Robinson & Aronica, 2015). Common methods to implementing strategy are the top-down and bottom-up ("grass roots") approaches – or a combination thereof, which has been found to be the most effective approach (Zimmer, 2014). In a top-down approach, a long-term strategic course is established by leadership and is then enforced by management; in a bottom-up approach, a strategy emerges over time and then adopted by the overall organization (Zimmer, 2014). Zimmer (2014) introduces the element of "strategic learning", which could be considered a form of single-loop learning – even double-loop learning – that is, adapting strategy based on lessons learned from missteps that occur while implementing strategy.

Implementing change within organizations often requires transformation of entire systems. In envisioning the ideal educational environment, Ackoff & Greenberg (2008) describe three requirements in order to realize change to the system: 1) *technologically feasible* (based on using currently available technology), 2) *operationally viable* (in the current and in the proposed/new environment), and 3) *continuously improvable* (sustainable).

To create an environment conducive to heutagogy, Snowden & Halsall (2014) advocate creating open learning spaces (habitus) for learners through solution-focused teaching and learning and mentor-assisted learning. Bacon & MacKinnon (2014) propose another framework, one that develops

metacognition in students so that they are better equipped for self-determined learning. Based on their experiences with EdCamp unconferences, Carpenter & Linton (2016) argue that within professional development, there needs to be a shift toward more forms of self-determined learning, where the educator as learner defines what will be learned and how. In childhood education, Kizel (2016) recommends the following when implementing self-determined learning: learning from a place of questions vs. providing a corpus of answers; a community that facilitates a form of learning that resists the omniscience educational hierarchy; the coordinator as participant in the learning process vs. "judge"; present vs. future oriented; improvisation vs. predetermined content; and learning as liberating the learner from disciplinary boundaries (pp. 4-9).

2.6.2 The role of culture and context

In realizing a heutagogic environment, it is critical that the institution creates and sustains a culture of self-determined learning. These cultural issues must be addressed, for example, when the approach is a new concept and pre-existing expectations of teaching and learning are held by those within the institution (learners, instructors, and institutional management) and externally (stakeholders such as parents, future employers, and society in general) (Long, 1990; Robinson & Aronica, 2015).

To address these issues, a campaign of awareness, promoting an understanding of self-determined learning can be undertaken, where a clear and shared understanding of and commitment to heutagogy is promulgated. There must also be a commitment to self-determined learning by both the learner and the instructor, where the learner understands his or her responsibility for learning *and* is willing to take on that responsibility. Instructors, too, must understand and embrace their role as guides and mentors of the learning experience. In addition, the institution or organizational structure needs to be a proponent of self-determined learning and provide the necessary infrastructure of support for implementing heutagogy.

2.6.3 Student as self-determined learner

The potential for student resistance to self-determined learning cannot be underestimated and should be acknowledged by instructors and institutions from the onset. With heutagogy, students become active participants in their learning, often forced to move out of their comfort zones, and experiencing failure before achieving success. Reasons for student resistance can include a fixed expectation of the instructor role; a fear of failure; a lack of traditional and externally accepted measurements of individual learning progress and success; a lack of motivation to learn in a self-directed and self-determined way; and inexperience in and uncertainty about the learning approach (Blaschke, 2014a; Stephenson & Weil, 1992).

When encountering student resistance to heutagogy, the following steps can be taken to help learners gain ownership and become agents of their learning: explaining the approach to students and its

relevance to the student's present and future goals and contexts; exposing students to professional practice (e.g., requiring action research and application of new knowledge in familiar and unfamiliar environments); employing peer support; encouraging self-monitoring of progress and providing feedback on student progress; and reporting stories of others' success in using the approach (Long, 1990).

As guidance for learner and instructor collaboration, Andrews (2014) introduces the FACE model, which includes elements of: *flexible and negotiated curriculum*, *assessment* that is likewise flexible and negotiated, *contracts* defining learner-defined pathways, and *enquiry-based questions* generated by learners. Flexible learning contracts, a two-way process between learner and instructor, are also described and recommended in Stephenson & Weil (1992) and Long (1990) as a means of aligning learner goals with institutional and instructional objectives and for promoting learner self-actualization and reflection on the learning process. These contracts should incorporate learner-centered methods for design and assessment and support a structural (scaffolded) progression through learning material, one that moves students toward more self-managed learning and autonomy (Stephenson & Weil, 1992).

In addition, instructors need to promote ongoing reflection on the learning process, for example, by asking learners to relate new information to past experience and to their feelings, values, and perceptions, and then having them re-evaluate their experience based on the new information acquired (Boud, Keough, & Walker, 1985). Instructors can achieve this by providing learners with "a context and a space to learn, give support and encouragement, listen to the learner, and provide access to particular devices which may be of use" (Boud et al, 1985, p. 38). Techniques that are helpful in realizing reflection include inquiry-based questioning within classroom discussions, autobiographies, and reflective learning journals (Boud et al, 1985; Blaschke & Brindley, 2011).

Development of a learner's sense of self-efficacy can emerge from this process of self-reflection. Encouraging a growth mindset, where basic qualities are cultivated by personal effort (Dweck, 2006), can also contribute to self-efficacy development and to the success of heutagogy. Failure need not be viewed as a negative result of learning, but rather a desirable stepping-stone to achieving real learning and success. Bandura (1977) states that: "To succeed at easy tasks provides no new information for altering one's sense of self-efficacy, whereas mastery of challenging tasks conveys salient evidence of enhanced competence… Thus, people who experience setbacks but detect relative progress will raise their perceived efficacy more than those who succeed but see their performances leveling off compared to their prior rate of improvement." (p. 201). The more varied these experiences are, the more success a learner will have in developing self-efficacy.

Maker-spaces are one way in which instructors can help students develop self-efficacy and a growth mindset, as these hands-on learning activities allow learners to design, create, and collaborate, while

also experiencing and learning from failure. Gerstein (2015) describes these spaces as giving learners "a can-do attitude and a growth mindset – a belief that your capabilities can be developed, improved and expanded. It's not just a matter of what you know, it's a matter of taking risks and perhaps failing and learning from those failures. It's a matter of being open to exploring new possibilities and developing your full potential." (para. 20).

Making use of *open educational resources (OER)* is yet another means for supporting self-determined learning. OER not only allow for the free re-use and sharing of educational resources, but also the remixing, revising, and redistribution of those resources (Wiley, 2014). The open educational movement, supports an open learning culture (Price, 2013) and makes educational resources more freely available to both learners and instructors, while also giving them the opportunity and the ability to create and collaborate on and share educational resources. Massive open online courses (MOOCs), a technological framework in which open educational resources can be created and distributed, are another way in which learners can explore and engage in self-determined learning (Anders, 2015; Beaven et al., 2014).

Although students may resist a transition to self-determined learning, once they have "crossed-over" to this type of learning, there is less desire to return to more traditional educational forms. Brandt (2013) describes her experience of transitioning to heutagogy – a transition she initially resisted – as empowering and one that led to transformational learning: "Having tasted the freedom of learning and getting the benefit of university credit for it, I wanted more. I wanted to write to the instructors and relate my ideas and tell them where I needed new knowledge. The years of disciplined obedience kept me quiet – grades are important, after all" (p 103).

2.6.4 Instructor as learning leader

In self-determined learning, the role of the instructor does not become diminished, but rather is enhanced and – as with the student role – empowered. In adopting their new role as guides of learning, instructors become situational leaders, ones who "must adapt his or her behaviour to suit the readiness of an individual for a particular task, function, or activity" (Long, 1990, p. 149). This transition to situational leadership requires that the instructor model desired behaviors, identifies the readiness of the learner for learner managed learning (willingness, knowledge, and ability), and works to engage and motivate the learner in actively partaking in the learning process (Long, 1990). Empathy and positive reinforcement, for example, in the way of formative assessment and feedback, are instrumental in achieving this goal (Booth, 2014).

New skills and attributes become incorporated into the instructor profile as the instructor moves toward heutagogic teaching and develops his/her role as a learning leader (Table 3).

Table 3. Attributes and skills of the learning leader. (Blaschke & Hase, 2015a)

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

To assist instructors in the transition to learner-managed learning environments, Long (1990) recommends starting small in initiating the approach; modeling self-organization and time management skills; practicing team work and peer mentoring and collaboration; and providing staff development on the principles of the approach. Creating teams of instructional designers and instructors in designing and creating heutagogic environments is also recommended, as is providing instructors with opportunities (e.g., time and money resources) for the autonomous pursuit of their own learning in embracing their new role (Andrews, 2014). Communities of practice built to provide instructor support and sharing of experiences and practices are also a productive way of assisting instructors during and after the transition (Andrews, 2014; Hexom, 2014; Price, 2014).

Although not new to education, *flipped classrooms* – combined with technology – are also an effective method for creating heutagogic environments. Flipped classrooms allow students to self-direct their learning activities using media such as online videos, chats, and discussion forums when outside of the classroom, while using the face-to-face classroom to actively collaborate with peers and engage in discussion, exploration, and hands-on activities.

2.6.5 Institutions as networks of support

When transitioning to self-determined learning, the institution takes on the role of supporting network, one that must support both learners and instructors in their new roles. To assist students, Schön (1983) advises that institutions provide student practicums and real-world, practical examples within the curriculum, and to create networks with the professional world from which students can both benefit and learn. To realize their transition to providing a network of support for learners, institutions need to spread the net wider and work more closely with employers in order to gain a better understanding of workplace requirements and demands and to create connections from academia to the professions (Stephenson & Weil, 1992). The role of the institution is no longer strictly accreditation, but one of enabling the networked connections critical to student success in transitioning to and surviving in today's workplace. To help instructors adapt to the transition, institutions need to provide initial and ongoing staff development and support. When hiring new staff and faculty, it is critical to hire and train those who value a self-determined approach to learning and teaching.

Change within institutions can be challenging, and a move toward heutagogy can push against the status quo. Stephenson & Weil (1992) find that: "New approaches inevitably test these structures. Navigating the pathways to change can be unnecessarily burdensome, requiring high commitment and political ingenuity for success" (p. 181). As with any institutional change, executive management leadership is essential, and it is critical to obtain management support, as well as to recognize and support champions of change within the organization (Yukl, 2000).

2.6.6 The role of technology

In 1983, Schön wrote the following, describing the most desirable environment for reflective practice to occur:

> A reflective teacher needs a kind of educational technology which does more than extend her capacity to administer drill and practice. Most interesting to her is an educational technology which helps students become aware of their own intuitive understandings, to fall into cognitive confusions and explore new directions of understanding and action. (Schön, 1983, p. 333)

Although Schön could have in no way predicted the revolution brought about in education by rapid technological development, his description is remarkably prescient in that it portrays affordances that are characteristic of today's educational technologies, specifically the freedom to explore, create, collaborate, connect, and share. This alignment between technological affordances and self-determined learning is particularly relevant when considering the current educational trend toward more learner-centered education. The New Media Consortium's 2015 Horizon Report on technology in higher education acknowledges this trend, stating "a student-centered approach to education has taken root, prompting many higher educational professionals to rethink how learning spaces should be configured" (p. 18).

Heutagogy aligns well with the affordances of current technology, in that the technology supports exploration, learner-determined learning, and personalization of learning; is non-linear in its design; promotes creation and sharing of information and knowledge; allows for collaboration in co-creation of new information and knowledge; and promotes a network of connectivity that can bridge the gap between academia and the professions, while creating personal learning environments (PLEs) and networks for lifelong learning (Blaschke, 2012; McLoughlin & Lee, 2007; Figure 5).

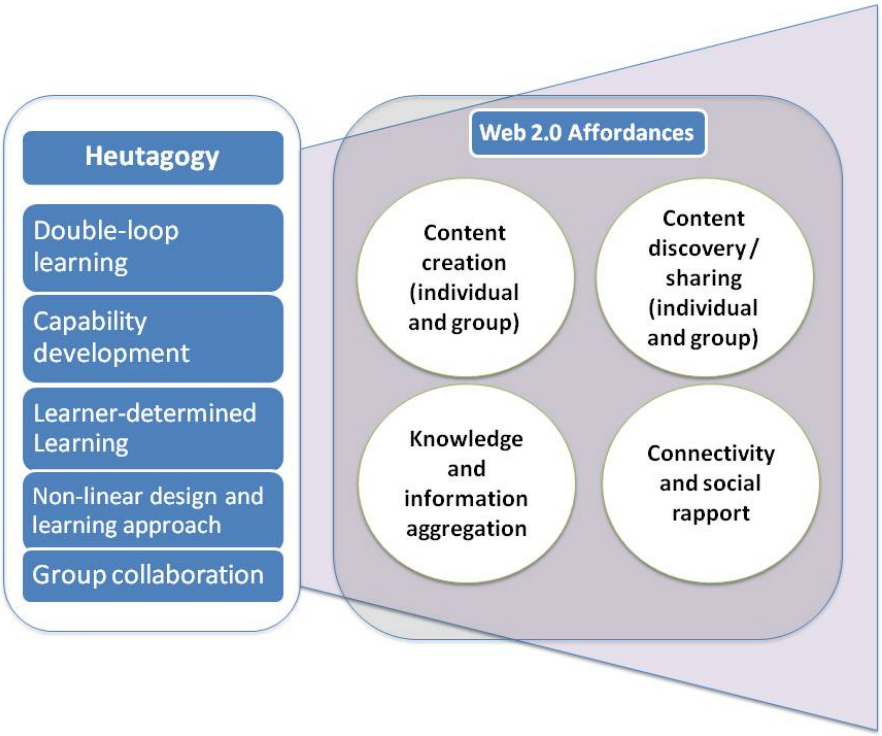

Figure 5. Heutagogy and Web 2.0 affordances (Blaschke, 2013).

According to Price (2013), digital technologies can "accelerate the changes in behaviours, values, and actions, which then transform the way we learn and our capacity to learn" (p. 31). A variety of media and technologies can be incorporated in support of self-determined learning; a few examples are mentioned here, but are by no means exhaustive, as the technological landscape continues to evolve and expand.

