

The 21st Century Learning: Incorporating Heutagogical Approach And Digital Information Literacy

**Azma Asnawi Abd Hakim, Husain Hashim, Shamila Mohamed Shuhidan,
Shuhaida Mohamed Shuhidan**

Abstract : The world of education has been revolutionary since the past three decades. Ranging from research on how people learn, to the studies on how teaching could and should be provided (Hase & Kenyon, 2013), education will continue to adapt to the growing needs of the societies. Over the years, it has been viewed from the pedagogical perspective of the relationship between the educator (teacher, lecturer and instructor) and the learner (student). It is always a linear and sequential process of learning in the way that the educator is in full control to decide on what the learner need to know, and certainly, how the knowledge and skills should be taught. Most recently, as dynamism and flexibility of the 21st century is connected to the emerging digital and social media era, and as immeasurable information flows directly to the fingertips of everyone, it gives a huge impact to teaching and learning, as well as to the growth of complex workplace needs. Hence, the 21st century learners need to acquire new skills, knowledge and methods of learning, aligned with living and working demands in a complex information environment (Kulthau, 2010). This somehow indicates that learners should be imposed to information and digital literacy to help them enhancing their ability, in knowing how to learn, and to make them capable of continuing lifelong learning.

INTRODUCTION

One of the latest concepts in education is heutagogy, a learning approach that was intendedly introduced to cope with the fast-changing globalized world, wherein economy is immensely affected by information and knowledge, the critical resources of today. As opposed to pedagogical approach, through a heutagogical learning standpoint, learners place themselves at the center who are highly autonomous in designing the course learned, determined to negotiate learning and access learning resources on their own. They have the capacity to function proactively and allowed to explore from

self-chosen and self-directed action (Hase & Kenyon, 2000). In this regard, heutagogy gives emphasis to learning that is competency and capability related (Hase & Kenyon, 2001; Blaschke, 2012), thus emphasizing on the holistic development of the learner. It is an approach that promotes learners to reflect from their day-to-day unstructured experiences especially in applying their knowledge and skills in the familiar or unfamiliar situation (Blaschke, 2012), also in managing non-linear challenges (Phelps & Hase 2002; Phelps et al. 2005). Learners will involve in a deeper level of cognition to boost the capability in manipulating their own competency in terms of their self-efficacy, adaptability and ability to solve problems (Hase, 2011).

This is a phenomenon affecting the needs of the societies that is becoming incredibly complex where Halsall et al. (2016) contend the disciplined based knowledge, which is perceived as no longer appropriate in handling the complexity. Therefore, in schools and universities, the key issues of today are not only confined to what knowledge and skills must be taught and learned in the curriculum but also to recognize the proper learning approaches that is 'situation-sensitive' or 'condition-driven' in preparation of the new generations who will be responsible for making a nation remarkably competitive on the world map. Moreover, since learning is related to the information and knowledge seeking process as well as learners possess autonomous power over access to miscellaneous resources on the Internet including Web 2.0 platforms, the relationship between heutagogy and digital and information literacy can be viewed as they support each other in a complementary fashion. Thus, it becomes an interesting aspect to look into, which is the main focus underlined in the following discussion of this paper.

HEUTAGOGICAL APPROACH AND DESIGN PROCESS

The concept of heutagogy by Hase and Kenyon (2013), explained the study of self-determined learning, and challenges the ideas about teacher-centered learning. Hase (2014) identified a list of the principles of heutagogy, and one of the main focuses discussed in this paper is about the need for the learners to explore and deal with a lot of resources available. In this regard, Shamila Mohamed Shuhidan (2013) in her research on the internet usage of primary school children found that the experiences, knowledge, familiarity, motivation and proper guidance in literacy skills will help them to improve

their learning experiences. This is where the learners need to learn digital information literacy, even though they are capable of using computers and related technology efficiently, thus, it leaves the gap to be filled in the heutagogic design.

Blaschke and Hase (2015) have illustrated how the learner and educator or learning leader may design heutagogic experiences as shown in Figure 1, that explains a learner should explore, create, collaborate, connect, reflect and share with their friends, peers, educators, which may also involve the society. A learner will explore independently and select the most appropriate topic to be investigated. The process begins with the learning contract (Blaschke & Hase, 2015), where educators and learners identify the learning needs and what are the expected outcomes.

