

Heutagogy: A Channel for Transformation of Adult Learners into Lifelong Learners through Self-Determined Practices

RAJ KUMAR PAL*¹ AND NIL RATAN ROY²

¹Research Scholar and ²Associate Professor

Department of Education, Tezpur University, Tezpur, P.O. Napaam (Assam) India

ABSTRACT

Paradigm shift in the concept of learning resulted evolution in the process of learning how to learn in the form of heutagogy – the self-determined learning. This evolution is catalyzed by the technological advancement through introduction of Web 2.0 technology in education. The present article focuses on explaining what is heutagogical approach of learning, its' theoretical bases, major principles and attributes of heutagogy, who are suited to adopt heutagogical learning and the role of teachers in this learning approach. The article may provide a basis for discussion and research on heutagogy as a theory of lifelong learning and its' applications and benefits in formal education system. The article may inspire the researchers to conduct studies on ability of teachers to afford heutagogy and on effectiveness on heutagogy on achievement and development of self-learning skills among learners.

Key Words : Adult learners, Heutagogy, Lifelong learning, Self-determined learning, Web 2.0

INTRODUCTION

Traditionally, learning is believed to be a process of acquisition of knowledge, memorizing facts and reproducing the correct answers or exercising solution of problem. On the other hand, teaching is perceived as a process of transfer of information, theories and facts (Kember and Kwan, 2000 as cited in Santos *et al.*, 2019). Such perceptions may interfere with people's natural ability to explore, to ask questions, to establish connections among concepts and to learn (Hase and Kenyon, 2013).

But, keeping the demand of the diverse learning needs of the students there is an urgency of revolution in the way in which students learn (Blaschke and Hase, 2015). Teachers should abolish the traditional model of content memorization and should explore the ways to train critical and reflexive professionals, to nurture the inquisitive minds and to develop self-learning skills among the learners (Hoffmann and Koifman, 2013 as cited in Santos *et al.*, 2019). The prime aim is to challenge and change the students' perception about learning and further,

to construct their own understanding on the process of learning to choose the most effective ways to learn. The focus is on developing insight, critical thinking and application of learning new situations (Santos *et al.*, 2019).

The distinction Knowles (1970 as cited in Reddy, 2016) made between how adults and children learn was an important landmark in higher education and the andragogic; self-directed approach has come into the focus. In the rapidly changing world the existing practices and procedures of learning may be inadequate to prepare the students to survive in the modern communities and workplaces (Reddy, 2016). There are no barriers towards learning, and the skills required to be an effective learner in the twenty-first century have changed dramatically which demands the change in role of learners from passive recipient of information to analyst and synthesizer of knowledge (Blaschke and Hase, 2015). However, we are in an age where competence of learners is not enough, in addition they also need capability (Blaschke and Hase, 2015).

Which strategic changes may be incorporated in

order to promote the conceptual changes in learning of the adult learners (Santos *et al.*, 2019)? In this context, self-efficacy, self-motivation, knowing how to learn, creativity and ability to use competencies in unfamiliar situations are becoming really important than mere knowledge and skills (Reddy, 2016). Hence, there is a need of one learning situation where focus should be on what and how the learner wants to learn, not on what is to be taught (Hase and Kenyon, 2013).

To meet the above learning needs, Heutagogy (Hase and Kenyon, 2000), also known as self-driven and self-determined learning, has gained momentum as a learning and teaching framework over the last decade (Blaschke, 2012). Heutagogy may be considered as a progression of pedagogy and andragogy, where the learners have the higher degree of autonomy to determining and directing their own learning path, processes and activities (Hase and Kenyon, 2000). Although, heutagogy was theorized in 2000, it remained unrecognized and underutilized until the evolution of social media tools as a result of technological development in last two decades (Blaschke, 2012 as cited in Narayan, Herrington, and Cochrane, 2019). In this approach, higher degree of learner autonomy over the selection and designing of learning path and processes provides the scope that learning may occur at any time and at any place. This explains why it is also known as nonlinear approach of learning. Actually, the learner's ability to be self-determined is inbuilt and inherent in Web 2.0 tools as the web is nonlinear that allows the learners to decide the content and process of learning at random according to their choice (Blaschke, 2013, p. 57 as cited in Narayan *et al.*, 2019).