Personal learning environments

A fundamental goal of heutagogy is to promote and sustain lifelong learning as learners acquire competencies and the capability to learn in new and unfamiliar environments. To achieve this goal, learners should be encouraged to establish and build *personal learning environments (PLEs)*. These environments can be internal or external to technological environments, although a mixture of both is recommended. The PLE incorporates not only aspects of formal learning, but also informal learning and is based "on the idea that learning will take place in different contexts and situations and will not be provided by a single learning provider" (Atwell, 2007, p. 1). By encouraging and supporting the

development of PLEs, instructors can equip students (and themselves) not only for self-determined learning within formal education, but also for informal and lifelong learning (Richardson and Mancabelli, 2011).

Social media

Social media, such as Twitter, LinkedIn, Google Drive, and Facebook, can be helpful technological tools for supporting learners in creation of and collaboration on knowledge artifacts, for sharing resources, and for further expanding their personal, educational, and professional networks (Blaschke & Brindley, 2015). These social networking tools have the potential of improving learner engagement and creating "a new role for the learner as active participant in, rather than passive recipient of, learning experiences" (Facer & Selwyn, 2010, p. 34). Blaschke (2014a; 2014b; 2012) cites a number of examples of how these media can be used for supporting heutagogy, for example, e-portfolios for showcasing acquired knowledge, skills, and competencies; online learning journals and blogs for self-reflection; social networking sites such as LinkedIn, Facebook, and Twitter for creating networks, conducting group work, and for distributing and sharing educational resources and research.

Mobile learning

Mobile learning in the form of smartphones, pads, and tablets, also provides vehicles for supporting a self-determined learning approach, in that their usage "facilitate(s) the learning process by encouraging conversations and dialogue between the learner and teacher across authentic learner-generated contexts" (Narayan & Herrington, 2014, p. 153). The heutagogic model developed by Narayan & Herrington (2014) includes elements of: *participation* (collaboration and communication); *productivity* (creation and consumption); and *personalization* (learner choice). Cochrane et al. (2012) report on success in using mobile social media for designing heutagogic learning environments that support development of learning communities and communities of practice for learners and instructors, as well as incorporate real-world collaborations and business applications of new knowledge. Learners can also use mobile technology applications to create individual PLEs, for example, choosing the applications that they prefer to use for learning, connecting, collaborating, and networking. The increasing popularity of mobile devices (such as the iPad) also makes this technology a feasible way of supporting ongoing, self-determined professional development, a finding supported by Hexom (2014).

Learning analytics

Learning analytics also have the potential for use in designing an environment that supports heutagogy. In a recent blog post on learning analytics and double-loop learning, Atwell (2016) suggests that learning analytics could provide a framework for guiding learners in the process of reflecting on and better understanding their learning process, thus leading to learner transformation and self-discovery (not discovery of content) and further development of learners' mental models.

2.7 Examples of implementing heutagogy across the learner life cycle

In discussions with educators on the applicability of a heutagogy in educational environments, the argument often arises that the approach is not relevant for certain levels of education. The following sections provide examples from the literature of how heutagogy can be realized across the life cycle of education, from kindergarten to 12th grade (K-12 education) through to lifelong learning.

2.7.1 K-12 education

Hase (2013) argues that children are quite capable of self-determined learning, but that the educational system's approach of lectured teaching and learners' passive consumption of information suppresses the practice of self-determined learning at a young age (see previous discussion the PAH continuum). St. Paul's Junior School in Brisbane, Australia, is an example institution that will be explored further in this case study research. The school has experienced success in applying the approach in its Junior School (from Pre-Prep to Year 6) and has implemented heutagogy by redesigning its curriculum to become more learner-centered, using flexible learning contracts, negotiated (instructor-learner) assessment criteria, and learner-generated inquiry to reach government-mandated educational objectives (Andrews, 2014). Andrews (2014) reports that in realizing the approach, students create portfolios of their learning journey and instructors provide guidance by mentoring and coaching students along their learning path (according to the individually negotiated contracts). The success of the approach is based on team development of curriculum design (instructors working together with instructional designers); a culture of openness, communication and trust within the organization; and investment in staff development and resources (e.g., making time for teachers pursue self-determined learning). Much like the Montessori approach to education, St. Paul's Junior School supports collaboration and learning across grade levels, as well as peer assessment. Blaschke (2014a) also reports on using heutagogy in helping grade school children learn English as a second language, by modeling behavior, supporting collaborative peer learning, and emphasizing play and interaction (to encourage motivation).

2.7.2 Higher education

In a case studies report on using heutagogy for primary school teachers in the UK, Canning (2013) finds that the approach empowered teachers and encouraged teachers' reflection in practice and development of teacher self-confidence, resulting in transformative learning, as well as increased teacher motivation. In addition to face-to-face curriculum, the Early Years Professional Status (EYPS) graduate program also incorporated online communities of practice for teachers to discuss and collaborate on course material, thus helping teachers establish a network of connections for current and future practice. Heutagogy as a teaching approach for primary school teachers is also being piloted at Kaye Academic College of Education in Israel, which is another of the institutions explored

in this research; at the college, teachers learn of heutagogy through practice and then model self-determined learning within their classrooms (S. Back & A. Glassner, personal communication, January 19, 2016).

In an example of applying heutagogy in his teaching of university-level courses, Dick (2014) describes the use of experiential teams to support action research and action learning and the design principle of: "freedom within clear, negotiable limits, high challenge, and high support within the team or group" (p. 51). His approach involves first "crafting the context" of the course, that is, building and expanding community, emphasizing career planning and contact with the profession, and negotiating curriculum with students (Dick, pp. 41-43). Next, he works with students in negotiating the assessment and evaluation processes and criteria. Dick then uses teams for students to engage in action learning, where they have full autonomy in defining and carrying out group projects, with Dick coaching them along the way.

2.7.3 Distance and online learning

Examples of heutagogic practice can also be found in distance learning environments. In general, online learning has a close affinity with heutagogy due to the high level of learner autonomy required and the role of the instructor as guide (Blaschke, 2012). In applying heutagogy in an online master's program, Kerry (2014) uses course materials that spark student interest, encourages them to explore topics further, and emphasizes ongoing and supportive tutor guidance and feedback; findings of Kerry's research showed that students were more reflective and motivated as a result of the course. Within the online graduate program in which she teaches, Blaschke (2014a, 2014b) incorporates social media and learner activities for building competencies and skills, as well as online e-portfolios to showcase abilities and learning journals for self-reflection. Scaffolding support and providing personal guidance are other critical instructor activities that she recommends in order to help students engage in self-determined learning.

The third institution included in this case study research is the University of South Africa (Unisa), which is the largest correspondence distance education provider in the world. Unisa has recently embarked upon a monumental change for its institution, instructors, and students – transitioning from correspondence education to online learning – and is piloting heutagogy as its model of pedagogy for developing self-directed and self-determined learners (van Schoor & Mischke, 2014: Msila & Setlhako, 2012). By encouraging students to be self-determined in their learning approach, the institution hopes to not only empower learners, but also to develop learners who are equipped for the complexities of the 21st century workforce. Early results of Unisa's Signature Course project are promising, despite the challenges created by South Africa's poor technological infrastructure for supporting online learning (van Schoor & Mischke, 2014).

2.7.4 Vocational education and training

Numerous examples of the application of heutagogy within vocational education and training are available in the literature (Hase & Kenyon, 2013; Kenyon & Hase, 2001; Bailey, 2013; Barton, 2012). When conducting workshops, Hase (2013) uses a heutagogic, Socratic approach that allows learners to define their learning objectives by identifying what they want/need to learn, reflecting upon their learning gaps, and then negotiating a path to learning and assessing whether learning has occurred. Although participants are often uncertain and sometimes anxious about the approach, they report that the process is empowering and results in a positive learning experience (Hase, 2013). Kenyon (2014) applies a unique approach to his workshop training, using his Deedeekun© experiential in order to teach participants about the principles of heutagogy.

Northcote & Boddey (2014) describe a self-help online resource (*Moodle's Little Helper*) that their institution has developed to provide training for instructors on delivering online courses. In implementing its approach, the institution first identified where learning gaps existed amongst instructors (through researcher reflection journals and faculty surveys), and then stored online data resources, such as best practices, instructions, and tips, within the institution's learning management system (LMS); faculty could then access the topics on an as-needed basis. Feedback is ongoing and gathered from learning analytics, email, HelpDesk requests, and other sources, which then feeds into the process of resource development for the professional development site and determines which resources are needed by faculty. The approach has helped the institution save time and money on investing in structured face-to-face or online professional development courses, as well as assisted in identifying new areas for development, such as an online community of practice for faculty to collaborate and share best practices.

2.7.5 Lifelong learning

Heutagogy also has applications outside of formal education and in professions that require lifelong learning. For example, heutagogy continues to be highly relevant within the health professions, where lifelong learning is essential. Within nursing education, Ramsey, Hurley, and Neilsen (2014) describe a need for developing learner capability and the ability for self-reflection, and consider their use of heutagogy has given their students the ability to "unravel the ever-present and inherent uncertainties that define nursing practice" (p. 95). Within education, Edcamps – informal face-to-face "unconferences" attended on a volunteer basis –provide ongoing professional development for teachers and are designed and delivered according to the principles of heutagogy (Carpenter & Linton, 2016).

Communities of practice, where individuals join groups for the purposes of learning, are the most common form of heutagogy for lifelong learning. Price (2014) describes these communities emerging in varied ways, for example, through face-to-face meeting events (TeachMeets) and Twitter hashtag (#) meetings. Characterized by learner autonomy, immediate availability, participant generosity to share and guide, playfulness, respect for one's colleagues, and the high visibility of the platforms used, these communities allow for professionals to take control of their learning, build upon their professional skills, and expand their network of knowledge and contacts (Price, 2014).

Another example of an online community is the Heutagogy Community of Practice (https://heutagogycop.wordpress.com/), which was established by researchers and practitioners of the theory in order to further the discussion and development of heutagogy and from which has emerged numerous research initiatives and scholarly publications, as well as two conferences on heutagogy (Booth, Blaschke, & Hase, in press). Massive open online courses, or MOOCs, are yet another example of a framework that supports self-determined learning for professional development, as learners can choose the learning topic and then engage and disengage from the MOOC environment as desired (Beseda & Machát, 2014).

3 OBJECTIVES OF THE MASTERS RESEARCH

The objectives of this research were to:

- Identify strategies used for implementing a heutagogic approach within educational settings
- Compare and contrast these strategies and approaches
- Evaluate the role of institutional context in designing and implementing strategy
- Provide guidelines for deciding upon and implementing a strategy for implementing heutagogy (self-determined learning)

Research questions that would be addressed in the research are:

1. How do institutions define their strategies for implementing heutagogy (e.g., motivational factors)? Is a specific framework such as the pedagogy-andragogy-heutagogy (PAH) continuum used in defining the strategy and in what way?
2. What strategies do institutional management and teachers[2] use to realize heutagogy?
3. What is their institutional context? How are strategies influenced by the institutional context?

Scholars of self-determined learning are divided in how self-determined learning should be implemented within educational settings. On one side, scholars such as Hase (Blaschke & Hase, 2015) argue that humans are self-determined learners from birth on and that today's school systems cause students to become passive and less self-determined and self-directed in their learning approach. Others such as Garnett (2011; Garnett & O'Beirne, 2013) have argued that learners are not intrinsically self-determined or self-directed learners, but that they must move along a pedagogy-andragogy-heutagogy (PAH) continuum: from pedagogy to andragogy (Knowles, 1975) and finally to heutagogy (see discussion in literature review). The hypothesis of this research is that an implementation strategy is defined based on where teachers and learners reside on the PAH continuum, as well as on the institutional context (e.g., degree of openness and flexibility in applying the approach, institutional culture, stakeholder motivations and engagement).

[2] The original research question included the learner as a target group, i.e., exploring strategies used by learners to become self-determined learners. However, to manage the scope and scale of the research project and due to lack of accessiblity to this target group, the researcher chose to focus on management and teaching staff.

4 RESEARCH METHODOLOGY

The methodology used for this research was a mix of theoretical and empirical research. In-depth qualitative case studies were conducted and utilized standardized and open-ended interviews, which helped support comparisons across institutions and more in-depth exploration and discussions of issues, strategies, and best practices, as well as provided an opportunity for developing theoretical summaries of the gathered data (Cohen, Manion, & Morrison, 2008; Morgan, 2014; Willis, 2008). Interviews were conducted with those individuals responsible for developing and realizing strategies for implementing heutagogy at three educational institutions: St. Paul's School (SPS) of Australia (K-12 education); University of South Africa (higher education); and Kaye's Academic College of Education, Israel (higher education). These educational institutions were chosen as they have implemented heutagogy in some form within their institution (Andrews, 2014; Baijnath & Msila, 2014; S.Back, personal communication, January 18, 2016).

As heutagogy is a holistic approach that involves the institution, teacher, and learner, perspectives from management (strategic and organizational approach) and teachers (instructional approach) were gathered[3]. Five formal interviews were conducted. Three of the interviews took place at the institution location: St. Paul's School (SPS) in Brisbane, Australia (one instructor/head of learning); Unisa in Pretoria, South Africa (one program developer/ instructor and one curriculum and learning development expert/instructor). At Kaye's Academic College of Education, Skype interviews were conducted with the former college president (now program director/instructor) and a program director/instructor[4]. Discussions (not recorded) were also held with upper management leaders at SPS (two: headmaster, executive director); interview notes from these discussions were then briefly summarized. The interviews and interview notes were then recorded, fully transcribed, and coded by the researcher.

A thematic analysis approach from Braun & Clarke (2006) was applied, as the approach is supportive of qualitative, interpretative research with a contextual epistemological position (Madill et al., 2000, as cited in King & Horrocks, 2010, p. 20), thus providing a more complete and comprehensive view into the research results. In applying the thematic analysis approach, interviews were fully transcribed using descriptive coding (Gordon, 1992; Saldana, 2009) and stored in MaxQDA12 (see Appendix B: Final Coding Framework (MAXQDA)). Descriptive codes were then clustered and interpreted in relation to the research questions, and finally, over-lying themes were identified for each of the clusters (King & Horrocks, 2010).