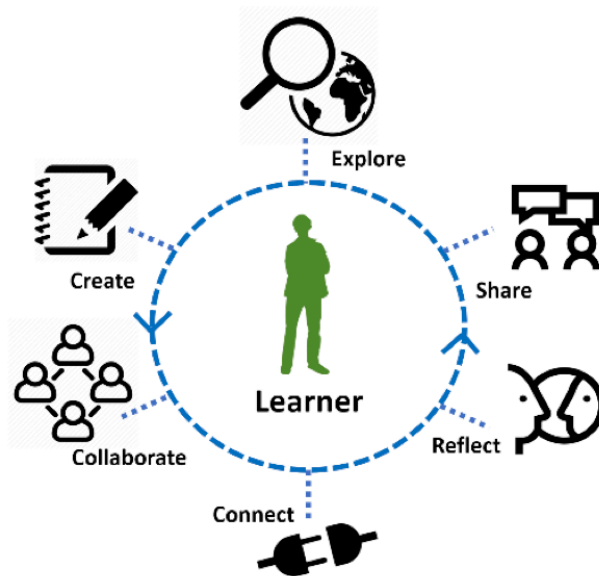


Figure 1: Heutagogic Design (Blaschke & Hase, 2015)

Furthermore, in order for the above heutagogic design to work effectively, it is also important to highlight Kuhlthau's proposal on a collaborative approach between educators and librarians (Kuhlthau, 2010). They are suggested to work as a team in guiding the learners appropriately in what is called a guided-inquiry process that facilitates 21st century learning. The

guidance provided is far from being teacher-centered when learners are still able to focus on constructing new knowledge through the steps of the inquiry process. It is to help them to acquire personal understanding and transferable skills, which Kuhlthau (2010) argued that without guidance, learners often will involve in copying and pasting with little real learning in preparing their assignments. Conversely, with guidance, they will be more pleasant in the constructive process of inquiry that gives the significant space for the educators and librarians to inspire the entire learning process.

Above all, although learners should be guided in their participation in an inquiry process (Kuhlthau, 2010), the real motivation needs to come from their self-awareness in realizing the importance of acquiring digital information literacy in such a way that they will be able to locate, assess and use digital information efficiently, effectively and ethically.

DIGITAL INFORMATION LITERACY

According to Alam and McLoughlin (2010), the concepts of digital citizenship and citizenship 2.0 are relevant to the knowledge economy and globalization context. Its definition is refined in line with the challenges faced in the preservation of digital information in today's citizen-created content environment as well as the nature of participatory and interconnected Web 2.0 platforms. In this context, learners are urged to become responsible global citizens.

Nonetheless, research by Soeters and Schaik (2006) found that the Internet had negatively exposed nearly 50% of children by experiencing online pornography and violence, and also computer viruses. This gives a reason for the educator to provide guidance and teaching on a range of information-seeking strategies, therefore the learner will be helped to obtain the information they need while avoiding inappropriate information. In doing so, Shamila (2013) pointed out that the educators should incorporate information skills, network or digital information literacy and technology to guide students when seeking information from the Internet for academic purposes.

Learning in heutagogy styles requires digital information literacy as to both learners and educators, this remains a challenge. Technological developments continuously introduce new and alternative ways on how we manage with information in order to survive in the knowledge era. Brown (2006) in his study identified some fundamental skills that are required in this new concept of learning styles: digital literacy skills, information skills, problem solving skills, visual media skills as well as psychological and emotional competence. For this paper, the authors focus on digital information literacy skills in heutagogy settings.

INCORPORATING HEUTAGOGIC APPROACH AND DIGITAL INFORMATION LITERACY

According to Calvani et al. (2010), there has been a consensus today on the need for digital competence to pay attention to a more complex and conceptual aspect than to purely focus on the technical dimension of technology. In this context, as 21st century learners are heutagogic learners who are high-skilled learners (Blaschke & Hase, 2015), they need to be flexible and responsive to new ideas and situations (Halsall et al., 2016). This should include the ability to comprehend the fundamental nature of technological phenomena, and also to know the implications of the utilization of web technologies, ethically and socially.

Correlated issues can be found in the literature over some shared concerns of heutagogy and digital information literacy, such as reflective thinking and metacognition, non-linear approach, and self-efficacy concerning learning and information seeking. These issues are surrounded by digital information literacy dimensions that show their influences on the relationship and the incorporated nature between heutagogy and digital information literacy. Calvani et al. (2009) proposed the three facets of digital literacy or digital competency comprising the cognitive, technology and ethical aspects. Learners are expected to apply these three main aspects: explore technological context in flexible ways, use their cognitive to access, select and evaluate information critically and, interact and share their knowledge constructively in a responsible (ethical) way.