Objectives of the study:

The objectives of the present article are:

1. To explain heutagogy and its theoretical bases
2. To discuss the meaning of learning in the perspectives of Heutagogy
3. To highlight the need and emergence of heutagogy in the present context of learning
4. To chalk out the major principles and attributes of heutagogy
5. To discuss who are entitled for heutagogy and the roles of teacher in heutagogy.

Method of study:

The investigators have conducted review and

analysis of existing secondary sources *i.e.* the studies already conducted in order to fulfill the pre-decided objectives of the present article.

What is Heutagogy?:

Heutagogy (based on the Greek word for "self") was introduced by Hase and Kenyon (2000 as cited in Blaschke, 2012) as the study of self-determined learning. Heutagogy is a form of self-determined learning, where learners are highly autonomous and learning is an extension to andragogy (self-directed learning) that encourages cultural revival in learning from its traditional form (Reddy, 2016). It is characterised by non-linear double loop learning and puts emphasis on the development of learners' capacity and capability to learn along with the development of skills and competencies (Ashton and Newman, 2006; Bhoryrub *et al.*, 2010; Hase and Kenyon, 2000 as cited in Blaschke, 2012; Reddy, 2016). One of the goals of heutagogical approach to teaching and learning is producing learners who are well-prepared for the complexities of today's workplace (Blaschke, 2012).

Heutagogy may be perceived as an attempt to challenge the traditional concepts of teaching and learning those are still prevailing in present system of education. Heutagogy recognizes the skill of learners in knowing how to learn as a fundamental skill to be applied accordingly with the pace of innovations and in the rapidly changing structure of world of knowledge (Hase and Kenyon, 2000, section 1, para. 6 as cited in Green and Schlairet, 2017). The practices and principles of Heutagogy are rooted in andragogy (Blaschke, 2012). Eberle (2013 as cited in Reddy, 2016) argued that although heutagogy may be considered an outgrowth of andragogy, heutagogy is more creative and provides the scope to the learners for synchronizations in the plans, strategies, or consequences related to the problem under considerations. Heutagogy is extended a step beyond andragogy with a lower degree of teacher-learner relationships that attempts to introduce a new set of principles and practices of learning those have large impact the whole spectrum of learning throughout the whole life (Hase and Kanyon, 2001 as cited in Gazi, 2014).

In a heutagogical approach, the learners have the luxury to choose the learning path and processes by themselves that is they determine what will be learned and how. The facilitator only mediates the learning process, providing rare guidance and supplying resources

(Gazi, 2014). The real emphasis in heutagogy is on the development of independent capability and development of self-learning skills among the learners, which goes beyond mere knowledge acquisition (Gazi, 2014).

Need for Heutagogy:

The young children often ask hundreds of questions which convey the fact they are very capable learners. There is nothing but a strong self-motivation, urge and aspiration that is at the heart of learning. But as one gets matured the traditional education system seems to shrunken the curiosity, inquisitive mind, the inner-desire and wish to ask questions by prescribing what we need to know following the well-structured curriculum. This determination of what we need to know is based on assessment of what are the perceived needs of the average learners at any specific age. Eventually, this does not provide any scope for satisfying learning needs and desires of learners at individual level (Hase and Kenyon, 2013). This calls for a learning approach that is able to provide learner autonomy and control over the inputs, processes and assessment of learning outcomes.