[3] Interviews with learners were not held for this project and is an area for further research.

[4] The researcher had met the interviewees in person in January 2016)

5 RESULTS

A total of five interviews from 60 to 120 minutes each were held from May to October 2016 (see Appendix A: Interview Questions). All interviews were fully transcribed and then uploaded to MAXQDA, where the interviews and researcher notes were systematically assigned codes in relation to the research questions. Over-arching themes were identified from the interviews, which included the following:

- *Stakeholders*: A variety of stakeholders were identified, from students, teachers, and librarians to school leadership (e.g., principals) and community members.
- *Strategies*: Three types of strategies for designing and implementing heutagogy were identified in the research results – institutional (overall strategy); instructional (strategy for pedagogical design and delivery); learning (strategy for learning).
- *Challenges* of developing/implementing the strategy
- *Benefits* of the approach
- *Program characteristics*: These included characteristics such as capacity building, personalized, discipline, creativity, deep learning, entrepreneurial, growth mindset, individual learning, group learning, learning as a journey, media used, reading, researching, skill development, and stewardship.
- *Contextual factors*: Factors related to context were primarily related to culture, that is, teaching culture (instructional values/beliefs and approach to teaching), institutional culture, and culture of the institution's country.

A detailed listing of codes and subcodes applied to the fully transcribed text can be found in Appendix B: Final Coding Framework (MAXQDA). The following sections present the results of each interview surrounding these themes (by institution).

5.1 St. Paul's School of Australia (SPS) (K-12 education)

St. Paul's School (SPS) of Australia: www.stpauls.qld.edu.au/

Description: St. Paul's School, established in 1960 and located in Brisbane, Australia, is a private, Anglican school offering education to children and youth from pre-prep to Year 12 (St. Paul's School, 2016b). The school focuses on building an entrepreneurial mindset within its students, in order to develop global citizens with an innovative spirit (St. Paul's School, 2016a).

Mission: "St Paul's School is a student-centred Anglican community preparing balanced global citizens with a heart for servant leadership." (St. Paul's School, 2016a, para. 3).

In May 2016, the researcher visited St. Paul's School to conduct an interview with a Junior School teacher, as well as to meet with leadership at the school (Headmaster and Executive Director of Teaching and Learning) at the school. Nestled within an idyllic 12-acre campus of rolling green hills, SPS is a private school in Brisbane, Australia, serving nearly 1,400 students from pre-prep to Grade 12; there are 473 students in its Junior School, 350 in Middle School, and 502 in Senior School) (St. Paul's School Annual Report, 2016; Figure 6).

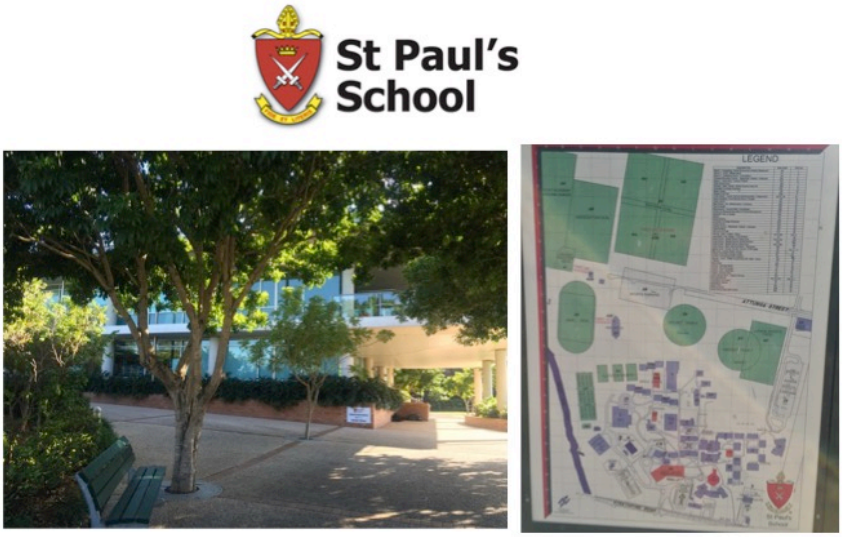

Figure 6. St. Paul's School (SPS) campus, Brisbane, Australia

SPS is like many other schools around the world, offering a variety of extracurricular activities for students, for example, clubs in drama, media, chess, and dance, as well as sporting events (http://www.stpauls.qld.edu.au/new-parents/school-life/). However, in its approach to teaching and learning SPS stands apart and is recognized as a disruptive innovator in the education sector: "the pedagogical practices of the school are developed according to the needs of its students, who are encouraged to be autonomous, apply knowledge acquired in the real world, and learn through their personal interests and passions" (Innovate Education, n.d., para. 2). As one walks through the school hallways, this unique approach to instructional design and delivery is evident: classrooms redesigned into creative learning spaces, learners engaging actively in individual and group projects with teachers

working alongside of them, providing guidance as needed. Walls are plastered with posters that display student work, intermixed with the inspiring words of world leaders and the school motto: *Create your own story!*

5.1.1 Institutional strategy

A child abuse scandal in the 1990s – one investigated again by a Royal Commission investigation in 2015 (Field & Mellor, 2015) – resulted in an overhaul of the school and an opportunity for the school to reflect and to reinvent itself (St. Paul's School Annual Report, 2016). As part of this process, the school revisited its pedagogical approach and strove to place greater value on student voice and creating healthy and enriching environments of learning. School leadership became interested in heutagogy as an extension of their already learner-centered instructional approach from Reggio Emilia (www.reggioaustralia.org.au); a heutagogic approach was seen as supportive of the school's holistic approach to education due to its "culture of collaboration and social learning amongst children, co-construction of knowledge, and interdependence of the individual" (Andrews, 2014, p. 172). Aligned closely with the principles of self-determined learning, the institutional mission, vision, philosophy, and values of SPS are characterized by: supporting a learning environment that promotes human agency, self-discovery and self-efficacy; allowing for exploration and a growth mindset by incorporating elements of creativity, critical thinking, and collaboration – as well as allowing for failure; and encouraging development of students who are responsible, empathetic, confident, and ethical, and who think and act locally and globally (St. Paul's School, 2016c).

In 2013, the school began developing its strategy, with "a focus of creating more student-environments for learning" (St. Paul's School Annual Report, 2016, p. 3). Extensive research that included numerous consultations with learning experts as well as other schools. The result was the *FACE Model©,* designed and implemented by school leadership together with teachers (Andrews, 2014):

1. *Flexible and negotiated curriculum*, where students work together with teachers to co-design and adapt curriculum according to students' individual interests
2. *Agility,* with assessment that is flexible and co-constructed with the teacher, designed around needs of learners
3. *Contracts*, in which students define the way in which they will learn in order to achieve planned outcomes and that prescribe and describe the learner pathway
4. *Enquiry questions* that are learner-generated and characterized by a growth mindset, authentic problem solving, experiential learning, and collaboration

In implementing their strategy, the school established *Heads of Learning* for five areas: Design, Entrepreneurship, Global Sustainability, Inquiry, and Creativity – who were then responsible for

guiding teams of teachers and librarians through the transition, having the responsibility "to support teachers in interpreting curriculum, explore possibilities for innovating learning, encourage risk and trial, evaluate methodology, and coach individuals, small groups, or the whole staff in the five areas" (Andrews, 2014, p. 173).

Their strategy continues to evolve as the school builds on and enhances its model. SPS staff serve as research practitioners in introducing new ideas and approaches, which begin with a team research project (desk-based and active research) that then leads to further development of ideas and strategy definition. The project research is then presented to school leadership, after which it proceeds to the school council for approval (personal communication, SPS Director, May 26, 2016). SPS' dynamic and energetic headmaster takes an active role in promoting an innovative education agenda at the school, and is recognized both nationally and internationally for his work at the school (e.g., taking part in a 2014 global summit of educational leaders held in Washington D.C. by invitation of the Bill and Melinda Gates Foundation) (St. Paul's School, 2016b).

SPS places special emphasis on professional development and assessment of its teachers. The appraisal and professional development process for instructors, gathered through classroom observation and student and staff surveys, includes student feedback to teachers and aspects of self-reflection, the instructor's ability to work on a team, coaching and mentoring, and a personalized professional development plan (AITSL, 2012a). There was some wariness about incorporating student feedback into the appraisal process; however, the decision was made to incorporate this feedback – which has been courteous and constructive – as this was seen as beneficial to the teacher's development and a means "to build relationships with students based on trust and growth" (Hylton, 2016). One instructor reported that: "It wasn't a negative experience at all. I got lots of positive feedback and I got some areas that I could improve, too, which was really good for me, because I hadn't had practicum days." (AITSL, 2012b, 2:24). Professional development courses (such as Learning by Design workshops), as well as coaching and mentoring services, have been provided by the Centre for Research Innovation and Future Development unit at SPS since 2009 (St. Paul's Annual Report, 2016; Innovate Education, n.d.).

Along the way, SPS has encountered a few challenges in realizing its institutional strategy. The fear of risk and change were identified as a major challenge, with teachers at times having difficulty in adapting their teaching methods to this new educational approach, specifically in the co-design of the classroom (e.g., curriculum, learning spaces, assessment of learning *and* teaching) together with students and adopting a growth mindset that encourages student failure and learning from mistakes. Some students also exhibited difficulties in adapting to the approach, and as a result had to change their perceptions and definitions of learning. (These challenges will be discussed in more depth later.)

5.1.2 Instructional strategy

While visiting the school in May, the researcher met with the Head of Learning (Inquiry) and an instructor (Big History) at SPS[5], who shared with her his instructional strategies for realizing self-determined learning in the classroom. These strategies ranged from the co-design of learning spaces, curriculum, and learner and teacher assessment to the use of inquiry and project-based learning, as well as promotion of learner creativity and choice/agency.

A major theme of the interview was *designing learning spaces*. The interviewee described his journey on embarking on creating these different spaces for creating, reading, and exploring:

> I'd started to do a bit of research and that led me down the road of learning frontiers, which was all about looking at promising practices and how schools can work together.--Through that process, I started to discover the power of the third teacher, the Reggio Emilia philosophy, and that really took off. I started prototyping and trying different things out with my class last year, in the hope to try and develop a tool…to support teachers through that process, because traditionally, when you look at classrooms, you say, "What's changed?" Actually…not a lot has changed. (SPS Interviewee 1, 2016, para. 17)

SPS's Third Teacher Project focuses on designing effective learning spaces and "works on the premise that children develop and learn through their interactions, firstly with their parents/teacher, secondly with their peers and thirdly with the environment around them" (Hylton, 2016a, para. 2) (see online toolkit here: http://www.thethirdteachertoolkit.com/the-design-toolkit). The project places emphasis not just on physical learning space resources, but also on using technological resources to create the learning space (Hylton, 2016a).

Constructed for individual as well as collaborative learning, these learning spaces are designed together with students and are meant to give students a voice and responsibility for the learning area, making it a democratic space of equality of learner and teacher and nurturing a culture of learning (St. Paul's School Annual Report, 2016). For example, within the interviewee's classroom, there are spaces for quiet reflection, for exploring and creating, and for collaborating together and socializing (Figure 7). According to the interviewee, designing the learning space is about encouraging teachers to reflect upon core educational values and about maximizing "the value in these rooms…and about giving the teachers ownership. They have to feel ownership of the space. The students also do as well." (SPS Interviewee, 2016, para. 111).

[5] The interviewee is also a recent winner of the "2016 Middle Years Educator of the Year" award in Australia, granted by the Association of Adolescent Success (http://www.stpauls.qld.edu.au/educator-of-the-year/).

Figure 7. Open classroom at St. Paul's School (SPS), Brisbane, Australia

The interviewee found that a well-constructed learning space allows students to work at their own pace, either alone or in groups, as well as provides opportunities for students to support fellow classmates who are struggling: "[At] any one time during the lesson, there's kids working in groups, in large groups, small groups, individually…there might be an area where they'll be working on the sub-topic, but some are ahead, and some are behind." (SPS Interviewee 1, 2016, para. 132)

Inquiry learning and learner agency were also central themes emerging from the interview. As part of the process of taking control of their learning, students are asked to co-design the learning space and are given extensive (although not full) choice in defining their learning path; learners and teachers are both learners, and it can be difficult to see who the learner actually is (Andrews, 2014). In nurturing inquiry learning and learner agency, the interviewee spoke about the need to work with students to identify and define focus questions and subquestions that will guide them in their learning. He described it as a process that sparks the student's curiosity to go out and explore, and he tells students to "find ideas that interest them and [to explore] that third space between curriculum and their experiences. If you haven't given them that time and, you're going – 'Here you go, here's a topic, here's a question, here's a task sheet, go!' – they're not going to be able to have that ability to think." (SPS Interviewee 1, 2016, para. 74) To do this, the interviewee recommends a "teacher mindset of…timely, concentrated, and highly focused, explicit teaching, particular in response to identify[ing] students' need. Realistically teachers need to negotiate with students about how much, and when they lead." (SPS Interviewee, 2016, para. 145) In his class, the students decide on their inquiry questions, and the interviewee shares questions that he thinks students should respond to; the students then decide on which questions they will pursue and which questions they will not, based on their individual interest.