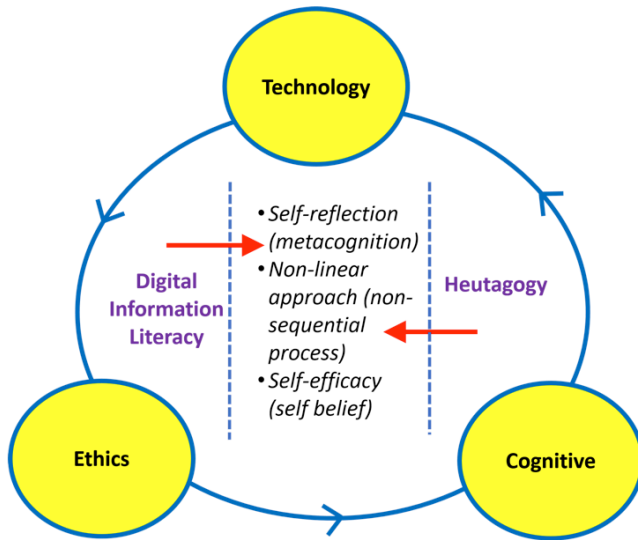


Figure 2: Incorporating Heutagogy and Digital Information Literacy
(Adopted from Calvani et al., 2009)

Self-reflection and Metacognition

According to Blaschke and Hase (2015), learners and educators need to cooperate in a partnership. Despite learners are the center of the whole learning experience, their educators should guide and explain to them clearly about the learning process, so that they will be able to adapt the curriculum (Hase, 2014). While learners determine and negotiate what and how to learn, the role of educators would therefore be essential to create a more encouraging atmosphere for self-reflection and metacognition to surface in the entire learning processes involving questioning and answering tasks. In fact, both, educators and learners are the learning ‘agents’ need to be flexible and able to shift as learning occurs, and since learners control the entire process, they will be enabled to create new paths, new questions and new contexts (Blaschke & Hase, 2015). Educators are catalysts in providing learning guidance, such as by putting forward ‘facilitative questions’ (Russel, 2013) for online learners who learn collaboratively with their ‘community’ members via active dialogs on the learning management system (LMS).

The facilitative questions are intended to delicately put a balance between ‘presence’ versus ‘domination’ that allow students to involve in an in-depth learning in order to gain deeper level of comprehension. In this respect, Russel (2013) suggested that some instructors give emphasis to a minimum number of postings, instead, they have expectations for quality that reflects a higher level of critical thinking on the learners’ part. Additionally, in enabling learners to support their own ideas, they should be guided while expected to explore information by themselves including performing library research using scholarly or credible websites and databases that will contribute to their information literacy and heutagogical learning. It is done through a reflective way of learning and information seeking process, not that learners should simply agree on everything but to reflect on the new knowledge gained and to develop metacognition or understanding on how they have learned in which the whole experience should have shaped their value system and beliefs (Blaschke & Hase, 2015). Information literacy helps learners to foster reflective thinking in the sense that they would be able to understand conceptually the creation, dissemination and use of information (Wong, 2010). Moreover, since the information environment is more complex and overwhelming than before as a result of the Web advancements, the emphasis of information literacy should therefore shift to conceptual understanding and critical thinking.

Non-linear Approach

Hase et al. (2006) argued that pedagogical and andragogical methods are linear approaches to training and development, hence are inadequate in dealing with the recent complexity of learning. On the contrary, heutagogy supports learning that is non-linear, and unpredictable (Hase et al., 2006). Educators play a minimal part in the process of imparting knowledge and skills (competencies), but the learners as they position themselves at the center, are determined and capable in constructing their own learning and defining their own meaning based upon their previous experiences and inherent personal traits.

A similar condition occurs in most information literacy frameworks, which are commonly linear and are presented as a series of logical, rational and systematic steps. These frameworks are contended by Markless (2009)

insisting that the sequential view of skills deployment has been questioned for a long time as in reality, learners employ non-linear method as they rarely follow the prescribed sequence. Highlighting specifically on the influence of digital environment such as Web 2.0 which is described as “anarchic, disregarding hierarchy and order, and increasingly user constructed”, the sequential (linear) approach to information literacy is rather more untenable (Markless, 2009). Blaschke and Hase (2015) underlined that learners more than ever should know “to check data with reputable sources, to analyze and synthesize information, to recognize a good argument, and to differentiate between correlational and causal relationships”. For that reasons, via heutagogy, being highly skillful in learning, learners are prompted to react on their own knowledge and skill deficit and determined to find their own ways to fill the gap.

