The Model Of Technology-Supported Learning For Special Educational Needs Learners (Motsel): Promoting Heutagogic-Inclusive Environment In Malaysian Higher Education

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Abstract : In this advent of technological era, computer-related devices such as notebook, tablet and smartphone are not considered as luxury tools anymore, instead it is a necessity for everyone to continue their life in this sophisticated age. Consequently, this scenario has changed human life – from the time they wake up in the morning until they go to bed at night. For instance, workplaces are becoming more complex in nature due to the technological advancement. To be a competent personnel does not necessarily lead ones to be capable in facing the rapid changes and complexities in workforce (Hase & Kenyon, 2007). Competencies is not enough in this 21st century and capability is important for the workers to survive in the complex work setting which requires them to be more creative, dynamic and innovative in nature.

INTRODUCTION

Higher education has been urged to produce not only a competent student but also a capable personnel in future (Hase & Kenyon, 2000). Competency as described by Hase and Kenyon (2003), is a minimum requirement which enabled worker dealing with the 'rational, the linear systems'. Blaschke (2016) added, competency is the ability to show what we have learned including skills and knowledge.

On the other hand, capability is an extension of competency which enabled an individual to apply what he/she has learned in a complex environment (Blaschke, 2014). Capability is our capacity to apply the skills and knowledge we learned in 'new and unfamiliar' situation Blaschke (2016). A capable personnel has holistic characteristics that enabled him/her to face the complex environment effectively and some characteristics as highlighted by Hase and Kenyon (2003) including 'high self-efficacy,

knowing how to learn, creativity, the ability to use competencies in novel and familiar situations, possessing appropriate value and working well with others'.

The changes which demand future employers to hire from competent workers to capable workers has simultaneously impacted the world's educational setting and approach. Some of the so-called traditional teaching methods and teaching aids could no longer cater the needs of the students in schools and institutions of higher learning. Canţer, (2012) emphasized that the teaching and learning trend has moved from teacher-centred to learner-centred. The roles of educator have changed from teaching to facilitating as the information and knowledge is available on the learners' fingertip. 'Chalk and talk' method could not be regarded as the best method in education to produce competent and capable future workers as the nature of the current students are relying more on the computer-related devices.

Hence, heutagogy has been introduced in the year 2000 by Hase and Kenyon (2000) as an extension to andragogy, to suit with the needs of the students as well as to fulfil the potential employers' urgency for having not only a competent but also a capable personnel in their working environment (Blaschke & Hase, 2016).

Blaschke and Hase (2016) also pointed out that our education system "has been slow to respond to the needs of learners in preparing them for the workforce". Hence, heutagogy will benefit all students including students with disabilities (SWDs), in preparing them to face the complex working environment and to fulfill the high expectation of their future employers who want them to be more flexible, innovative and creative. However, the implementation of heutagogical approach specifically for SWDs in higher education is still lacking as most of the heutagogical issues discussed on its general implementation to all students. Thus, it is vital to implement heutagogy approach that includes all students without neglecting the SWDs and this approach could be referred as 'heutagogic-inclusive' approach.

Technology is one of the important elements in heutagogy as agreed by Canţer (2012), Cochrane, Antonczak, Gordon, Sissons, and Withell (2012), Blaschke (2012b), Blaschke (2014) and Blaschke and Hase (2016). Technology advancement could also remove barriers in community so that

inclusive society could be established. Persons with disabilities (PWDs) for example will benefit a lot from the technology in living their daily lives. The roles of technology in creating inclusive environment particularly in education could not be denied because it can facilitate students with disabilities (SWDs) in sustaining their educational journey as highlighted by one of the prominent figures in inclusive education in Malaysia, Zalizan Jelas (Zalizan Jelas, personal communication, June 5, 2012). Thus, in order to establish a heutagogic-inclusive environment particularly in higher education, the utilization of technology should not be neglected.

The first part of this chapter will discuss the importance of heutagogy in education and followed by the roles of technology in education specifically for SWDs in higher education. The Model of Technology-Supported Learning for Special Educational Needs Learners (MoTSEL) and how MoTSEL could foster a heutagogic-inclusive atmosphere in Malaysian higher education will be discussed after that.

HEUTAGOGY: THE SELF-DETERMINED LEARNING

Heutagogy is not a green approach in education and training. Hase and Kenyon (2000) defined heutagogy as "the study of self-determination" and further explained that in heutagogical approach, the teacher provides resources and recognize the need to be flexible in learning but by negotiating learning, the learner designs the actual course that they take. Blaschke (2016) further explained that heutagogy giving opportunity for learners to decide what and how they will learn, or in other words the learners are in full- controlled of their "learning environment, content and process".

Heutagogy does not contradict with the concept of andragogy by Knowles (1970) who emphasized on the self-directed learning. Heutagogy is the extension of the andragogical approach and it stressed on the self-determined learning (Hase & Kenyon, 2000; Blaschke & Hase, 2016). Like andragogy, heutagogy does not deny the roles of teacher/educator instead, the roles of teacher/educator has changed from teaching to facilitating the learning process. Blaschke and Hase (2016) also replaced the term teacher/educator in heutagogy with 'learning leader'.

