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Heutagogic approach to developing capable learners

Reem Rachel Abraham^a and Ramnarayan Komattil^b

^aDepartment of Physiology, Melaka Manipal Medical College (MMMM), Manipal Campus, Manipal University, Manipal, India; ^bManipal University, Manipal, India

ABSTRACT

The twenty-first century higher education sector has come a long way after undergoing continuous metamorphosis from pedagogy to andragogy. Most of the educational approaches adopted in medical schools are directed towards developing more of competencies and less of capability, which is the ability to use competencies in novel contexts. Competencies alone are not sufficient to thrive in the present day work place as medical profession subsumes complex contexts; it is in this scenario that, medical educators are entrusted with the challenging task of developing “capable learners”. In the heutagogical approach, learners are required to decide upon what to learn and how to learn and therefore the control of the learning process is on the learner and the role of the teacher becomes that of a navigator. This paper highlights the current higher educational practices based on heutagogy, considers its application in the context of Problem-based learning and also discusses a few challenges in incorporating this approach in the existing undergraduate medical curriculum. The article proposes the use of social media in order to support learner autonomy, which in turn improves learners’ cognitive engagement with content and tasks, thereby assisting the development of attributes associated with capability.

Introduction

The paradigm shift-pedagogy to andragogy to heutagogy

The twenty-first century higher education sector has come a long way after undergoing continuous metamorphosis from pedagogy to andragogy. In pedagogy the teacher control over the learner is extensive, acknowledging the fact that learners have a low level of experience in learning (Hase & Kenyon 2000). Pedagogy or teacher-centred learning has been replaced by andragogy, which is specific to adult learning, in 1970s by Knowles (1975). In the andragogical approach, learners are involved in the learning process and learning contexts are provided to the students as per the recommendations of teachers. The teachers are still in control of the process to a great extent (Hase & Kenyon 2000). This paper highlights the emerging approach in higher education, namely heutagogy, considers its application in the context of undergraduate medical education and also discusses a few anticipated challenges.

Undergraduate medical education has endorsed educational approaches relied on the principles of andragogy, in order to improve student learning outcomes. Educational methodologies such as problem-based learning, self-directed learning and case-based learning underpins the concepts of andragogy. Andragogy was defined by Knowles (1978) as an approach in which the learner takes the responsibility of identifying learning needs and exploring the strategies in which the learning needs would be met. The role of the teacher in an andragogical approach is to facilitate learning and to support the learner to become more self-directed. Here, the teacher establishes the course content and learning objectives, whereas the learner

Practice points

- Adopting a heutagogical approach while designing and implementing teaching-learning strategies will nurture capability and self-efficacy in learners
- Heutagogical principles could be applied in the context of PBL and student research projects
- Social media could be utilized as a platform to provide learner autonomy and thereby support a heutagogical approach

decides how to learn the content. This approach per se, might not empower learners to become prepared for life-long learning (Ashton & Newman 2006; Blaschke 2012). The andragogical approach strive towards the development of competence in learners but not capability (Tay & Hase 2004).

The competency approach has been criticized in terms of its perspective of training learners mainly to achieve milestones and not excellence. Competencies alone are not sufficient to thrive in the present day work place as medical profession subsumes complex contexts (Hase & Kenyon 2007). As the learners experience more cognitive maturation during the course of their training, they are expected to require less teacher control and attain more autonomy over learning. They are expected to have the knowledge of how to learn and how to continuously reflect on their learning process (self-efficacy). Sturmberg and Farmer (2009) advocates the need for a “capability” focus in the curriculum, instead of “competence” alone, to mold learners who can perform effectively in real world.

As emphasized by some researchers, the “power to learn” is in the hands of the learner (Rogers 1969). In this regard, since 2000, the concept of heutagogy has been the new wave in higher education. Heutagogy or self-determined learning is an educational approach first described in the context of vocational education by Hase and Kenyon (2000) and Kenyon and Hase (2001). A heutagogical approach expects the learners to set their goals, reflect and revise on their learning experiences, in the process towards achievement of their goals. Heutagogy emphasizes on nurturing capability in learners (Hase & Kenyon 2007). Capability is the capacity of learners to use competence in novel (Hase 2011) and in uncertain situations (Sturmberg and Farmer 2009). Cairns and Hase (1996) defined capability as: “Having justified confidence in your ability to take appropriate and effective action to formulate and solve problems in both familiar and unfamiliar and changing settings”. Heutagogical principles demand a deeper level of cognition wherein the learner goes beyond being competent in terms of his/her self-efficiency, adaptability and the ability to solve problems (Hase 2011) and to manage complex and non-linear challenges (Phelps & Hase 2002; Phelps et al. 2005).