SPS teachers give their learners choice in defining an own, personalized learning path, which the interviewee described as being challenging both for teachers and learners, as it forces them out of traditional teaching and learning constructs and requires them to move out of their respective comfort zones. Although he reported that this initially causes an uncomfortable feeling of losing control for both teachers and learners, he has found the strategy to be empowering to students, helping them to take control of their learning journey and to engage in deeper learning:

> I think quite a few of them struggled, but a lot of them flourished…If we can't give…students that ability to make that choice, how do we expect them to really be able to deeply inquire?...Inquiry means we have to let go and step away. If we can't even trust kids to sit and self-organize within a classroom, how are we supposed to be able to inquire? They go together; they're not separate things. (SPS Interviewee 1, 2016, paras. 37 and 65)

During this process, the *instructor serves as guide* for the student along his or her learning pathway, helping to narrow down inquiry questions and engaging in one-on-one and group conversations with students. Goal sheets for each student help the teacher provide individualized guidance and support and assists the instructor in identifying when a student is off-track. The interviewee also provides opportunities for students to ask questions and to receive support from the instructor or other students:

> When they're working on something they're not sure about, they can all work together, but they've also got a bell they can ring, if they need any help from somebody, and somebody who feels that [in that] lesson, they've really got the concept, they can go help them. (SPS Interviewee 1, 2016, para. 130)

Project-based learning (PBL) is also characteristic of the SPS curriculum, with project topics often overlapping disciplines, allowing for students to gain skills and knowledge in other disciplines while working through a project. A cross-disciplinary approach was also identified as having given the student and teacher more flexibility and opportunity to explore new topics not on the curriculum. In addition, PBL was found to be useful in supporting the development of new skills. The interviewee gave one example of a student who was conducting research into an artist for her Art History class. As she was considering ways in which she could visualize her learning process for her portfolio, the student learned slow shutter photography as part of the process.

Explicit, lecture-style teaching still plays a role in the SPS classroom, particularly when teaching concepts – "Direct instruction is very important. It wouldn't still be around, if it didn't work." (SPS Interviewee 1, 2016, para. 63) *Assessment by the teacher* also continues to be a part of the curriculum, although more value is placed on the process of learning rather than the product, with a strong emphasis placed on collaboration and development of information literacy skills.

> …success, it isn't always the traditional. They get the grades they need to go to university. That's actually the last thing on my mind at the moment, because 50% of jobs aren't going to exist in 10 years time. These kids need to be resilient. They need to be able to distinguish between useful and non-useful information. They need to be able to collaborate, they need to be adaptable. (SPS Interviewee 1, 2016, para. 117).

As part of the SPS performance feedback program, students also have an opportunity to assess their teachers. *Teacher assessment* is done anonymously, and the interviewee found that the assessments provide him with more insight into the student perspective and stimulated further conversations with students on how he could improve on his teaching practice in order to support them in their learning.

During the interview, there was little mention of the use of media at the school, except for a reference to video logs (Vlogs) being used by another teacher at the school in Year 10 English. However, Andrews (2014) reports that teachers work on teams and support students through their learning process and capture learning through "filming, recording, writing, brainstorming" (Andrews, 2014, p. 180), as well as reflect on what they have learned throughout the school year using journals and portfolios, which they share with other staff.

5.1.3 Learning strategy[6]

Although no students were formally interviewed for this research, the interviewee described a few strategies during the interview. A brief hallway discussion with one of SPS' Year 12 students also provided insight into her experience of PBL at the school. The student related how she wanted to explore ideas of when and why people change their minds, and she became interested in self-determined learning. As a result, the student has designed an own project around the theme and is researching perceptions and understandings of engagement from a student's perspective, e.g., factors that foster engagement and how these can transfer to the workplace. As part of the project, she has defined own questions for inquiry, established a research framework for the project, and conducted research and an analysis of the topic. The student is thoroughly enjoying the project ("glowing" would be an appropriate descriptor), expressing her satisfaction by saying: "I felt like it was about me. I got to make decisions about learning." (SPS Student, 2016, para. 24).

Another example of students being involved in co-designed, self-organized and self-determined learning is that of a Year 9 student who has designed a project about negotiating learning and the level of negotiation that is actually taking place at SPS: What is learning and how does it occur in the classroom? What are student and teacher perceptions? The student is recording his work and gathering data, and in the meantime learning about the action research process and ethics in research (SPS Interview 1, 2016, para. 127).

A major project at SPS was the Year 9 Trench Project, based on WW1 campaigns of Gallipoli Trenches and Fromelles (St. Paul's Annual Report, 2016). The purpose of the project "was for students to use Design Thinking to empathise with the experiences of those who went to war, those

[6] As learners were not interviewed for this research (except for a brief chat in the hallway with one of SPS' star students), the findings presented here are the perspectives of the instructor and management interviewed.

who were left behind, and the contestable way in which these experiences are remembered in the community" (St. Paul's Annual Report, 2016, p. 4). Students developed this project as part of their Big History course, and in the process, negotiated their learning activities, decided on their topic for research, designed areas that represented post-war Germany, and then showcased that research and design in a room that the school had made available to students (Figure 8). In addition to conducting research, the students also applied design thinking in creating their rooms and worked with community groups (who donated goods for the students to use in their design), as well as parents. According to the SPS Executive Director (personal communication, May 26, 2016), the semester-long project brought history to life for the students and became a war memorial that was later supported by the community.

Figure 8. World War I Trench Project at St. Paul's School (SPS), Brisbane, Australia

At the school, students also have numerous opportunities to explore their own individual interests. Diverse student activities within the school contribute to promoting leadership, building student capacity, and developing a global perspective (such as the Round Square conference, http://www.stpauls.qld.edu.au/young-round-square-conference/ and the World School, http://www.stpauls.qld.edu.au/new-parents/school-life/world-school/), as well as advocating innovation, design thinking, and community involvement and development (such as the Future of Brisbane Airport Project, http://www.stpauls.qld.edu.au/design-thinking-build-a-new-airport/).

5.1.4 Next steps

SPS continues to expand upon its learner-centered strategies for teaching and learning. In 2015, the school launched its Futures Planning Project (https://youtu.be/rqHMafApdKk), which addressed the question of: What will the world look like in the Year 2028? The purpose of the project is to better prepare students for an environment and for jobs that are completely different from what is known

now. For this project, teachers were research practitioners and provided input on the future they would like to see for their school. Research teams of SPS staff conducted their research in the field, consulting with politicians, industry, educators, brain researchers, policy advocates, hospitals, and doctors (see website for project results: http://www.stpauls.qld.edu.au/about-st-pauls/an-education/).

Developing students for future employment is central to SPS' strategic plan, as well as in line with a current trend toward entrepreneurialism within Australia. As part of its plan, SPS has recently established an Entrepreneurial's Club, which focuses on innovation and creativity and is based on a partnership with River City Labs, a hub for startup businesses (D'Mello, 2016). The project includes a 16-week program where up to 20 students in Years 7-12 are paired with local corporate mentors, who then guide students in developing their business ideas, which the students then "pitch" to possible investors at the end of the course (D`Mello, 2016; St. Paul's Annual Report, 2016). In addition to involving local community leaders, the program also involves parents, who learn alongside students in the program. Examples of entrepreneurial businesses that have already been launched and are now run by SPS students include a dog shampooing business (http://www.stpauls.qld.edu.au/a-boy-his-dog/) and a cupcake business (http://missmixedcupcakes.weebly.com/) ("A Boy and His Dog", 2016; D`Mello, 2016).

As part of the Futures Planning Project in 2017, the school also plans to embark upon vertical tutoring, where 18-20 students across different year groups will meet for 20 minutes a day in order to help facilitate mentoring and leadership opportunities for students. Each tutor group will have two adult tutors – a teacher and non-teacher – and will be established in the hope of increasing the potential for peer-to-peer mentoring, while also building stronger partnerships between the tutor, student, and parents.

SPS' holistic, learner-centered educational approach has nurtured an environment of "happy chatter" within the student body (personal communication, SPS Executive Director, May 26, 2016), and "…the joy, excitement, and curiosity witnessed in the students at St. Paul's are testament enough that heutagogy is a path well worth pursuing" (Andrews, 2014, p. 183). In addition, school leadership reports that parents are pleased with the approach, as they see their children actively engaging in learning and exhibiting depth and agility of thinking (personal communication, SPS Executive Director, May 26, 2016). Although the school is an independent (not state-government owned, it is still required to meet curriculum and assessment/certification requirements (Andrews, 2014). Despite engaging in a non-traditional approach to education, benchmark results of student performance have indicated that students are outperforming the state average (St. Paul's Annual Report, 2016).

5.2 University of South Africa (higher education)

University of South Africa: www.unisa.ac.za

Description: Founded in 1873, the University of South Africa's (Unisa) core business lies in the areas of teaching, research, and working with the community. The distance teaching institution is an education leader within South Africa and the world, offering qualifications that are internationally accredited. Traditionally a correspondence school, the institution has recently embarked on a journey toward implementing more online education. (Unisa, 2016d)

Mission: "Unisa is a comprehensive, open distance learning institution that produces excellent scholarship and research, provides quality tuition and fosters active community engagement. We are guided by the principles of lifelong learning, student centredness, innovation and creativity. Our efforts contribute to the knowledge and information society, advance development, nurture a critical citizenry and ensure global sustainability." (Unisa, 2016d, para. 2).

The University of South Africa (Unisa) serves over 300,000 students across Africa – urban and rural, first world and third world schools – delivered by nearly 4,000 faculty and staff (Unisa 2016a, 2016b; Unisa Interviewee 2, 2016). Located in Pretoria, South Africa, the campus complex – dominated by a flagship architectural structure – is primarily utilized by staff, with a few facilities for on-site campus lectures (Figure 9). In August 2016, the researcher travelled to South Africa to interview two Unisa instructors, who are responsible for two transformational projects at the institution that contribute to Unisa's ongoing transition to online education. One of the two projects has been established to assist instructors in redesigning their courses for the online environment and for incorporating more experiential education (Unisa Interviewee 1). The second project is a pilot of an online education module intent on preparing teachers for a career in education (Unisa Interviewee 2).

Figure 9. Unisa campus/view of Unisa from Freedom Park, South Africa

5.2.1 Institutional strategy

Context has great significance when attempting to fully comprehend education in South Africa. It is a country that has been afflicted for decades by colonialism and later by apartheid. South Africans continue to seek their voice, within their relatively new democratic nation as well as within their educational system. This search for the African voice and the drive for equality, democracy, and social justice are powerful influential factors within the South African context, in particular in education, as demonstrated through recent events such as Fees-Must-Fall (Segalo, 2016).

As early as 2005, Bangura (2005) identified heutagogy as a potential pathway to finding the African voice and promoted it as an autonomous and humanistic approach to learning more befitting of the African context.[7] Heutagogy has also been proposed by Kanwar, Balasubramanian, & Umar (2013) as an innovative means for realizing lifelong learning within the South African education system, especially when implementing ICT-based education; they have proposed policy changes for incorporating heutagogy into the country's National Qualifications Framework (NQF).

A recent publication from Ramdass & Massithulela (2016) describes the current turmoil being experienced by Unisa in managing the complexities of defining an institutional strategy for its transition to an online environment. This need for an institutional strategy has been further intensified due to a recent decision by the South African government to allow other publication education institutions to provide distance education, thus increasing market competition for Unisa.

Institutional context has played and will continue to play an important role in defining the strategy. When Unisa began planning for its transition to online, leadership invited international experts to Unisa to provide guidance in designing the online program. However, the experts were uncomfortable with suggesting a standardized solution to the team:

> They said actually, "This is your context, we cannot come from America and give you your. (solution)...you understand your context. You have to put whatever in your own context." Which was good actually, which was very good. We debated, for two weeks they were here. It was debating why, but we ended up coming up with the outcomes. Why we want this online thing, why we want this program. (para. 38)

Unisa must also consider the context of its students, who could be heavily disadvantaged by Unisa's transition to an online learning environment, since many students are located in remote rural areas that have limited or no access to technology (Msila & Setlhako, 2012; Unisa Interviewee 2, 2016). The institution continues to work toward defining an effective solution that aligns with its institutional mission and incorporates strategy components such as: pedagogical approach, communication, educational resources, learning collaborations, assessment, program qualification requirements, ICT

[7] Ultimately, Bangura opted for a new pedagogy – *ubuntugogy* – based on the African concept of *ubuntu*, which is grounded in the fundamental tenets of incorporation of religious principles, building consensus, and creating dialogue.

systems, and staff training and development (Ramdass & Masithulela, 2016). Although heutagogy is one pedagogical approach being considered as part of the institution's overall strategy of moving to an online environment, an official decision or strategy to implement heutagogy is not in place, and there is ongoing discussion within the institution concerning the applicability of the approach. For example, Louw (2014) relates the experience of applying the theory in an online economics and management sciences course at Unisa and the challenges of adopting the theory; the outcome of the study was that instructors opted for a more andragogical approach and that only certain aspects of heutagogy could be realized (e.g., double loop learning) in the course.

5.2.2 Instructional strategy

At the moment, an ad-hoc or grass-roots strategy is being pursued by heutagogy champions within the institution. Two of these champions were interviewed for this research, and the following sections are a description of their projects – one an online teacher training module (Unisa Interviewee 1) and the other a curriculum and learning development module (Unisa Interviewee 2) – and the instructional strategies that were used.

Framework for a team approach process in writing study guides (Unisa course)

In preparation for transitioning to an online environment, a training program for Unisa lecturers (instructors) was established within the Department of Curriculum and Learning Development (DCLD), with the goal of developing instructor competencies in teaching online and in assisting instructors for transitioning to an online learning environment. As they redesign course materials for online, instructors work together with an instructional designer from DCLD, who assists the instructor in considering and applying teaching and learning approaches and in restructuring course content for online (Unisa, 2016c; Unisa Interviewee 2, 2016). When redesigning the curriculum, the institution uses course teams consisting of numerous stakeholders and scaffolds the redesign process, which includes drafting and writing, as well as designing learner experiences (Figure 10).

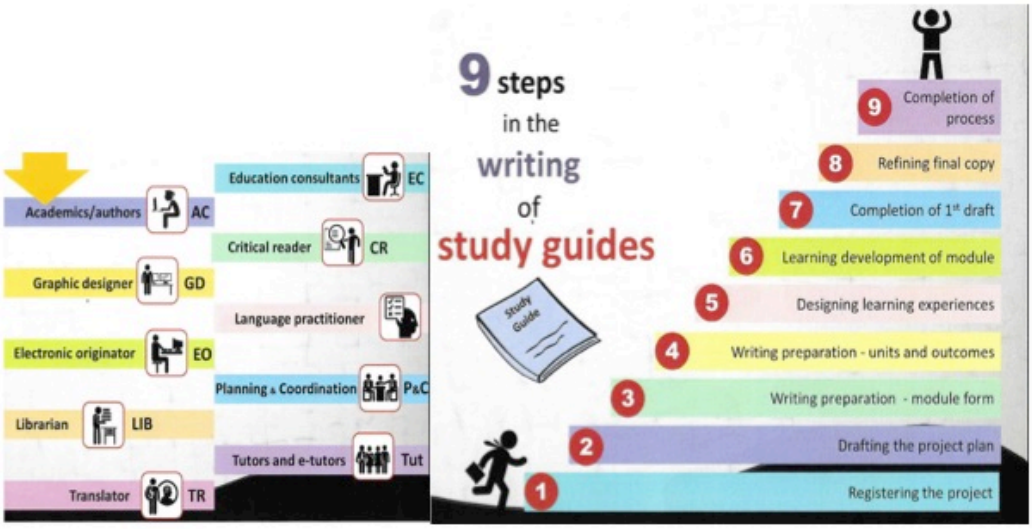

Figure 10. Unisa curriculum course teams and development process.