Blaschke (2012) further discussed the differences between andragogy and heutagogy by highlighting the principles of heutagogy including capability, self-reflection, metacognition, double-loop learning, and nonlinear learning. To illustrate the continuum process from pedagogy to heutagogy, Luckin et al. (2012) coined the term Pedagogy-Andragogy-Heutagogy Continuum (PAH Continuum) that could be a guideline for educators in implementing heutagogical approach in teaching and learning.

Blaschke (2016) also stressed on the roles of higher education institutions (HEIs) in supporting the implementation of heutagogical approach, so that it could be accepted and adapted by both learners and educators. The roles of HIEs should go beyond the provision of teaching and learning processes in which they should by working closely with industries to know what are the expectations towards their students in the new challenging complex environment (Blaschke, 2016).

Heutagogy and Technology

To prepare students in the complex life and workforce, the four main 21st century learning and innovation skills, which is also referring to 4Cs, should be inculcated as early as possible and these skills are: 1) critical thinking, 2) communication, 3) collaboration and creativity (P21 Framework Definitions, 2015). These are in line with the six main heutagogic design elements proposed by Blaschke and Hase (2016) including: 1) Explore, 2) Create, 3) Collaborate, 4) Connect, 5) Share and 6) Reflect. And as stressed by Blaschke and Hase (2016), these six elements could be utilized to support the lifelong learning using technology.

Canţer (2012) believed that technology plays important roles in heutagogy and added that the concept of e-heutagogy for e-learning which promotes the lifelong learning concept. Blaschke and Hase (2016) also portrayed how technological development such as Web 2.0 promotes heutagogy approach for lifelong learning. Web 2.0 supports heutagogical approach as it allows learners to be active participants in teaching and learning processes and determine their own learning route (Blaschke, 2012b).

Cochrane, Antonczak, Gordon, Sissons, and Withell (2012) and Blaschke (2014) added, social media is one of the technology tools could be utilized to produce a personal learning environment (PLE) and it support the implementation of heutagogical approach in education. Blaschke (2014) in her study also found the use of social media in heutagogy supports the meta-cognitive development of students which prepared them to be capable individuals in work setting. Blaschke (2014) further explained by combining technology with heutagogical approach, it enables students to 'create, connect and collaborate', which these elements are important to prepare them to be more flexible in facing the challenging world in working environment.

In acknowledging the vital roles of technology particularly in web-based learning and mobile learning in heutagogical approach, Narayan (2014) proposed a set of preliminary design principles that highlighted three important elements components: participation, productivity and personalization.

In addition, Open Educational Resources (OER), MOOCs and flipped classroom could also be utilized in fostering the self-determined learning environment because it provides free resources for students and educators to use and share knowledge and information in teaching and learning (Blaschke, 2016).

TECHNOLOGY AND STUDENTS WITH DISABILITIES (SWDS)

Technology cannot be separated from the education field in this so-called Information Age. Roslinda Alias (2016), Roslinda Alias, Nor Aziah Alias, Abu Bakar Ibrahim and Jamizan Jalaluddin (2013), Morra and Reynolds (2006) and Sloan, Stone and Stratford (2006) agreed that technology would reduce learning barriers and at the same time support the SWDs' needs especially in tertiary education. Additionally, the utilization of technology in teaching and learning enables the higher education to have more learners without worrying on limitation of space (Morra & Reynolds, 2006).

There are several types of technologies that emerged in the field of special

education which can be used to support the SWDs' inclusiveness and these technologies are known as assistive technology (AT). Assistive technology ranges from 'low-tech' for instance, the invention of wheelchair to 'high-tech' such as computer and other advanced software and hardware (Rose, Harbour, Johnston, Daley, & Abarbanell, 2006).

Morra and Reynolds (2006) and Sloan, Stone and Stratford (2006) also agreed that technology would reduce learning barriers and at the same time support the SEN learners' needs in tertiary education. In addition, the utilization of technology in teaching and learning enables the tertiary institutions to have more learners without worrying on limitation of space (Morra & Reynolds, 2006).

Roslinda Alias et al. (2013) proposed three solutions in creating a conducive environment which supports the idea of inclusive education in higher education. These are: 1) the utilization of tablets for SWDs in higher education, 2) the improvement of the higher education existing learning management system (LMS) and 3) the utilization of Web 2.0 in teaching and learning.

The latest development in technology for education is the emergence of massive open online courses (MOOCs). MOOCs promote democratization of education especially in HEIs as it provides mostly free courses for learners via web (Dillahunt, Wang, & Teasley, 2014).

In order to guide proper selection and utilization of technology in supporting SWDs and at the same time to ensure inclusive education environment could be materialized, frameworks and models were developed. One of the assistive technology frameworks developed is the SETT framework by Zabala (2005) in which it is more focused on the decision framework aimed at the selection of suitable assistive technologies for SWD in schools. In Malaysia, Kyun, Tat, M. Iqbal Saripan and Ahmad Fauzi Abbas (2007) proposed a model known as the flexi e-learning system for higher education. Flexi e-learning system, recommended that by improving the existing e-learning system in higher education via the integration of online audio and video streaming, an inclusive environment could be established.