Learning is a continuous process and should happen in a changing world by the learners adapting to the changes. As educators, we are entrusted with the challenging task of equipping learners with the skills of the process of learning “how to learn” and how to reach at judicious judgments in uncertain situations, in order to prepare themselves for their future professional life. The learning experience that learners gain through their undergraduate medical training must exceed beyond the acquisition of knowledge and skills. It should prime them for the sophisticated work skills expected out of them in today’s changing work place scenario.

To achieve this, we need to

- *involve* learners in designing their own learning contracts (Gilbert 1975; Cristiano 1993) or learner generated contexts (learning content, learning strategies, assessment) (Luckin et al. 2005, 2011; Kenyon & Hase 2010), with the help of teachers.
- make the curriculum more flexible (Kenyon & Hase 2001; Hase & Kenyon 2007; Hase 2009), in terms of provision of more learner autonomy over the learning process.

The concept of heutagogy is one step forward in shifting the control of learning to the learners and enabling them to engage in life-long learning (Bhojrub et al. 2010). Heutagogy relies on the principles of self-efficacy (Cairns & Hase 1996), which enables learners to access learning resources on their own, recognize the need to work with others, thus aiming for the holistic development of the learner. In the heutagogical approach, there is freedom and opportunity for a lot of questioning by learners, in which they themselves try to find answers (Hase 2009).

Application of heutagogy in higher education

Studies have confirmed that a heutagogical approach can be applied to web-based and distance learning methods

(Chapnick & Meloy 2005; Blaschke 2012, 2014). The affordability of social media makes it a suitable medium for the application of heutagogy (McLoughlin & Lee 2007). A recent case study by Blaschke (2014) at the University of Maryland University College (UMUC) conducted for an online course of Master of Distance Education and E-learning (MDE) program revealed that a blended approach based on heutagogy, using the affordability of social media could provide learners with a learning environment that nurtures cognitive and metacognitive skills. The application of a heutagogical approach in a teacher education program at University of Western Sydney in New South Wales has been described by Ashton, Newman and Elliot (Ashton & Newman 2006; Ashton & Elliott 2007). They observed a spectrum of positive learning outcomes that included better teacher outcomes, increased capability among teachers (learners), and increased learner confidence. Heutagogical principles have been found to stimulate students’ confidence in utilizing learning opportunities in unfamiliar and complex situations in a nursing program (Bhojrub et al. 2010).

Application of heutagogy in undergraduate medical curriculum – a case study from Melaka Manipal Medical College (MMMC), Manipal Campus, Manipal University, India

The application of heutagogical principles in undergraduate medical education has not been studied extensively, so far. Here, we cite a component in the undergraduate medical curriculum which to some extent follows the principles of heutagogy. In the Mentored Student Project (MSP) program at Melaka Manipal Medical College (MMMC), Manipal Campus, Manipal University, India, second-year students undertake a short-term research project under the guidance of their mentor. The MSP coordinators orient the students on different aspects such as introduction to research methodology, protocol writing, project discussion, project report writing, poster presentation, and reflective summary writing during the various stages of MSP. The topic selection and the methodology are designed by the students with the help of their mentors. The MSP coordinators as well as the mentors provide only the required scaffolding. The process of “reflective practice”, a crucial component of heutagogy, is kindled through this unique initiative. As the final requirements of the MSP program, students (a) write an abstract, (b) present a poster, (c) write a reflective summary individually on their research experiences while undertaking the research and also reflect upon their plans to apply this learning into future practice. Another characteristic feature of heutagogy which is addressed through MSP program is, collaborative learning, wherein the learners work in groups and share the resources. Through the MSP program, students’ perceived research skills and attitude towards research, and attributes associated with capability (Sturmberg & Farmer 2009) have improved (Devi et al. 2015).