Emergence of Heutagogy:

The renewed interest in heutagogy is partially due to the multifaceted use of Web 2.0, and the affordances provided by the technology. Web 2.0 stands for the second stage of development of internet which is characterised especially by the transformation from the static web pages to the dynamic one. This technological development is known for user-generated content, inter-operability promoting creation, collaboration and sharing of information online. Web 2.0 encourages people to share learner-generated content through active media use. Hence, with its learner-centered design, Web 2.0 offers an environment that supports heutagogical approach, especially by supporting creation of learner-generated contents and learner self-directedness in data mining and information discovery and obviously in defining appropriate learning path applicable for each learner at individual level (Blaschke, 2012).

In the context of digital world due globalization in education, the pedagogical even andragogical practices of learning are no longer proved to be sufficient in preparing learners, and a need of more self-directed and self-determined approach is emerging, in which the learners enjoy full autonomy and ample scope to reflect upon what is learned and how it is learned (Peters, 2001,

2004; Kamenetz, 2010 as cited in Blaschke, 2012).

Learning in the Paradigm of Heutagogy:

Heutagogy is actually an extension of, rather than a replacement for, pedagogy and andragogy. Heutagogy conveys higher degree of responsibility, expectation and autonomy of the learners. Here learners always the initiatives as well as leading role in accomplishing learning. From the perspective of heutagogy, the perception of learning is different from that of andragogy (Hase and Kenyon, 2013):

1. Learning takes place only when the learners are able to make decisions on what to learn, with what pace and through which activities according to their individual needs and interests. It is none but the learner only who designs the path of learning.

2. Learning is not mere acquisition of knowledge, understanding of facts, reproduction or modelling. Here learners apply their self-motivation and inquisitive minds to explore connections between existing knowledge and new knowledge.

3. Learning does not solely depend on the teacher. However, it is mainly controlled and regulated by the learner. Hence, learning is a self-determined process.

4. Learning is focused on the learners not on a prescribed and structured curriculum. The learners choose what they want to know, what to learn and also decides how to explore those.

5. Learning is all about the development of reflexivity among learners. The process of learning become successful when the learner is able to insight into their designed path for learning, uses their meta-cognitive abilities in learning how to learn. This makes them able to apply their self-learning skills in an unfamiliar situation.

Theoretical bases for Heutagogy:

The concept of heutagogical path of learning has emerged to meet the individual learning needs of the learners. Learning is considered as a result of immense self-motivation and inquisitive mind of the learners. The process of learning is determined and regulated by the learners according to their needs. Such learning approach is indeed grounded on the basic principles of humanistic learning theories and constructivist theories of learning (Blaschke and Hase, 2015). Actually, the importance of human agency in learning is the central in this approach which emphasizes on the process of learning *i.e.* on

learning how to learn than on its outcomes. The above tones may also be considered as coherent frameworks for the evolution of heutagogy in education with the following theories of learning: Don Schon's notion of reflective practices (1983 as cited in Blaschke and Hase, 2015), Argyris and Schon's double-loop learning (1978 as cited in Blaschke and Hase, 2015), Bandura's self-efficacy theory (1977 as cited in Blaschke and Hase, 2015), Deci and Ryan's self-determination theory (2002 as cited in Blaschke and Hase, 2015) of learner motivation and autonomy.

Again, the Edgar Dale's cone of learning experiences suggests that practicing action learning, simulating the real experiences by individual efforts the learners can retain 90% of what they learnt. Therefore, it is imperative to design learning that gives learners to reflect on their own learning experiences (Blaschke and Hase, 2015). Learners through traditional education are rarely able to achieve the higher levels of learning as provided in Bloom's taxonomy of educational objectives (Blaschke and Hase, 2015). In order to reach those higher levels heutagogical approaches may be useful route of learning. Teachers may help learners by introducing heutagogical practices that provide reflective processes, provide formative feedback and nurtures inquiry-based learning minds via fostering self-learning skills.