Unisa Interviewee 1 is a curriculum and learning development expert within the DCLD unit, responsible for developing and delivering training for Unisa lecturers in transitioning their correspondence courses to the online environment. In addition, the interviewee has extensive experience within science education and in practicing an explorative and experiential teaching approach.

Being a Professional Teacher (Unisa course)

The second Unisa interviewee also has extensive teaching experience in education and is solely responsible for and is an instructor in the online teacher training program, *Being a Professional Teacher*. The program began in 2013 with the intent "to equip students who do not have an basic formal teaching qualifications" and with the objective of ensuring that "students will gain an interest in furthering their studies in teaching and help in the transformation of education in South Africa" (Msila & Setlhako, 2012, pp. 136-137). The course is meant to introduce prospective teachers to basic teaching concepts and to critical pedagogy, as well as to increase their awareness of what it entails to be a teacher. Module topics explore the different roles of the teacher – as a professional, team member, communicator of knowledge, resourceful innovator, and leader – and culminates with a project portfolio (Msila & Setlhako, 2012). Within the only teacher training course, heutagogy is applied in such a way that students are "expected to follow their module content in a self-determined, innovative, and creative manner" (Msila & Setlhako, 2012, p. 142), and at the end of the course, students are expected to be multi-skilled, with the ability "to write and produce books and materials, and…to work online" (Unisa Interviewee 2, 2016, para. 112).

Students of the program are located throughout South Africa, sometimes in isolated, rural locations, and they use MyUnisa (Unisa's Sakai-based LMS) to communicate and interact with the instructor and teaching assistants online. The program has forty-eight part-time teaching assistants, who are

assigned to 200 students each and are responsible for assessing (marking) student assignments. Teaching assistants must have a teaching background and be computer literate, and all have been trained in the use of MyUnisa. The course originally began with 7,000 students in the first semester of 2013, rising to 9,000 in the second semester, and gradually to 10,000 per semester[8] by 2014 and 2015, there were 6,000[9] students registered for the course in 2016 (Unisa Interviewee 2, 2016, paras. 64-66).

Elements of heutagogy in Unisa's instructional strategies

The interviewees had similar understandings of heutagogy and commented on its key benefits, particularly within the South African context. Unisa Interviewee 1 likened heutagogy to action research and found that it "empowers everybody – even us lecturers" (para. 207). Unisa Interviewee 2 understands heutagogy as incorporating constructivist principles with a central focus on developing critical thinking skills, and she expressed excitement about the way in which heutagogy has the potential to address issues within the education system, saying:

> …distance learners, children, students have to take control but at the same time we have to show them how to take control of your own learning and to structure your own life… We are multicultural, multi-linguistic, but we want everybody to do the same thing…I started reading about heutagogy, and it was very, very interesting, and I went with it. I love it. It's an approach that everybody needs in life. Lifelong learning. You learn all the time…this is an approach for distance learners and for adults…because I always say, we have a different breed of learners now. Our children are growing up within the world of technology. They're growing up within the world of technology, and our children are different. (paras.102, 187)

Both interviewees reported on the way in which earlier and current forms of South African education have influenced their students' approach to and attitudes about learning. Traditional forms of education have been passive, teacher-directed learning, and the interviewees found that, as a result, it is more difficult to motivate students to become active and self-determined learners. Unisa Interviewee 1 (2016) describes the situation as such:

> Unfortunately, South Africans are very much stuck in this. You learn facts, and you regurgitate facts, and you pass the exam, and then you are successful. You get given a piece of paper, you now become a teacher, you reach success, and you do the same process [as a teacher], which is a very difficult process to break. (para. 39)

According to the interviewees, breaking away from this passive approach to learning is essential if students are to succeed in today's work environments, and heutagogy was perceived as a means for supporting that process and as a pathway for developing more analytic, independent, and critical thinkers:

[8] Semester lengths are 17 weeks, with three semesters per year.

[9] Unisa Interviewee 2 explained that 2016 numbers have most likely dropped due to the Fees-Must-Fall movement, as students are waiting for the possibility that education fees may drop.

> …with heutagogy, it will bring up that kind of debates to our learners. They will debate things. They will think critically…you don't just read and take it as is, you analyze it. That's what we need in the current situation. Learners must be analytic. They should not be dependent, they have to be independent; independent in thinking, [and] independent in doing their things…I like using the word embrace. They need to embrace online or heutagogy. (Unisa Interviewee 2, 2016, paras. 195-197)

In order to move learners toward more self-determined learning and "to encourage thinking, and creative thinking, and reflection," the interviewees employed exploratory and experiential learning (Unisa Interview 1, 2016, para. 138). One of the ways in which the interviewees have applied *experiential learning* is by having learners conduct action research and hands-on activities to demonstrate concepts and ideas. For example, Unisa Interviewee 2 described an assignment that she uses to encourage self-reflection:

> There's this one assignment that everybody loves…that students have to go to schools and observe what is going on. I'm a very practical person. I like seeing things how they're done. So I send them to school for one or two days - two days at the most - to go and shadow a teacher for the whole day or for two days to see what they are doing. How they manage their classes, maybe if they have to go to a meeting, what happens in the meeting? They say, "We are learning a lot." At the same time, there are those who are working who says, "I didn't know that I have to go to school and observe." I say, "But teaching is a critical subject. At some stage you will be forced to go to school and do your practice teaching, so it's best if you start now to go and observe what teachers are doing." (paras. 91, 94)

Inquiry learning was another strategy that the interviewees identified as a way to encourage more critical thinking. For example, Unisa Interviewee 2 poses questions in discussion forums, asking students to think about their understanding of professionalism and being a professional teacher. The interviewees both found that these approaches better engage learners and help them construct new knowledge by relating it to their own experiences and values system. Says Unisa Interviewee 2 (2016):

> You want students to learn, you want students to be creative, [and] you want students to be critical thinkers, which is part of learning. I'm looking at the students that we have. They enjoy the fact that they have an opportunity to think critically, to analyze a situation. (paras. 178-179)

Both interviewees also practice *collaboration and group learning* in their courses. They encourage students to share their experiences and ideas and to learn and develop ideas together, which aligns well with the African concept of *ubuntu*. However, the approach has not always been successful, as reported by Unisa Interviewee 2 (2016):

> Collaborative writing…it didn't work, because students don't understand that. Students are private. They want to doze there, and that's how we are socialized probably: "I'll do my thing, I want to pass, and I have to". So it didn't work, but I still want to try it because at some stage, students have to collaborate with each other. Because you are preparing them for the future, much as we don't know what the future holds. (para. 185)

Reflection was also a core element of both interviewees' instructional strategies, and they ask their students to reflect on their new knowledge and experiences. In the case of the online teacher training course, Unisa Interviewee 2 (2016) uses guiding questions to encourage reflection, and the student reflections are then stored in a portfolio that is later assessed as part of the student's final grade:

> What do you think? You've seen the teacher, what the teachers are doing. You have that observation, you have that experience. Now, how can you relate the experience to you being a teacher? (para. 96)

Unisa Interviewee 2 (2016) saw the resulting coursework that is produced (e.g., portfolio) as a mechanism for helping students develop and advance in their professions. For example, he encourages his students to share their successes in the form of conference presentations or published research articles:

> I'm always impressed when the lecturers themselves surpass us. Because they have these most amazing directions with the students. Then I encourage them to present at say, the university conferences. There's a week in March called the Research and Innovation Week. I said, "Please share your successes with the university and write an article about it. You have to publish it. Use what you're doing, not just to improve students, but also to get academic outputs out of it." (para. 128)

The interviewees described their role – and that of the teaching assistants – as *guide to the learners*, facilitating the learning process by responding to questions and assessing student work. They also said that, since courses were online, students were available to provide support to their fellow classmates, for example, by responding to questions that other students posted in the discussion forums. Assessments are carried out in both courses (and are compulsory in the course given by Unisa Interviewee 2), and these assessments have been reported to be both formative and supportive:

> It was continuous assessment as well, with feedback from the group, and then I also wrote something then the student would include that and then they would also reply. It was [a] very interactive supportive environment. (Unisa Interviewee 1, 2016, para. 31)

Team-teaching or *co-teaching* was another instructional strategy identified by the interviewees as helpful. Co-teaching, they found, gave them an opportunity to share ideas and to learn other approaches to designing teaching and learning activities.

In terms of the *technologies used* in their courses, the interviewees reported that they both used the MyUnisa LMS. For her course on Being a Professional Teacher, Unisa Interviewee 2 (2016) also uses a flash disc, called a Digiband, which contains all of the course content and reading materials in digital format; each student in the course receives a Digiband. The flash disc makes course materials easily accessible to (except in cases where the student does not have access to a computer).

5.2.3 Learning strategy

Information about learner strategy in self-determined learning was not available and is an area for further research.

5.2.4 Next steps

As shown in these two course examples, heutagogy at Unisa is being practiced using a grassroots strategy and within pockets of innovation scattered across the institution. The interviewees with whom the researcher spoke both acknowledged that the process will be a slow one, especially as the transformation of their education environment involves not only new teaching and learning approaches, but is also a transition to unfamiliar, and at times intimidating, technologies (Unisa Interviewees 1 and 2, 2016). Both interviewees noted that there is a need for management to embrace, support, and promote the approach.

In the online teacher training program, Unisa Interviewee 2 (2016) noted that students like the approach, where "80% of the students are saying, 'We wish all the courses were online.'" (para. 83) – and that they would prefer that their future courses would incorporate an online format and a more self-directed learning approach, as it allows them to structure their time and self-organize learning activities. The teaching assistants also find the approach to be helpful and consider it a learning experience that supports them in gaining new skills and competencies. According to Unisa Interviewee 2, benefits of the approach are already evident, with student pass rates in the online module rising from 56% to 83% over the last three years – as compared to an average Unisa pass rate of 40-42% (paras. 157, 176).

5.3 Kaye Academic College of Education, Israel (higher education)

Kaye Academic College of Education: www.kaye-college.org/

Description: Located in the south of Israel, the Kaye Academic College of Education was founded in 1954 and provides teacher education and professional development courses to 4,000 students of Jewish and Bedouin heritage. (Kaye Academic College of Education, 2016a)

Mission/Vision: "Our goal is to provide students with advanced academic knowledge, broad practical experience, competencies and skills to integrate themselves into the changing future of the educational system in Israel." (Kaye Academic College of Education, 2016a, para. 2)

Last autumn, the researcher was contacted by two directors/faculty from Kaye Academic College of Education in Israel, asking if they could travel to Germany to talk to her about heutagogy and to explore possible areas of collaboration and research into self-determined learning. One of the directors (Kaye Interviewee 1) is the former president of the university, who now leads a program at the college called MTeach, which offers a two-year postgraduate Master of Teaching Degree, as well as a high school teaching certificate (Kaye Academic College of Education, 2016c; Kaye Interviewee 1, 2016). The goal of the program is to develop professional teachers who are prepared for teaching in the 21st century and who are committed to providing learner-centered education. Kaye Interviewee 2 is a senior lecturer within the college's Bachelor and Master of Education and MTeach programs, as well as an instructor at Ben-Gurion University.

Their reasons for exploring heutagogy are closely connected to Kaye College's institutional mission, in that the college is "devoted to education" with its main business focused upon the implementation of new pedagogies (Kaye Interviewee 1, 2016, para. 66). The college takes a progressive approach to teacher education and views its learners "as social beings who learn by doing and interacting with the world…and [it] strives to promote, develop and foster innovative practices for training teachers to share their knowledge and skills with a new generation of students" (Kaye Academic College of Education, 2016b, para. 2). The college's approach matches will with heutagogic principles, with heutagogy also building on many of the fundamental ideas of the college's leaders, such as the importance of creating reflective practitioners who are prepared for a complex and changing world (Back, 2016).

Kaye College is committed to the educational and professional development of teachers in Israel, and its student body comprises over 4,000 students from different multicultural backgrounds, primarily from Jewish and Bedouin (Arab) backgrounds (Figure 11). Students generally fall into two categories: 1) those pursuing qualifications to become teachers, or 2) teachers interested in pursuing professional development. To address these student needs, the college offers master programs (MED) in the areas of Educational Counseling, Learning and Instruction, Physical Education and Sports for the Excluded and At Risk Communities, and Education in the Era of Technological Information, as well as the

Master in Teaching (MTeach). Teachers who enroll in the professional development programs at the college come from a variety of disciplines, from mathematics, history, geography, engineering, and science, to education, philosophy, sociology, and psychology.