A proposed framework for conceptualizing heutagogy using social media, in the context of PBL

A likely area wherein the principles of heutagogy could be applied, following the design elements of a heutagogical

curriculum (Blaschke 2012) is in the context of problem based learning (PBL). Engel (1997) emphasized the cardinal role of PBL in developing learners' capability. A heutagogical approach emphasizes the need for inclusion of autonomy-supportive learning (Williams et al. 1999; Ten Cate et al. 2011). Learners who receive increased autonomy support become high performers later in life, than learners who are pressurized to work towards goals set by others (Williams & Deci 1999).

The proposed heutagogical framework described in Table 1 aimed at providing more autonomy-supportive learning experiences to learners, thereby increasing their cognitive engagement, their progression to competencies and capabilities. We are not advocating that, the use of the proposed heutagogical model for PBL using social media will better equip the learners with attributes of capability. We are only highlighting the potential use of technology in giving the learners a bit more autonomy, which in turn will lead to higher cognitive engagement with content and tasks (Rotgans & Schmidt 2011), which in turn could develop some of the attributes associated with capability such as knowing how to learn, working well with others, autonomy, respect for others, creativity, critical thinking, self-efficacy, self-confidence and deliberative dialogue (Gardner et al. 2008; Walker 2008). The degree of cognitive engagement depends on the task at hand, which in turn determines the degree of autonomy (Rotgans & Schmidt 2011). The degree of flexibility to plan and also a supportive learning environment (Christenson et al. 2012) influences cognitive engagement.

In PBL, the role of the teacher is more of a facilitator than a sole information provider. The learners' motivation to learn is triggered by means of a case scenario. The step-wise learning process involved in terms of identifying unfamiliar terms, formulating learning issues, generating hypotheses and deriving learning objectives, as a collective group effort, guided by a facilitator makes the relevance of meaningful learning to students. The freedom to choose the learning strategies, learning resources, either collaboratively or individually gives them a sense of autonomy, or independence from the teacher's control, which in turn increases their cognitive engagement in the topic (Rotgans & Schmidt 2011) and encourages a deeper understanding.

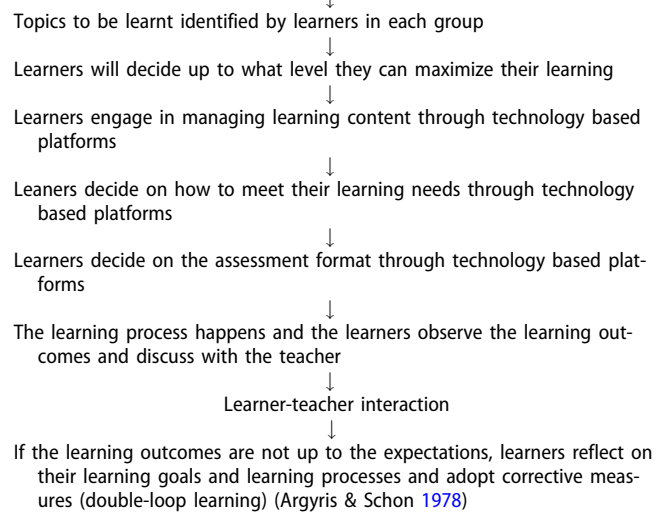
As mentioned earlier, heutagogical principles could be applied utilizing the advantages of social media, to support learner autonomy and encourage learners to expand their knowledge, using PBL as a context. In the proposed model (Table 1), learners will have to develop learner-generated contexts (Luckin et al. 2005; Whitworth 2008) in which learners identify the learning needs (what more they want to know). Learners will be involved in developing content which is validated by facilitator/s, learners will have to decide about integrating the right technological platform to involve in learning, and about the assessment. They could negotiate the level to which they want to maximize their learning. Here, the role of the teacher is to serve as a compass in directing the learning map designed by the learners (Hase & Kenyon 2000). The teacher becomes "a guide on the side", instead of "a sage on the stage".

Active use of social media such as learners developing an own wiki or blog on selected topics/PBL topics could be

Table 1. Proposed framework for incorporating a heutagogical approach based on technology, in the context of PBL in the undergraduate medical curriculum.