Principles of Heutagogy:

Heutagogy: A reflective process:

Heutagogy is concerned with the learning practices those are determined by the learners themselves. Those learning practices are encouraged by large autonomy of the learners. The intension behind the process is not only to gain knowledge, to learn certain concepts, theories and applications but indeed to encourage understanding and to assimilate the process of learning. So, the focus is not on learning rather on how to learn. In this way, heutagogy calls for the reflective minds of the learners to design the path and progress of learning by determining what to learn, how to learn and how to assess learning. That is why it is a reflective process.

There is another one criterion that may serve as a support to consider heutagogy as a reflective process from the perspective of the learners. The high degree of learner autonomy and self-determining factors of learning not only develops certain competencies like creativity, independent thinking, self-dependence but also develops capability of self-learning skills among the learners. The

self-learning skills enable learners to learn according to learner's individual needs, pace and convenience as the learner knows how to learn via going through heutagogic practices. Hence, heutagogy induces self-reflection among the learners and that is why it is a reflective process of learning.

Heutagogy: An Extension of Andragogy:

From the perspective of heutagogy, the whole teaching-learning process is a learner-driven process (self-driven learning) instead of teacher-centered process. The students play the dominant role in the process whereas teachers just remain as a support and as a guide. Learners choose their content, resources and also take decision on which types of assessments will be effective to know their progress. Hence, expectation, activity and participation in learning is much more from the part of learner and that is very less from the part of the facilitator. Consequently, in heutagogy the teachers transfer the control over learning to the learners, who play the role of dictator of routes of learning, process and assessment of output (Hase and Kenyon, 2000; Eberle, 2009 as cited in Blaschke, 2012).

Undoubtedly, the learning styles and learning needs of children and adults are different. At their early age, due to low level of maturity the learners require more teacher guidance and scaffolding in learning. Now, with the increasing level of maturity the learners become more self-reliant and hence, self-directed learners. Such learning comes under the arena of andragogy. However, andragogy is further rooted on Pedagogy.

The following Fig. 1 explains that heutagogy is nothing absolute rather it is an extension of andragogy that serves as the base to heutagogy. The difference between andragogy and heutagogy is only of degree. The degrees of learner maturity, learner contribution and learner autonomy is higher whereas the degree of teacher control is lesser in the practices of heutagogy than those of andragogy. Again, in andragogy, the process of curriculum development, classroom transactions, assessment and evaluation are taken care by the instructors but heutagogy allows learners to take initiative to design the learning route from curriculum to assessment.

Heutagogy: Journey through multiple contexts:

Advancement of science and technology has prime effect on the field of education. The evolution of

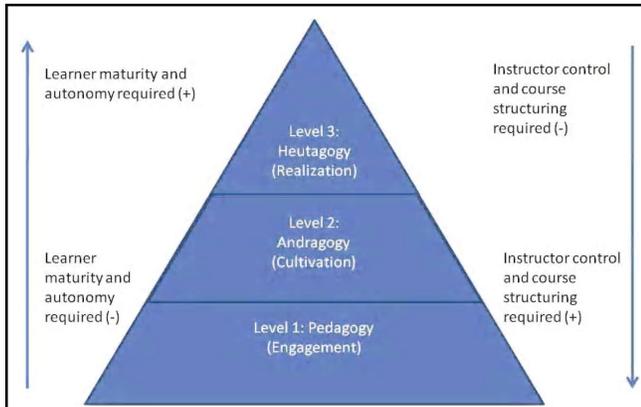


Figure: The diagram represents Heutagogy as an extension of Andragogy. The degree of learner maturity and learner autonomy is higher whereas instructor control on teaching-learning process and degree of structuring of curriculum is relatively lower in case of heutagogy than that of andragogy by Canning, 2010, p. 63 as cited in Blaschke, 2012.

Fig. 1 : Pyramid of pedagogy, andragogy and heutagogy

heutagogy also is an urge of modern technological development (Hase and Kenyon, 2013). Technology has provided access to the world of knowledge to the learners with ease, abundance and convenience. Different social media tools, knowledge repositories those are products of web 2.0 technology provides autonomy to the learners to what and how to learn.