Figure 11. Kaye Academic College of Education in Beer-Sheva, Israel (Prezi: http://www.kaye-college.org/kaye-college)

Both interviewees have a deep understanding of heutagogy, having read the Hase & Kenyon (2000, 2013a) article and book on the theory. They are excited about the theory, as it aligns well with their experiences in and practice of project-based learning, as well as their beliefs about nurturing and developing learning autonomy and agency, self-efficacy, and a connectedness to the community (stewardship). Kaye Interviewee 2 (2016) commented on his introduction to heutagogy by saying:

> When I heard about the full choice of heutagogy, I was very happy because I think it was [an] answer [to] my real understanding or pedagogical understanding for what we have to do with education these days. (para. 19)

Both interviewees also noted that they were unsatisfied with current educational pedagogies, and they recognized a need for exploring a new pedagogy such as heutagogy

> …we think there is a gap or distance between the new idea that we are teaching for and the way we are teaching them [students]…Our students have to teach the way they will teach in the future. We have to decrease or to reduce the gap between the first things. We are not satisfied with…the way of teaching with lectures or with a presentation… We think that the role of teacher or the practitioners or the educators should be changed…we have to do more, to become…more the designer of a learning environment and more mentors that enable the students to find their strength and their focus of interesting, in order to encourage them to find the way by themselves. We help them. We can advise them. We can ask them questions. But we are not to direct them -- we are not get the authority to direct them whatever they want to arrive… it's still our duty to expose them to some worlds that they will not expose by themselves. (Kaye Interviewee 2, 2016, paras. 34-36)

5.3.1 Institutional strategy

In pursuing an institutional strategy, the college applies a similar approach as SPS. When there is a new idea or innovation, staff begin by researching the topic, exchanging and discussing ideas in staff forums and seminars, preparing a proposal, and developing a prototype for experimentation and testing. The interviewees described the college atmosphere as more informal than formal, with many faculty discussions about educational innovations occurring in hallways and staff meetings. The strategy for introducing a new innovation or approach is typically a grassroots one, led and determined by the groups undertaking the research, and not a top-down or presidential decision. As one interviewee described the decision to explore self-determined learning: "Paradoxically or not, we moved in a heutagogy way" (Kaye Interviewee 1, 2016, para. 89).

Although the definition of strategy is commonly a bottom-up approach, leadership support is a critical factor in the Kaye College strategy, and Kaye's president is fully supportive of progressive ideas such as heutagogy at the college. She has encouraged the interviewees (who are leading the project) to publicize their work through the college newspaper, workshops, national and international conferences, and scholarly publications. The president has also participated in development of the strategy, as well as taken an active role in researching progressive educational ideas and supporting their application within institutional programs (Back & Mansur, 2016).

Currently, there are ten teachers within the MED program who are in the process of introducing and practicing heutagogy in their classrooms, and there are plans to expand to 20 or more over the next year (Kaye Interviewee 1, 2016, para. 132). The prototype projects are still in process and results of the prototypes will be ready next year.

5.3.2 Instructional strategy

Kaye College is the leading educator of future and current teachers in Israel, and as a result, their faculty's educational approach has the effect of directly influencing teacher practice, thus creating a ripple effect throughout the national school system. The college's decision to explore and apply heutagogy in their teaching and learning practice is not a surprise, when considering Kaye's progressive education approach. However, their students are more accustomed to traditional, lecture-style forms of teaching, which requires them to not only rethink their learning approach, but also their way of teaching – and to start moving toward a more learner-centered and learner-driven form of education. The interviewees stated that student cultural differences also played a role in learner adoption of heutagogy:

> The college students, some of them are Bedouin, Arab students, with very structure[d]-concepts of learning and instruction. It's sometimes very, very difficult for them to understand the change…they don't know what to do with the freedom I give them. Also, a part of the Jewish students, it's very difficult for them, because they are used to different kind of learning. But for Arab [students, it] is more difficult. (para. 110)

That said, the interviewee commented that some of his students had registered for his courses, because they had heard about the new approaches used and were enthusiastic about exploring new ideas: "They are looking for something new, something different…they don't want…more of the same. It's something fresh for them." (Kaye Interviewee 2, 2016, paras. 110-111). Classroom sizes vary. Kaye Interviewee 1's course had 30 students with student groups of two to four students, while Kaye Interviewee 2 reported having 100 students, who were then organized into student groups of eight to ten students.

In introducing self-determined learning in the classroom, the interviewees applied two different approaches. Kaye Interviewee 1 (2016) began with an explanation and definition of heutagogy, and then surveyed students about their willingness to use the approach in the course, which gave students agency in determining their learning path. This approach aligns closely with the philosophy of his MTeach program, where "[with]in the triangle of the teacher, the content, and the student, the student is the most important. What is less important is the content…the main idea is not the question, "What do I know?" but the question "Who am I?" (para. 69). The interviewee reported that the decision for a heutagogic approach was made by student majority; once students decided to use heutagogy, they then began the process of identifying topics to explore and then created project groups, which the interviewee monitored during the semester through small group meetings. Other than those meeting, the students were independently working on their projects within their groups.

Kaye Interviewee 2 (2016) began his courses by exposing students to a general subject within the course (e.g., creative or ideological thinking) and then practiced heutagogy by having the students create groups, discuss and explore the topic, and then decide what they would learn, how they would learn it, and what the final outcome of their learning should be. The interviewee then met with students five times during the semester to discuss their progress and to provide direction as needed. At the end of the course, each group presented a 10 minute presentation (in the format of their choice) about what they had learned. Each students also prepared an individual report that reflected upon new knowledge acquired and on their learning process (e.g., what the student had learned about him- or herself through the process).

Learner agency and *autonomy* were defining characteristics of both interviewees' instructional strategies. Kaye Interviewee 2 (2016) reported that his students had full freedom in deciding on the work they would do and that this flexibility of learning stimulated their personal, intrinsic motivation to learn:

> I think this is the first time in their life -- this is what also they report – [that] they experience learning from internal motivation. It took them to places they never experienced in learning…they told me they will remember what they are doing, what they are learning. It's not like they after the examination, [when] they forget everything they learn. It was a really [sic] process, they determined. It was a real process of learning. They feel that learning can be… joyful. (Kaye Interviewee 2, 2016, para. 86-87)

Both interviewees commented on being surprised at how deeply and creatively the students engaged with their work, and at the academic rigor they engaged in when conducting and presenting their projects. They also reported being surprised that the students required limited assistance to move forward in their learning, with only a few students asking for help.

Throughout the courses, the interviewees served as *guides-on-the-side* for the learners, meeting with the student and student groups periodically to see how they were progressing and where they could provide assistance. These meetings were also an opportunity for the students and teacher to evaluate the process and their progress together. Kaye Interviewee 2 (2016) described these interactions as a learning journey for both student and teacher: "We are learning together…we are going to [sic] some trip…we are going to explore new areas together." (para. 120).

Learner reflection was also a central component to the interviewees' instructional strategies. Kaye Interviewee 2 (2016) incorporated this aspect into his course by asking students to describe their contributions to the group process in the form of an academic paper. He also used personal blogs as a way for students to document their reflections and as a means for him to monitor student progress and provide mentoring and guidance, saying, "I can just to read it [the blog] briefly between our meetings…I can read what they write and then I can answer them within the blog." (Kaye Interviewee 2, 2016, para. 102)

Assessment of student work was also aligned with a heutagogic approach, although instructors still decided if and when learning had occurred (e.g., by assigning a grade to the coursework). Kaye Interviewee 2 (2016) reported not enjoying this aspect of his teaching, saying that:

> I have to give some a score and I hate it…this is really something that I hate to do. And I don't believe it, to give a number. I don't think we have to measure people by numbers at all, but I don't have a choice, because this is the rules. (para. 24)

The interviewee also described how he defined assessment criteria with students, for example, having discussions with them about which criteria to use, asking them to identify assessment criteria, and then negotiating the criteria that will be used. Students then used these criteria later to perform a self-assessment of their progress and their work, although this was not required. Some students still took issue with the assessment criteria, however, saying: "How can you be an objective evaluator to give us a number at the end, if you don't have such a multi-choice test or something like this? Just, it's your impression." (Kaye Interviewee 2, 2016)

Project-based learning and *group work* were also implemented in the interviewees' classrooms. Kaye Interviewee 1 (2016) described the groups as small communities of practice, where learners could exchange ideas and knowledge and learn from each other. Students were generally receptive to working together, but there were challenges as "not all the students gave the same effort for learning together, and they [the students] felt they are giving more from themselves. Sometimes it is very difficult for them to work with large groups." (Kaye Interviewee 2, 2016, para. 104).

Examples of *stewardship* also emerged from the student projects, in the form of community:

> Some of them, for example, choose [sic] to do something very, very -- to apply the knowledge to do something for the community, or for the society, or for the environment…they start doing it, and even they continue after the course finished. (Kaye Interviewee 2, 2016, para. 108)

Feedback from the students regarding the success of the approach was positive; "not boring," "meaningful," and "deep learning" were terms used by the interviewees to describe the student response to heutagogy. Kaye Interviewee 1 (2016) said that his students thought:

> That they learn much more deeply than they thought they would get to…they didn't thought [sic] that in such a way one can learn, but they were surprised – the students. (Kaye Interviewee 1, 2016, para. 94)

Kaye Interviewee 2 (2016) reported that students had expressed the wish that more of their courses would apply a heutagogic approach, but that they would sometimes struggle with taking responsibility for their learning and asked for specific instructions on the instructor's expectations so that they could obtain higher scores on their coursework.

A growth mindset and the interviewees' values about teaching was also evident in the interviews. Both interviewees talked about their mindsets and the ongoing improvements they were making to their courses based on feedback from their students and on their own impressions of how they could change the courses to support more learner agency and autonomy. For example, Kaye Interviewee 2 (2016) remarked:

> I think first that my academic freedom in the college give[s] me the opportunity to experience new things, and new thoughts and new pedagogics. That's me…part of my identity, or pedagogical identity, or professional identity is not to stop. To experience new things, in order to find the best way to teach. I want to be a role model for my students [so] that later on they will be the same with their students or their pupils. (para. 23)

In terms of how the institutional context may have influenced strategy, Kaye Interviewee 1 stated that he did not see context playing a role, and that the approach was more dependent upon culture. He found that there was a need "to adapt the methods and the way you work, and the situation, but keeping the main ideas [of heutagogy] in place. This is not context-dependent. What is context-dependent is the 'How'." (Kaye Interviewee 2, 2016, para. 146)

5.3.3 Learning strategy[10]

No learners were interviewed as part of these research, although the interviewees were able to relate some of the experiences their students had when introducing heutagogy into their elementary (children) classrooms. The students (teachers) were surprised to find that they were able to trust the

[10] As learners were not interviewed for this research, the findings presented here are the perspectives of the instructors and management interviewed.

children to engage in self-determined learning, saying: "I didn't believe it at first. I didn't think it will work. I didn't understand it and so on." (Kaye Interviewee 1, 2016, para. 17). That same interviewee remarked that “It was a surprise for them to see how far the kids can go if you let them go” (para. 10). In one example, the subject *Myself and the World* was being taught, and the teachers asked students to describe how they learned, what they wanted to learn, and how they wanted to learn. The result was that “the children really didn't waste the time and worked, and involved the parents and makers and whoever can [sic] help them” (Kaye Interviewee, 2016, para. 16).

5.3.4 Next steps

Kaye Academic College of Education is in the early phases of implementing heutagogy and is still in the process of prototyping courses that use self-determined learning; however, they see the potential of a heutagogic approach and are moving forward with the strategy. As a next step, the institution will be evaluating the results of the prototype courses in order to determine what was successful and where improvements can be made. The interviewees will also be introducing more Kaye College staff to the approach; a workshop is planned for the start of next year, where further plans will be discussed and enacted.

Already though, the interviewees are seeing heutagogy expanding to their students’ – the teachers’ – classrooms, resulting in the intended ripple effect of the approach: “The tradition is beginning” (Kaye Interviewee 1, 2016, para. 105). Their students have also reported to the interviewees that they want to continue down the path of exploring and using heutagogic methods in their classrooms.

6 DISCUSSION

6.1 Strategies used in the case studies

What emerged from this qualitative research of three institutions – each from different parts of the world and each with unique contexts – was an institutional use of "home-grown" bottom-up methods for realizing heutagogy within the organizations (Figure 12). SPS and Kaye College both exhibited a combined top-down/bottom-up approach, while the Unisa study revealed less of a top-down approach (i.e., lack of leadership direction). The types of strategy and reasons for pursuing heutagogy also varied across the institutions. For SPS, the decision to pursue new learner-centered pedagogies was driven by the school scandal and a need to stabilize the organization by focusing on core strengths (stability strategy). Unisa's reason for pursuing heutagogy was driven by a need for a foundational pedagogy to use in its transition from correspondence education to online (retrenchment strategy). For Kaye College, the driving factor was a desire for innovative and learner-centered pedagogies for the purposes of improving efficiency of teaching (retrenchment strategy). (See Schermerhorn & Chappell, 2000).

Code System	SPS_1_...	SPS_2_Researcher Notes	UNISA_1_...	UNISA_2_...	Kaye College_1...	Kaye College_2...	SUM
Strategy							4
Institutional							0
Process of developing/impleme							37
Mission/Vision							4
Celebrating successes							4
Communication/awareness							7
Communities of practice							9
Leadership support							11
Performance feedback							7
Project team							10
Research							4
Teaching training							5
Instructional							0
Assessment							21
Co-creation							6
Co-design							16
Collaboration							7
Co-teaching							5
Critical thinking							8
Exploring/experiential and activ							17
Intrinsic motivation							8
Inquiry							9
Learner choice/learner agency							32
Learning spaces							14
Lecture teaching							3
Peer-to-peer support							4
Project-based learning (PBL)							8
Reflection/journaling/portfolios							23
Teacher as guide							25
Learner							0
Entrepreneueralism							0
Self-assessment							7
Self-organization							6
SUM	97	17	44	58	41	64	321

Figure 12. Elements of institutional, instructional, and learning strategies by interview

Common elements of instructional strategies identified in the case studies included learner choice and agency in learning, co-defined assessment criteria, co-creation of content and knowledge, intrinsic motivation of learners, project-based learning, reflection (e.g., through the use of portfolios and journals), and the instructor as guide of the learning process. Instructional strategies at SPS and Kaye

College also shared the common instructional strategy of lecture teaching. SPS and Unisa both included collaboration activities and experiential learning and promoted co-teaching and critical thinking, as well as exhibited peer-to-peer support. Learning spaces and inquiry were core themes for SPS, but were not identified as characteristic of instructional strategy in the other case studies.

Although learners were not interviewed for this research project, certain elements of learner strategy were revealed, based on interviewee perceptions. For example, learner strategies of self-assessment and self-organization were identified.