Designing learning contracts/Learner generated context (Whitworth 2008) with the guidance from teachers

- Learners grouped into small groups of 13–14 students
- Learning objectives are already formulated for each year of undergraduate MBBS course and for each discipline separately.



planned. Research reports that, active use of social media increases learner engagement. Today's generation is digitally competent and the benefits of social media such as connectivity, interaction and information abundance (24 × 7) makes it a suitable medium for implementing curricular reforms based on heutagogy.

Another pertinent feature of social media is that learners can individualize their learning according to their decisions (Kuit & Fell 2010). In their study, Junco et al. (2011) showed that students who used twitter were more actively engaged in the learning process compared to those who did not. Cochrane and Bateman (2009) reported that mobile learning facilitates interaction among learners and with teachers. Social media has the added advantage of giving and receiving instant and constant feedback from their peers as well as teachers on the learning process. In this way, the trait of reflective practice (Hase 2009; Sandars & Hart 2015) is fostered which in turn will help them in their journey towards life-long learning. Studies have reported that there is a complex interplay between learning and emotions where emotions are found to make learning more indelible (Ingleton 1999). Social media has the advantage of capturing learners' interest, excitement and curiosity and that probably makes it a vehicle for supporting heutagogy. Additionally, there is room for learner directed questions (Blaschke 2014) in the above framework which guides learners in developing the learning content through discussion. However, Kenyon and Hase (2001) acknowledges that guiding learners to think about self-directed questions is one of the biggest challenges facing developers of heutagogical approach. There is scope for the development of double-loop learning (Argyris & Schon 1978) which involves learners questioning and testing their personal values and assumptions in the process of knowing how to learn. Through double-loop learning, learners accustom to novel learning contexts, thus making them

capable learners which will enable learners to thrive successfully in the changing and complex work environments.

Challenges in the way

The heutagogical approach in education focusses on teachers facilitating learners to achieve the potential, by recognizing their inclinations, supporting learner autonomy and helping them to overcome the curbing factors to achieve their goals. The changing role of the teacher from exerting too much control over the learning process, to the one who guides learners to earn the expected capabilities, will evoke feelings of insecurity and loss of authority, atleast in some. This preconceived notion that the teachers' role gets *limited* to that of a navigator, is the biggest challenge involved in designing interventions based on heutagogy, which demands more of learner autonomy. The role of teachers in a heutagogical model would deploy *scaffolding* in which they support learners' progression towards competencies and provide opportunities for them to accomplish capabilities. With changing trends in medical education, the role of the teacher also should adapt to the changes.

McAuliffe et al. (2008) propose:

Even though heutagogical principles indeed empower the learner within a learning situation, it is still seen (especially in undergraduate education) that the educator/facilitator should remain a vital part of helping learners interpret their world while at the same time maintaining a distance appropriate to encouraging learners to actively engage in that world through the process of discovery as it relates to their own interests and needs.

Conclusions

Human beings have an innate behavior of self-determination, to achieve their goals in life. Medical educators should recognize and nurture this behavior by providing relevant learning opportunities that support learner autonomy and demand teachers' role as facilitators of learning. The existing outcome-based curricular models in medical schools undoubtedly prepare students to achieve competencies, that is, demonstration of their abilities to perform specific tasks. Nevertheless, through this article, we intend to propose that an integration of knowing *what to learn* with *how to learn* is equally relevant, to produce capable future health professionals. The concept of how to learn can be further enhanced by providing learning opportunities such as PBL, wherein learners could *expand their knowledge* using social media as a platform. Use of social media supports learner autonomy, demand cognitive engagement and also scaffolding by teachers. Heutagogy, by epitomizing the above principles, empower learners to perform with more productive prowness in the present perplexing world.

Disclosure statement

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this article.

Glossary

Heutagogy: Heutagogy or self-determined learning is an educational approach first described in the context of vocational education by Hase & Kenyon (2000). A heutagogical approach expects the learners to set their goals, reflect and revise on their learning experiences, in the process towards achievement of their goals. Heutagogy emphasizes upon nurturing capability in learners (Hase & Kenyon 2007).

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Notes on contributors

Reem Rachel Abraham, PhD, is Professor of Physiology, Melaka Manipal Medical College, Manipal University, Manipal, India.

Ramnarayan Komattil, MD, PGDHE, is the Vice President – Faculty Development and Alumni Relations, Manipal University, and also Professor of Pathology, Melaka Manipal Medical College (MMMMC), Manipal Campus, Manipal University, Manipal, India.

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