Self-efficacy

There is an interdependency in relation to the goals and issues of self-efficacy between heutagogy and digital information literacy. Through the self-efficacy principle of heutagogy, learners supposedly could afford to enjoy the autonomy by which they utilize the freedom and opportunity to formulate a lot of questions and find the answers by themselves (Hase, 2009; Abraham & Komattil, 2017). Nevertheless, what really matters is while answers are easy to find, the real difficulty faced by learners is they are not able to know the questions to ask as their creativity is somehow restricted due to the limitations provided by most education and management systems (Hase & Kenyon, 2001). This has arguably developed an uncertainty avoidance attitude among learners as affirmed by Gazi (2014) that people who possess it might have a hard time coping with ambiguity in the context of learning.

Likewise, according to Kurbanoglu et al. (2004), if ones feel self-confident about their information skills, they will be able to solve information problems in their hands. Self-efficacy belief affects learners’ motivation through the effect on objectives (Bandura, 2001 as cited by Tuncer & Balci, 2013). The degree of their efforts in taking up a task is affected by the difficulty levels of the task. When faced by obstacles or failures, they might distrust their skills and therefore will either reduce their efforts or

dismiss the tasks altogether (Tuncer & Balci, 2013). Nevertheless, living in information-based societies, being confident and independent learners who are equipped with self-regulated learning and information skills are necessary for lifelong learning (Kurbanoglu et al., 2004).

HOW WEB 2.0, SOCIAL MEDIA AND ELECTRONIC PLATFORMS ENABLE HEUTAGOGY

Current research suggests the use of social media, which can facilitate self-determined learning. Learner and educator make use of the technology as a platform of enabling heutagogical approach. With its learner-centered design, technology through Web 2.0 applications allows learners to explore, discover information from various sources, engage their individual learning experience and also connect with others. Learners can create and share their personal collection and information through blogs, twitter, linkedIn, MOOCs and Open Educational Resources. Blaschke, et al. (2010) claimed active use of social media for generating content by learners appears to support them in developing the skills of self-directedness.

Additionally, recognizing how learners seek for information in electronic environments is also necessary in order to design more proper information retrieval systems for students to use effectively (Shamila, 2013). A study by Madden et al., (2007) underlined that the use of electronic resources among learners are increasing to fulfil their information needs; hence, understanding this scenario would help in knowing their expectations toward information literacy. In this regard, Canning and Callan (2010) and Blaschke (2012) revealed the maturity level of learners has an effect on their learning activities. Learners who are more mature do not require much control of their educators as compared to less mature learners who need more guidance. In fact, the mature learners are more self-directed and demand for less structured courses.

CHALLENGES

Undoubtedly, the challenges faced by the world of education nowadays, have been long affected by a strong educational tradition relying on the educators' hand to be in control over teaching and learning activities. Nonetheless, the so-called borderless world and knowledge economy have affected the societies in the sense that, the urge and drive to change is crucial in order to create human capital especially in enhancing competitive edge. Discussed below are the challenges to be considered towards the enforcement of heutagogy pertinent to digital information literacy in support of teaching and learning process.

Ethics and Citizen 2.0 Competencies

Heutagogy acknowledges the world in which information is readily and easily accessible and the need to learn comes from the learner (Hase & Kenyon, 2001). However, asserted by Martin (2006) in a study on PISA, there were only 8% of the respondents (students) assumed to have high competence in using the Internet in an efficient way. Mostly, students seem to have computer competencies, but lacking in cognitive competencies in information seeking from the Internet (Shamila, 2013). Consequently, they were found to commit with the syndrome of plagiarism, copy, cut and paste in performing academic tasks (Shamila, 2013). Hence, an awareness of the validity and reliability of online information should be instilled in the learners for example the legal and ethical principles of information seeking. Alam and McLoughlin (2010) argued that the courses offered at the universities should be more responsible in facilitating citizen 2.0 competencies. With that respect, in becoming participatory and responsible global citizens or justice oriented citizens, the learners need to be exposed to higher order skills including critical thinking with the synthesis and evaluation capabilities.

6.2 Empowerment and Resistance to Change

Supposedly, when heutagogic learners have been empowered for self-determined learning, the educators should still play the guidance role as

they have the moral and ethical obligations, to model use of digital media and information such as on Web 2.0 platforms in a socially responsible way (Alam & McLoughlin, 2010). However, Murphy (1989) is cited by Gazi (2014) in highlighting a high-power distance culture of the distance learners in Turkey who struggled to learn independently as they were too used to the traditional teacher-centered form of high school education. Gazi (2014) ascertained that people feel more comfortable following an authority in which educators are in full control of a learning environment. Meanwhile, when the role of teachers/educators gets limited by empowering learners, they will feel insecure and will fear losing authority. Blaschke (2012) highlights similar issue of academic resistance to change and a “fear of relinquishing power” as among the reasons for heutagogy to receive limited attention from higher education and researchers.