In developing their strategies, each of the institutions used (or plans to use) common organizational management approaches: 1) an innovation (heutagogy) was identified and researched; 2) a prototype was developed, delivered, and evaluated; and 3) the innovation was implemented across the organization. SPS is the most advanced in implementing their strategy, having completed all steps in the process. Kaye College and Unisa are still in the prototyping phase.

6.2 Alignment of case studies with heutagogic principles

Heutagogy is founded on the basic principles of human agency, capability, self-reflection and meta-cognition (double-loop learning), and non-linear design. The case studies presented here exhibited numerous examples in the ways in which they aligned their institutional and instructional strategies with the theory of heutagogy.

All case studies showed examples of *human agency and self-determination* in learning. This was particularly evident in the cases of SPS and Kaye College, which supported agency through their use of inquiry, project-based learning, and co-design of learner goals and assessment criteria, giving learners full responsibility of their learning and which resulted in intrinsic motivation of learners in accomplishing learning goals (Hase & Kenyon, 2000, 2007, 2013b; Hase, 2019; Deci & Ryan, 2002). At SPS, the co-design of learning spaces was especially supportive of learner agency, as this allowed for learners to define how and where they would learn. Learner agency was not as strongly exhibited at Unisa, where direction of learning was primarily instructor-led, except in the utilization of inquiry-based questions in discussion forums. In all of the cases, the instructor (or teaching assistant, in the case of Unisa) served as guide-on-the-side in supporting the learner along his or her learning pathway, often through the use of experiential learning activities.

Capability was more difficult to gauge, as the interviewees were not always able to observe students in unfamiliar settings. However, the examples of entrepreneurialism at SPS (The Entrepreneuer's Club), where students have built and launched own businesses could be an example of capability. Another example could be that demonstrated by the students (teachers) at Kaye College, who adopted heutagogy in their classrooms after learning about it in their masters program. In both of these cases, learners demonstrated their skill and competency in a new or unfamiliar setting (Stephenson, 1992).

According to the interviewees, learners also exhibited characteristics of the capable learner, demonstrating traits such as creativity, effective communication and collaboration, and confidence (Cairns, 1996; Stephenson, 1992; Stephenson & Weil, 1992; Gardner et al., 2007).

Self-reflection and meta-cognition (i.e., thinking about the learning process) were central components of each of the case studies presented, usually in the form of a project portfolio or in a learning journal (such as the personal blogs used at Kaye College and the portfolios at Unisa and SPS). Reflective practice was also evident at SPS in the examples of students identifying and pursuing questions for inquiry and in considering how these questions influenced their learning activities and practice (for example, the students who explored self-determined learning and negotiation of learning within their classroom environments as part of their projects).

At SPS and Kaye College, there were numerous instances where *non-linear teaching and learning* were evidenced, primarily due to the PBL approaches applied within the institutions. In these cases, learners identified the topics that they would learn and the outcomes they hoped to achieve and then began the process of exploring the topics either individually or as a group. The learning pathway was defined by the student, and this path could take different directions, depending on student discoveries along the way (as was the case at SPS with the student who learned slow shutter photography while developing her project portfolio). The instructors were again guides to the learners and adapted teaching approaches according to learner need. At Unisa, the courses were more linear with less opportunity for learners to explore and define own learning pathways.

Each of the courses also contained elements of heutagogic design. All of the case studies reported examples of exploration (in the use of PBL, inquiry questions, and action research), creation (in project design and development and co-design of learning spaces), reflection (through e-portfolios and learning journals), and sharing (via projects, portfolios, and Vlogs/blogs). Examples of collaboration were evident at SPS and Kaye within the students' PBL projects, whereas the use of collaborative learning was not as successful at Unisa (as reported by Unisa Interviewee 2). Connection with external networks of support and engaging with the community was demonstrated primarily at SPS (e.g., through engagement with external experts as part of students' action research and the Entrepreneur's Club), as well as at Unisa (e.g., through the use of the experiential assignment of observing teachers in action); this element seems to be in the early stages at Kaye College and is project dependent. Co-definition of assessment criteria was characteristic of SPS and Kaye College, but in all cases the assessment of learning was ultimately instructor-determined.

Although technology has been promoted as an effective means for realizing heutagogy in learning environments (Price, 2013; Blaschke, 2012; McLoughlin & Lee, 2007), the case studies researched for this project showed minimal use of technology, except in the case of Unisa, where the courses were delivered online using the institution's LMS, MyUnisa. A few examples were cited in the other

two case studies, such as the use of Vlogs at SPS and personal blogs as places at Kaye College for reflection.

This alignment of the case study research with heutagogic principles and design elements would indicate that the programs at SPS and Kaye strongly exhibit characteristics of heutagogy in their institutional and instructional strategies, whereas Unisa is tendentionally moving toward heutagogy but displays more characteristics of andragogy (e.g., competency development; instructor directed; linear design of curriculum; getting students to learn).

6.3 Role of context

Porter (1980) describes four factors that create institutional context and influence competitive strategy: 1) *factors internal to the company*: its strengths and weaknesses and the values of those implementing the strategy, and 2), *factors external to the company*: industry opportunities and threats and expectations of society (Figure 3). Elements of each were apparent in the case study research, as themes of institutional culture, teaching culture, and societal (or country-specific) culture emerged from the interviews.

For SPS, there was evidence of external factors influencing the institutional strategy for adopting heutagogy, such as the child abuse scandal in the 1990s (threat) for which atonement was expected (expectation of society), and the potential damage to SPS's brand and reputation as a leading private school in Australia (threat), and the opportunity to reclaim the brand by adopting innovative pedagogies (opportunity). Internal factors that influenced the strategies used at SPS were the school's creative and innovative teachers and their willingness to adoptive new approaches to teaching and learning, as well as the dynamic leadership that has spearheaded and supported the project (strengths).

At Unisa, external and internal contextual factors also played a role – and will continue to play a role – in influencing the development of an institutional strategy for implementing self-determined learning. External factors included the pressure to catch up with technology developments in education by moving online (opportunity), increased competition within the field with more schools providing distance education and e-learning (threat), and the societal demand that education support students in reclaiming their African voice and make education accessible, e.g., Fees-Must-Fall movement (expectation of society). Internal factors include the Unisa brand as an education leader in South Africa and leadership recognition and support of a *need* for a strategy (strengths), but at the same time the absence of leadership firmly directing the strategy, as well as the size of its student body, course size, and limited flexibility in adopting new pedagogies and technologies (weaknesses). The combination of these factors creates a high level of complexity that makes it challenging for Unisa to define and implement an effective strategy within its context.

Kaye College's tradition and commitment to exploring and implementing innovative pedagogies was a strength, as was its market brand as leading educator of teachers in Israel (strength and opportunity). Realizing a new approach to teaching and learning such as heutagogy also creates an opportunity for the college to further establish and position its brand in the education market (opportunity). Kaye College's institutional culture of encouraging and promoting innovation and creativity and one that is tolerant of failure has also contributed to the initial success of its strategy for implementing heutagogy (strength).

The personal values of those leading campaigns to implement self-determined learning – or *teacher mindset*, as they called it – also seems to have positively influenced the success of their instructional strategies. For example, a focus on exploration and experiential learning is central to the Unisa Interviewee 1's mindset as a science teacher; it is his way of nurturing learner self-efficacy – also a key principle of heutagogy (Schulze & van Heerden, 2015). Unisa Interviewee 2 (2016) said, "I love what I'm doing. Because it's a new thing, it's a challenge. You're always thinking. You're always planning. You always want to improve." (paras. 72-73, 178). In describing their instructional strategies, the interviewees also exhibited characteristics of the learning leader (Table 3).

6.4 The PAH Continuum

One of the research questions guiding this research was: Is a specific framework such as the PAH continuum used in defining strategy and in what way? From the research, it is not clear whether the institutions deliberately used the PAH continuum in defining their institutional and instructional strategies. However, it was evident that students, as well as teachers, were in different places along the continuum and that, in order to transition to heutagogy, new approaches needed to be implemented to move learners along the continuum (that is, from pedagogy or andragogy to heutagogy). Whether the PAH continuum guided strategy definition was not visible; however, it *was* apparent that both the learner's and teacher's position on the PAH continuum guided instructional practice. The research findings also seem to indicate that an instructional strategy was defined based on where teachers and learners resided on the continuum, as well as the institutional context (e.g., degree of openness and flexibility in applying the approach, institutional culture, stakeholder motivations and engagement). In this way, the PAH continuum could be described as descriptive rather than prescriptive in its role of influencing strategy.

All of the interviewees interviewed in these case studies reported that learners struggled with adopting self-determined learning, which is supported by previous findings that have been cited in the research regarding the difficulties learners encounter in moving through the PAH continuum (Luckin et al., 2010; Garnett, 2013; Blaschke, 2014a). Emerging from the case studies is a picture of learners who are in different places along the PAH continuum (e.g., the challenges cited in getting learners to think critically, such as the case at Unisa, and changing learner perceptions about their understanding of

learning and encouraging them to take control and determine their learning activities and goals, as shown in the research from SPS and Kaye College). The following example from SPS further supports these findings:

> But last year I had a couple of boys who just went and pulled back, they went, "No." and did not want to be involved with it [self-determined learning]. There was that: a bit too cool for school. I had a couple of kids who said: "I just want to sit in rows and columns. I want to be told." When we sat down in parent-teacher interviews, what came out was: "It's actually more work if I have to actually have to look after and control my own behavior. It's like I'd rather you just tell me off, and you discipline me and you do those things, rather than make me reflect." (SPS Interviewee, 2016, para. 163)

The interviewees found various methods for coaxing students to move forward along the PAH continuum, such as encouraging deeper reflection through inquiry questions and forcing students to become self-determined by including it as a factor in assessment (Unisa Interviewee 1, 2016). Other methods are described below:

> You might have heard, we have a textbook saga here, in South Africa textbooks not being delivered to schools and then learning doesn't occur because the teachers tell the learners, or they photocopy the pages or say now that underline the words and rewrite it, that's learning. I said, "No, no, that's not learning…And I said, "You're not teaching them how to summarize. If you teach them how to underline key words and then to paraphrase and to make summaries, that's different." (Unisa Interviewee 1, 2016, para. 114)

> I showed them a couple options in five different areas – from teacher, student, up to the head, and who decides about five things: The curriculum, ways of learning, learning environment, evaluation, and I asked them to write - each of them, where they want to be in all the five [areas]. What I found out was that most of them - between 60%...I presented the questionnaire at the beginning of the lesson without saying anything about heutagogy. Then I showed them the results. The result was in favor of the open [form] -- I began to tell them something about heutagogy. That's the way I worked, because most of them were into the teacher-centered learning. I didn't begin with heutagogy because the inner conflict would be much more serious then. This was a check to see where they are, and to begin from there. (Kaye College Interviewee 1, 2016, paras. 121-122)

The case studies also revealed that teachers must move along the PAH continuum as well, by adopting the practice of heutagogy for themselves first before being able to create environments where their students can practice self-determined learning. At the same time, all of the interviewees reported that once students had made the transition to self-determined learning, students were eager to continue learning in this way and that they preferred learning in classrooms that applied heutagogic methods.

A challenge related to the PAH continuum is the time it takes for adoption of the innovation. Not all learners adapt quickly to the approach, and it can take years before a ripple effect to take hold. Said the SPS Interviewee (2016):

> I even had a student come back to me, she e-mailed me a couple of months ago. She left about two years ago, and she said to me, "Thank you so much. I kind of, find the penny has dropped totally. What you were trying to do and what, and how you were trying to get us to work and collaborate, and working together and all these kinds of things." (SPS Interviewee, 2016, para. 207)

A subquestion of this research was whether heutagogy is applicable within the K-12 education sector, that is, whether children are mature enough to be self-determined in their learning. The case study

research of SPS seems to support the views of Hase & Kenyon (2013) and Ackoff & Green (2008) that children are inherently self-determined in their learning, and placing doubt on the generally held belief that heutagogy can only be applied in adult education and with mature learners. Further research into use of the approach within childhood education would be needed to further solidify the finding. There are also indications in the research showing that heutagogy could be relevant across disciplines and not confined to education and the health sciences (see also Gazi, 2014); however, these indications are based on the second-hand information of those interviewed (as communicated to them by their students) rather than through direct observation or practice. The application of heutagogy across disciplines would be another area for further research.

6.5 Challenges

In addition to exposing the difficulties learners encounter in advancing along the PAH continuum, the case studies revealed a number of other challenges for institutions, instructors, and learners when implementing heutagogy. First and foremost is the fear often associated with the transition to the approach, that is, fear of the risk associated in engaging with self-determined learning. Students and teachers may be unwilling to adopt the approach; external and internal stakeholders may be critical of how heutagogy is implemented and the outcomes; and the approach may simply not be applicable within the institutional context (e.g., in cases where institutional culture is inflexible and not conducive to innovative pedagogical forms). Some risk can be minimalized by justifying and quantifying the progress of the project, as well as through education and awareness campaigns directed at all stakeholders and professional development/coaching program for teachers.

There also exists a fear of losing control (for teachers) and gaining control (for students). With heutagogy, the learning path is defined by the learner, which means the teacher is no longer deciding what and how the student will learn, and this situation is uncomfortable and confusing for teachers accustomed to traditional teaching approaches, taking them out of their comfort zone (also exhibited in the case studies). Another danger is that teachers fall back into traditional teaching patterns (comfort zone) if the new approach is not working effectively. A growth mindset (Dweck, 2006), where failure is an accepted norm necessary for personal growth, can be beneficial in addressing these challenges – as could be the adoption of a teacher mindset and learning leader traits (Figure 3).

Students may resist the approach, as it requires them to take responsibility for their learning; examples of this were also evident in each of the case studies as students struggled to redefine their previously-held definitions of learning. Students who are unfamiliar with self-determined learning may not have the necessary skills to form a learning question or to delve deeper into ideas and concepts, making it necessary for more one-on-one guidance by the instructor and providing a stimulus to engage them in deep thinking. Students may also have difficulty in developing capability (that is, advancing from competency to capability); the SPS Interviewee (2016) related the story of students suffering from

"subject silo" and not being able to transfer knowledge to new environments/topics: "I've had students in previous years who have learned something in maths about graphing…Then a week later they haven't transferred that over to science because they just walk in there, and they think 'subject silo'." (para. 117). There is also the danger that teachers *prefer* subject silos (i.e., adherence to teaching only in their discipline) as this makes it unnecessary for them to learn new topics when student projects become cross-disciplinary.