In heutagogy, learners are free to choose the learning resources as per their requirement and convenience. Such kind of flexibility is catered by the modern technology. This ensures mobility of the students across multiple contexts of learning (Narayan *et al.*, 2019). So, heutagogy enables learners to use multiplicity of learning resources, contents and various methods of teaching-learning processes.

Heutagogy: A double-loop learning:

Heutagogy facilitates double-loop learning *i.e.* the non-linear form of learning, where learners confront their values and beliefs and assimilate those accordingly, on the basis of available information gathered in the environment of multiple context learning. In this non-linear process of learning, learners put effort to identify the most competent people to make decisions and further to build decision-making networks where decision-making ability of each member will be maximized, so that when a synthesis will be developed, the widest possible exploration of views may take place (Argyris, 1976, p.

369 as cited in Hase and Kenyon, 2013).

Double-loop learning also incorporates self-reflection of the learners on their individual learning process that is reflection on what to learn and how best it is to learnt. In the entire process of reflection on how learning occurs among learners involves the establishment of learned concepts, activities and skills to the earlier experience, integration and assimilation of those learned experiences in terms of values, beliefs and change in behaviour and active use of those in a meaningful way (Hase and Kenyon, 2013).

Double-loop learning occurs when learners uses their meta-cognitive skills to insight into their learning path and questions their developed personal values and assumptions those play the vital role in determining how to learn (Blaschke, 2012). Such insight when verified and answered by the learners themselves with respect to the aims of learning (*i.e.* what to learn?), results in defining the modified route(s) of learning. In this way, the path of learning gets reshaped by the learners themselves as per their individual needs. The learning design is given in Fig. 2.

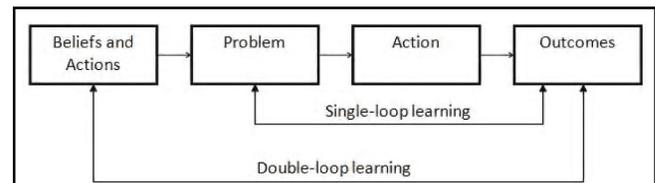


Figure: A design of Double Loop Learning where Heutagogy can be explained as a non-linear process of learning by Blaschke, 2012.

Fig. 2 : Heutagogy as Double-Loop learning

Web 2.0 technologies supports double-loop learning by providing an environment equipped with multiple contexts in which learners are able to communicate among themselves to create and share knowledge using the social networking tools such as LinkedIn, academia.edu, Twitter and Facebook. They can also ask for guidance joining online group discussions that allow them to explore the multiplicity of viewpoints, collecting information, resources and evidences on their area of interests, addressing, reflecting and discussing on various identified problems and also on probable solutions within a collaborative environment (Hase and Kenyon, 2013).

Heutagogy: Towards lifelong learning:

Heutagogical approaches to learning helps learners

to become lifelong learners (Blaschke, 2012). Those practices foster lifelong learning skills among the learners. These practices work as a catalyst in amalgamation of individual learning needs and curiosity with self-motivation towards learning in multiple contexts provided by the digital world. The followings are fostered among the learners in order to become lifelong learners:

- a. Increased self-confidence among learner
- b. Engaged learners in self-learning practice
- c. Scaffolding of learner mediated by the peers' involvement
- d. Improved ability to investigate thoughts and ideas
- e. Development of self-motivation and curiosity

Attributes of Heutagogy:

The process of learning through heutagogical approach possesses certain unique attributes (Reddy, 2016). These attributes will help people to understand this particular approach:

- 1) *Self-motivation*: Being a self-driven learning process, heutagogy demands self-motivation from the learners. The learners only who are equipped with curiosity, interest and self-motivation can adopt heutagogical practices of learning. This self-motivation will work as a fuel in order to learn the desired concepts, ideas and skills by designing this non-linear path of learning by them.
- 2) *Self-efficacy*: In heutagogical approach of learning, self-motivation is not the only criterion for learning. In order to make learning meaningful the learners should execute their motivation, interest and passion into action by their own learning design. Hence, learners must ensure self-efficacy in knowing how to learn and continuously reflect upon the process of learning (Blaschke, 2012). The learners should be efficient for selecting what to learn, how to learn and how to assess that whether learning has attained the pre-determined learning objectives.
- 3) *Capability development*: In heutagogical perspectives, learners acquire knowledge, skills and competencies according to their needs, abilities and interests. Further, they develop certain capability to learn independently, they develop critical and independent thinking among them and they also get in a position to evaluate the learning of how to learn. In this way, the lifelong learning

skills develop among them.

- 4) *Learner autonomy*: One of the basic attributes of heutagogy is learner autonomy that enables learning to be in tune with individual needs, pace and interest. This is the beauty of heutagogy that it is not only learner-centered but also learner-determined. This enables heutagogy to fulfill the individual needs of all the learners.
- 5) *Introspection on approaches, strategies and actions*: Learners use their autonomy of learning and they put their insight to introspect the approaches of learning, strategies adopted to fulfill the learning objectives and all the actions executed in the entire process of learning. This helps them in learning how to learn and which learning suits the best to them.

Heutagogy is for whom?:

Heutagogy designates the process of learning where the learners themselves take the initiative, with or without the help of the teacher, in assessing their learning needs, setting learning objectives, selecting appropriate and authentic learning resources for learning, formulating and implementing learning strategies as per their convenience, and exploring the ways and means of evaluating the expected learning outcomes (Gazi, 2014).

Although, heutagogy provides full autonomy to the learners to learn according to their needs, abilities and interest, it may not be meaningful for all learners. In this context, before implementing heutagogical practices one needs to be sure that the desired learning is within the scope, capability and maturity level of the learner (Blaschke and Hase, 2015). The adults are well known about their own standards, abilities and expectations. They are no longer needed to be instructed nor do they require to be controlled by the teachers (Gazi, 2014). Again, the learners adopting heutagogical learning approaches should have the capability to effectively and creatively apply self-learning skills and competencies even to the new situations (Thakur, 2013). Studies have shown when learners were proved to be capable, skills and knowledge can be reproduced in unfamiliar situations (Blaschke, 2012).

Heutagogy is concerned with the learner's prior learning experiences and its effect on how one learns by oneself in new contexts. Heutagogy also takes these past experiences and the learner's current experience into considerations and reflecting upon those experiences as

the learner moves through a continuum of a growth process. Such a non-linear process of learning provides ample space for self-reflection and the process is described by Canning and Callan (2010, p. 71 as cited in Thakur, 2013) as “spirals of reflection”.

Further, self-motivation, interest and inner-desire are the positive emotional commitments to learning that makes the heutagogical approach meaningful, effective and hence, successful to the learners. There is evidence that many heutagogical learners not only achieve good academic results, but also go on to further studies (Hase and Kenyon, 2013).

Role of teachers in Heutagogy:

In the heutagogical approach the more knowledgeable and experienced personnel takes on more of a role as a facilitator or guide instead of an instructor or so called teacher. They can help learners in several aspects as to how the desired learning may occur, whether any formal assessment of the learning is required and further they may assist learners suggesting suitable means of assessment accordingly with the nature of the content under consideration (Hase and Kenyon, 2013).

By default Heutagogy provides full autonomy to the learners in selecting content, choosing path of learning, even the method and procedures of assessment of learning. But, it may not be regarded as the prime method of learning suitable for all contexts and situations. One cannot fully deny the role of teachers in heutagogy. There still is an important role of the teachers at least where the learners must develop certain skills or knowledge among themselves to get started in a completely new learning situation. A medical student cannot learn surgery in a completely self-determined way, a welder must learn and practice appropriate skills before firing up his (or her) torch as a professional welder (Hase and Kenyon, 2013).