These are the challenges that are in need for quick solutions if the learners would be able to perform effectively in the real world. Additionally, language barriers for learners in the information seeking process from the Web is also a significant issue, including for Malaysians. Mostly, the websites use the English language as the main medium for information sharing, which might not be understood by some learners in Malaysia. Other challenges are related to the adoption of new technology (Shamila, 2013; Blaschke, 2016). Some of learners and educators are not technology literate who resist to change and also have limited access to technology, especially for the communities in the rural areas. This will put some hindrance to the heutagogical approach and requires the educational institutions and respective authoritative bodies to take the necessary steps to address and overcome the discussed challenges and issues.

RECOMMENDATION AND CONCLUSION

The 21st century learning requires the learners to acquire new skills and knowledge in dealing with complex information to be aligned with the emergence of digital world. Learners need to be self-determined in knowing how to learn and work with others, a fundamental skill useful for their future. This has caused interest in heutagogy continues to rise, and new areas for research and development have emerged in conformity

to changes in teaching and learning of the 21st century. Literature reveals that the theories about heutagogy remain the interest of today (Blaschke, 2016). Being prospective in nature (Hallsall et al., 2016), heutagogical approach has been implemented in different educational settings (Blaschke et al., 2014). The learners, educators and educational institutions are allowed to seek for better ways, particularly through the act of exploring, creating, collaborating, connecting, reflecting and sharing to cope with the dynamically accessible and overwhelming learning resources via diverse means of delivery including Internet and social media.

Meanwhile, digital information literacy is one of many ‘new literacies’, intendedly imposed to people in order to close the information gap in support of learning activities. Therefore, the need to incorporate digital information literacy and heutagogical approach seems considerably justified especially as learners are empowered to design and control learning by themselves. In this respect, a learning contract should be mutually agreed upon between both parties, in a way that the educators become the catalysts in providing proper guidance and to set appropriate strategies in enabling the approach to be fully advantageous for the learners’ sake. Educators are expected to promote ongoing reflection and state clearly the identification of tasks at the beginning of a learning session.

As shown in Figure 3, an incorporated model is recommended to integrate three main domains: 1) Knowledge, Skills and Character/Attitude (Baartman et al., 2011); 2) Digital competencies: Cognitive, Technology and Ethics (Calvani et al., 2009), and; 3) Heutagogical approach: Explore, Create, Collaborate, Connect, Reflect and Share (Blaschke & Hase, 2015). This proposed model is aimed to fully support the 21st century learning goals of the learners as they should be determined in knowing the followings: Know What (use their cognitive skills), Know How (use their technology skills) and Know Why (use their attitude/character in responsible ways).

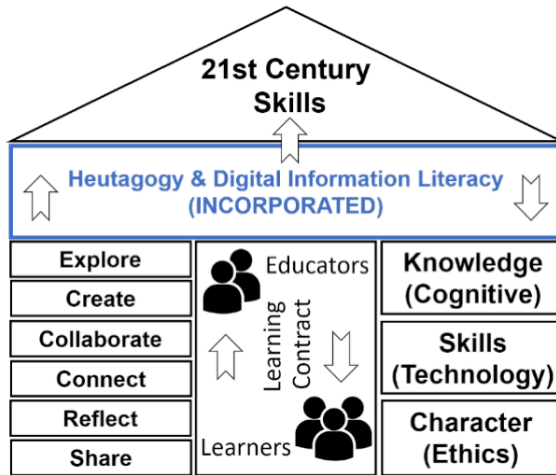


Figure 3: Proposed incorporated Model of Heutagogy and Digital Information Literacy

At the end of a learning session, learners should be able to relate the learned information and knowledge to the preexisting experience, as well as to their feelings, values, and perceptions, then, having them continually reevaluate their experience accordingly against the newly acquired information (Boud et al., 1985; Kuhlthau, 2008; Shamila, 2013). At the same time, when approached holistically, heutagogy can serve as an educational framework that can be applied across a learning institution, thus creating an environment characterized by a growth mindset and deeper levels of learning in both learners and educators.

The educators play an important role to guide the learners before they can learn independently. Heutagogic learners should apply their cognitive skills to demonstrate their declarative knowledge in order to know what types of information that they need and know how knowledge occurs through the procedural knowledge. While using the social media or other technological tools as learning enablers, they should know how to operate it well, ethically and responsibly. As a result, it is hoped that learners are able to know why knowledge occurs and have the capability to create meanings from the information that they found based on the principles and theoretical knowledge that they have acquired through learning.

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