In the case of Unisa, other challenges were revealed, specifically those relating to the adoption of new technology. For example, students and teachers were not technology literate (i.e., could not use smartphones and computers effectively, thus requiring extensive support), and there was limited or no access to technology (e.g., internet) in rural areas. Internet cafés were then suggested as a solution to students.

6.6 Benefits

Many benefits of self-determined learning were identified within the case studies, which were also supported by previous findings in the literature (Hase & Kenyon, 2013; Blaschke, Kenyon, & Hase, 2014). Interviewees reported empowerment of students (student voice) as they engaged in self-determined learning and exercised learner agency. This openness to allow for agency in learning also resulted in more intrinsic motivation of students, as well as contributed to a democratization of education as learner and teacher were regarded as equals. Learners also demonstrated competencies in self-organizing their learning activities and in reflecting on what they had learned and how they had learned it, resulting in deeper learning. Cross-disciplinary learning was also viewed as a benefit, as students explored subjects outside of, but related to, their project interests. Stewardship – giving back to the community – was also recognized by the interviewees as a benefit of implementing heutagogy. In the case of Unisa, it was noted that course completion rates also increased in comparison to average pass rates.

6.7 Guidelines for realizing heutagogy

The following guidelines for institutions[11] and instructors who are considering adopting heutagogy arose from the interviews conducted for this research project.

[11] Only one case study (SPS) has installed an institution-wide strategy; as such, most institutional guidelines are based on the findings from the SPS case study.

For institutions:

- Provide guidelines for deciding upon and implementing the strategy
- Consult and collaborate with all stakeholders in order "to authenticate the process and build trust" (Andrews, 2014, p. 172)
- Involve senior leaders in developing strategy
- Communicate the mission and vision clearly, making it highly visible
- Explain the value added by the approach and how it aligns with the organization's strategic plan and mission
- Build a culture of trust within the institution by removing threat and focusing on opportunity (Andrews, 2014)
- Listen actively, admitting to and allowing for mistakes – and give feedback (Andrews, 2014)
- Make professional development and coaching/mentoring opportunities available to staff
- Ensure time for the transition (Andrews, 2014)
- Document the learning journey of both students and teachers

For instructors:

- Build a support network of common thinkers for exchanging ideas and experiences, for example through co-teaching with other teachers or by building a community of practice
- Obtain the support of an advocate in leadership
- Develop and promote a teaching mindset focused on growth and innovation
- Consult and converse with students, asking their opinions and engaging in dialogue
- Start slow, be flexible, and focus on improvements
- Identify and use your strengths
- Be prepared to take risks and to move out of the comfort zone of traditional models of education: "sabotage yourself as a teacher" (SPS Interviewee, 2016, para. 215)
- Trust your instincts and live your passion

6.8 Limitations of this research

A number of limitations exist in this research. First, the scope and research sample are very small (three institutions and five in-depth interviewees). An evaluation of a larger segment of managers, instructors, and learners would be necessary in order for any findings to be firmly substantiated or generalized. Strategies used by learners to realize self-determined learning was not investigated and is also an area identified for further research. In addition, the literature review that was conducted into the individual institutions was not included in the coding process; inclusion of the literature within the coding could have given a more comprehensive view of the institutions and the strategies used.

7 CONCLUSION

Thus far, the practice of heutagogy has surfaced in small pockets of innovation in different regions of the world. Interest in heutagogy and self-determined learning continues to rise, however, as educators and institutions seek out better ways of educating today's learners (as exhibited in these case studies). With the advancement of the practice and study of self-determined learning, new areas for research and development have emerged. One of these areas is that of brain research, which Hase (Blaschke & Hase, 2015b) finds further affirms and substantiates the heutagogic practice of inquiry, problem-solving (trial-and-error), and non-linear learning. Other areas of research include studies of: the development of interdisciplinary learning and studies that allow for more learner-designed and self-determined learning, with a stronger focus on problem-solving (Dietz & Eichler, 2013); self-determined learning solutions that support active dialogue, build learner capacity, and encourage open and ongoing dialogue in community (Snowden & Halsall, 2014); strategies undertaken by learners for self-determined learning and their perceptions of their learning; characteristics of instructors as learning leaders; and further research into strategies for realizing heutagogy holistically across the institution (systems approach).

Another interesting development within heutagogy that must be noted is its potential role in promoting democratization of and social justice in learning, which aligns well with Freire's (1970) call to end pedagogies of oppression. In the African examples presented by Msila (2014), Kanwar et al (2013), and Bangura (2005), the authors advocate pursuing pedagogies that better reflect the holistic African culture, one that recognizes learners as reasonable people and that supports collaboration, learner empowerment, and lifelong learning. Enabling students to be self-determined in learning helps to remove the objectification that occurs when humans are no longer allowed to make their own decisions (Freire, 1970), and in this sense, heutagogy is well-positioned as an approach that could address the educational needs of learners in both developing and developed countries. The theory could be of particular interest and use within open, distance, and online education, which has traditionally been heralded as an educational form that achieves education of the masses.

As presented in this research, heutagogy is slowly being realized through grass-roots efforts and through the use of various institutional and instructional strategies. In most cases, these strategies begin with the teacher, who creates the learning space or environment for self-determined learning to occur. At the same time, when approached holistically, heutagogy can serve as an educational framework that can be applied across the institution and can create learning environments characterized by a growth mindset and deeper levels of learning in both students and instructors.

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9 APPENDIX A: INTERVIEW QUESTIONS

Confidentiality statement:

Please note that all personal identifiers will be removed when gathering and reporting the information provided here in order to ensure confidentiality, unless the interviewee verbally agrees to waive confidentiality. Interviewees will receive a transcribed version of the interview for approval before results are used for the course project or are published.

Introduction

- Can you tell me a bit about yourself? How long have you been with the institution? How long have you been a teacher/administrator? What has your role been within the organization?
- Hase and Kenyon (2007) define heutagogy as: "the study of self-determined learning (which)..- applies a holistic approach to developing learner capabilities with the learner serving as 'the major agent in their own learning, which occurs, as a result of personal experience' (p. 112). When did you first hear of the term heutagogy and what were your initial thoughts about the approach? What is your understanding of heutagogy or self-determined learning?

The institution

- Tell me about your institution. In particular, why did it choose to move toward adopting an approach such as heutagogy?

The strategies used

The institutional strategy:

- How would you describe the institutional strategy used in adopting the approach?
- Why this strategy? How did the strategy align with institutional goals?
- What stakeholders were involved in defining and implementing the strategy? What role did they play? What was your role in defining and realizing the strategy?
- What were your motivations (as administrator, teacher, or learner) in realizing the approach (i.e., why did you implement it?)?
- How did you go about defining the strategy (for the institution, for the classroom, for yourself)? Would you consider the institutional strategy successful? Why or why not? What benefits have you realized by adopting the approach?

The pedagogical strategy:

- How have you gone about realizing the strategy (within the institution, your classroom environment, or as a learner)? What key measures did you take?
- What role did (or has) management take (taken) in making the transition?

- What changes were necessary to your current practice (as a teacher, administrator, or learner) in adopting a self-determined learning approach?
- What has worked/what hasn't?
- What challenges were you confronted with in adopting the approach? How have you addressed these?

The students (admin and teacher interview only)

- Please tell me more about your students. Who are they? What were your students' reaction to this approach?
- What measures did they need to undertake in adopting the approach?
- From your perspective, how well have your students adapted to the approach?

The teachers (admin interview only)

- Please tell me more about your teachers. Who are they?
- What were your teachers' initial reaction to this approach? What measures did they need to undertake in adopting the approach?
- From your perspective, how well have they adapted?

Final questions

- How successful has the approach been from your perspective as a/an (administrator, teacher, learner)?
- What advice would you give to those considering a transition to heutagogic practice (or self-determined learning)?
- What role do you see your specific context influencing the success of your approach in realizing self-determined learning?

10 APPENDIX B: FINAL CODING FRAMEWORK (MAXQDA)

Code System	#
Code System	817
Stakeholders	1
Librarians	1
Leadership/Management	3
Teachers/Assistants	27
Community	9
Parents	6
Students	35
Strategy	4
Benefits	6
Autonomy/Freedom of choice	6
Behavioral change	1
Social justice	6
Challenges	3
Teacher PAH	20
Learner PAH	36
Challenges - Learner	9
Challenges - Instructor	10
Challenges - Institution	14
Institutional	0
Reasons for Heutagogy	3
21st century workers/skills/lifelog learning	6
Need for new pedagogy	11
Innovative	8
Process of developing/implementing	37
Mission/Vision	4
Celebrating successes	4
Communication/awareness	7
Communities of practice	9
Leadership support	11
Performance feedback	7
Project team	10
Research	4
Teaching training	5
Instructional	0
Assessment	21
Co-creation	6
Co-design	16
Collaboration	7
Co-teaching	5
Critical thinking	8

Exploring/experiential and active	17
Intrinsic motivation	8
Inquiry	9
Learner choice/learner agency	32
Learning spaces	14
Lecture teaching	3
Peer-to-peer support	4
Project-based learning (PBL)	8
Reflection/journaling/portfolios	23
Teacher as guide	25
Learner	0
Entrepreneueralism	0
Self-assessment	7
Self-organization	6
Program characteristics	2
Capacity building	1
Personalized	12
Creativity	15
Curriculum	6
Cross-disciplinary	5
Discipline	1
Arts	5
Chemistry	1
Education	3
Engineering	1
Geography	3
History	4
Humanities	2
Law	2
Leadership	1
Maths	8
Medicine	1
Philosophy	1
Psychology	1
Science	4
Sociology	1
Deep learning	8
Entrepreneurial	4
Flexibility	8
Government standards	4
Group learning	18
Growth mindset	5
Individual learning	12
Learning as journey	12
Media	1
OER	2

Blog	2
Flash disk	2
Mobile phone	3
Moodle	1
Online	9
Overhead projectors	1
Photoshop	1
PowerPoint	2
Sakai	1
Social media	0
Vlogs	1
WhatsApp	2
Mutual respect	4
Pedagogy	13
Reading	5
Researching	6
Skill development	6
Stewardship	3
Context	1
Country culture	17
Institutional culture	12
Teaching culture	10
Biography	19

11 APPENDIX C: STRATEGIES / PROGRAM CHARACTERISTICS (MAXQDA)

Code System	SPS_1_Des	SPS_2_Researcher Notes	UNISA_1_Mark	UNISA_2_Angie	Kaye College_1_Shlomo	Kaye College_2_Amnn	SUM
Strategy		4					4
Institutional							0
Process of developing/impleme	2		5	6	19	5	37
Mission/Vision		3			1		4
Celebrating successes	1		2			1	4
Communication/awareness	1				4	2	7
Communities of practice	3		3		1	2	9
Leadership support	2		1	1	3	4	11
Performance feedback	4		2			1	7
Project team		2	3	2	2	1	10
Research	1	3					4
Teaching training	1			3		1	5
Instructional							0
Assessment	4		5	5		7	21
Co-creation	2		1	1		2	6
Co-design	11		1		2	2	16
Collaboration	3			4			7
Co-teaching	1		3			1	5
Critical thinking	1			6		1	8
Exploring/experiential and activ	2		9	4		2	17
Intrinsic motivation	1		2		1	4	8
Inquiry	9						9
Learner choice/learner agency	12	2		6	4	8	32
Learning spaces	14						14
Lecture teaching	2					1	3
Peer-to-peer support	3			1			4
Project-based learning (PBL)	2	3	1		1	1	8
Reflection/journaling/portfolios	5		5	8		5	23
Teacher as guide	4			10	3	8	25
Learner							0
Entrepreneueralism							0
Self-assessment	2		1			4	7
Self-organization	4			1		1	6
Program characteristics		2					2
Capacity building			1				1
Personalized	6			1	1	4	12
Creativity	7	1	3		1	3	15
Curriculum		2	1	3			6
Cross-disciplinary	3		1		1		5
Discipline	9		13		11	6	39
Deep learning	1		1		3	3	8
Entrepreneurial	1	3					4
Flexibility	3		1	1		3	8
Government standards	2		1	1			4
Group learning	3			2	5	8	18
Growth mindset	3		2				5
Individual learning	4			1	1	6	12
Learning as journey	2		1		2	7	12
Media	1						1
OER			1	1			2
Blog						2	2
Flash disk				2			2
Mobile phone				3			3
Moodle						1	1
Online				8	1		9
Overhead projectors			1				1
Photoshop					1		1
PowerPoint					1	1	2
Sakai			1				1
Social media							0
Vlogs	1						1
WhatsApp				1	1		2
Mutual respect	2		2				4
Pedagogy	7	2	2			2	13
Reading	1			4			5
Researching	4			1		1	6
Skill development	1		2	2		1	6
Stewardship	1		1			1	3
SUM	159	27	79	89	70	113	537

ERKLÄRUNG ZUR SELBSTÄNDIGEN ANFERTIGUNG VON SCHRIFTLICHEN PRÜFUNGSLEISTUNGEN

Die folgende Erklärung ist mit der Abgabe von Hausarbeiten, Masterarbeiten und Projektportfolios abzugeben und wird als letztes Blatt eingebunden; sie lautet

bei einer Einzelarbeit:

Hiermit versichere ich, dass ich diese Arbeit selbständig verfasst und keine anderen als die angegebenen Quellen und Hilfsmittel benutzt habe. Außerdem versichere ich, dass ich die allgemeinen Prinzipien wissenschaftlicher Arbeit und Veröffentlichung, wie sie in den Leitlinien guter wissenschaftlicher Praxis der Carl von Ossietzky Universität Oldenburg festgelegt sind, befolgt habe.

Neckarbischofsheim, 26.10.2016

Ort, Datum und Unterschrift