One may not be able to determine when learning actually occurs and when a learner takes off from competency to capability. However, teachers can provide learners the opportunity to exercise their competencies and to transform those into capability (Hase and Kenyon, 2013).

Conclusions and Recommendations:

Heutagogy is an evolution in the field of traditional conception of learning. It is a result of intervention of technological advancement in the field education. In this

form of learning, the self-motivation of learners, curious and inquisitive minds of the interested learners is the main driving force towards learning. In heutagogical learning, learners have the higher degree of autonomy in choosing topic, selecting contents, designing their convenient path of learning, selecting appropriate processes and activities and finally the ways and means of assessment of learning. Such learner autonomy may be effective in meeting the need of the learners even at individual level. Also, the learners may learn at their own pace, according to their ability and their interest. Teachers' role in heutagogy is not so dominating rather they play supportive and assisting role. But, heutagogy may not be fruitful for all the learners. It depends upon their level of maturity and self-learning skills.

Heutagogy may be beneficial if it is implemented properly to the suitable learners. The learners may go through transformation in how they learn and may become lifelong learners as self-learning skills develop among them. Hence, studies should be conducted on how to design the heutagogical learning elements, how to implement heutagogical skills in real situations, what are the probable challenges and how to overcome those challenges in order to successful introduction of heutagogy in formal education.

REFERENCES

- Blaschke, L.M. (2012). Heutagogy and lifelong learning: A review of heutagogical practice and self-determined learning. *Research Articles*, **13**(1) : 56-71. Retrieved from <http://www.irrodl.org/index.php/irrodl/article/download/1076/2113/>
- Blaschke, L.M. and Hase, S. (2015). Heutagogy: A holistic framework for creating twenty-first century self-determined learners. In Gros, B., and Kinshuk, M. M. (Eds.), *The Future of Ubiquitous Learning: Learning Designs for Emerging Pedagogies* (pp. 25-40). doi: 10.1007/978-3-662-47724-3
- Gazi, Y. (2014, June). *Issues Surrounding a Heutagogical Approach in Global Engineering Education*. Paper presented at 121st ASSE Annual Conference & Exposition, Indianapolis, Indiana, USA. Retrieved from <https://www.asee.org/public/conferences/32/papers/9938/download>
- Green, R.D. and Schlairet, M.C. (2017). Moving toward heutagogical learning: Illuminating undergraduate nursing students' experiences in a flipped classroom. *Nurse Education Today*, **49** : 122–128. Retrieved from

<http://dx.doi.org/10.1016/j.nedt.2016.11.016>

- Hase, S. and Kenyon, C. (Eds.). (2013). *Self-Determined Learning: Heutagogy in Action*. Bloomsbury: New Delhi
- Narayan, V., Herrington, J. and Cochrane, T. (2019). Design principles for heutagogical learning: Implementing student-determined learning with mobile and social media tools. *Australasian J. Educational Technology*, **35**(3) : 86-101. Retrieved from <https://doi.org/10.14742/ajet.3941>
- Reddy, G. C. (2016, March). *Self-determined learning: are you ready? - A study of fashion design students' and faculty members' perceptions on "Heutagogy"*. Paper presented

at IFFTI-BIFT 2016 Annual Conference, Beijing, China. Retrieved from <https://www.researchgate.net/publication/320734288>

- Santos, J., Figueiredo, A.S. and Vieira, M. (2019). Innovative pedagogical practices in higher education: An integrative literature review. *Nurse Education Today*, **72** : 12–17. Retrieved from <https://doi.org/10.1016/j.nedt.2018.10.003>
- Thakur, G.R. (2013). Heutagogical approach : Need of an hour in techno era. *Beacon of Teacher Education*, **2**(2), 28-33. Retrieved from https://www.academia.edu/37263537/Heutagogical_approach_Need_of_an_hour_in techno_era