And latest, the technological model known as the Model of Technology-

Supported Learning for Special Educational Needs Learners (MoTSEL) has been developed by Roslinda Alias (2016). MoTSEL could be regarded as a comprehensive framework or model of assistive technology or technology-supported learning in Malaysia that covers all aspects of SWDs' life including teaching and learning, SWDs-friendly facilities, SWDs-friendly higher education administration as well as relationship between SWDs with and their non-SWD friends in higher education (Roslinda Alias, Nor Aziah Alias, Johan Eddy Luaran, Rosilawati Sueb, & Mahadi Kamaludin, 2017). The main aim of MoTSEL is to create conducive teaching and learning environment for SWDs so that inclusive HEIs could be established.

MoTSEL has been developed through a rigorous process to serve the needs of the SWDs particularly in Malaysian higher education. It is based on the two needs assessments investigation conducted among the public and 66 SWDs from eight Malaysian HEIs. During the needs assessments investigation, challenges and needs of SWDs, particularly in HEIs was observed. Then, content analysis of the eight selected HEIs websites was conducted for the foundation of the model prototype. The model prototype was then validated by a heterogeneous group of 11 subject matter experts (SMEs) from overseas and locals via the Delphi Technique. The consensus among the SMEs was achieved at the Round Two of Delphi. This indicates that the Model of Technology Supported Learning for Special Educational Needs (SEN) Learners is feasible and accepted to be implemented in the Malaysian higher education.

After going through a systematic process, the MoTSEL came into the picture. As showed in Figure 1.0, MoTSEL comprises of six components i.e. 1) Academic Affairs, 2) Students Affairs, 3) Library, 4) University Administration, 5) Community, Industrial Networking and Alumni and 6) Special Department/Unit for SEN with the main goal, to establish inclusive environment in Malaysian HEIs via technological elements embedded in the model.
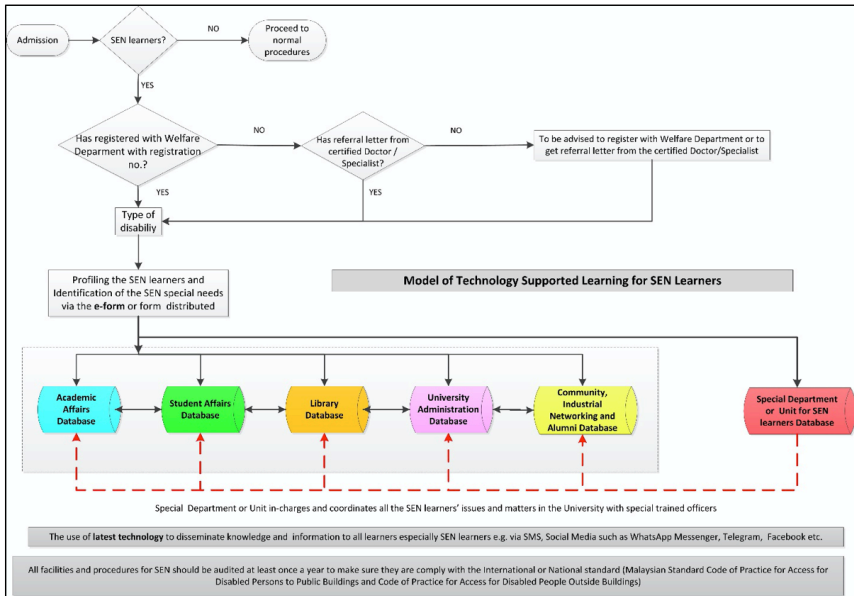
Figure 1: The Model of Technology Supported Learning for Special Educational Needs Learners (MoTSEL) in Malaysian HEIs

The next section, how MoTSEL could establish heutagogic-inclusive environment in Malaysian higher education will be discussed. For discussion, three MoTSEL sub-components that are closely related to heutagogical approach will be further discussed including Academic Affairs, Students Affairs and Library.

THE MODEL OF TECHNOLOGY-SUPPORTED LEARNING FOR SPECIAL EDUCATIONAL NEEDS LEARNERS (MOTSEL) AND HEUTAGOGIC-INCLUSIVE ENVIRONMENT IN MALAYSIAN HIGHER EDUCATION

Inclusion is 'a process of addressing and responding to the diversity of the needs of all learners through increasing participation in learning, cultures and communities, and reducing exclusion within and from education' (UNESCO, 2005, pg. 13). Inclusive education is giving equal opportunity

to all students in education 'regardless of their physical, intellectual, social, emotional, linguistic or other conditions' (UNESCO, 1994). Creating an inclusive environment for learning will accommodate the SWDs to learn along with their non-SWD friends and promoting lifelong learning journey.

The starting point of inclusive education in Malaysia began in 1990's with the special education movement as the main focus (Manisah Mohd Ali, Ramlee Mustapha, & Zalizan Mohd Jelas, 2006). And Malaysia is among the countries that consistently supports and upholds the inclusive education movement agenda (Roslinda Alias et al., 2013). Eligible special educational needs (SEN) learners or SWDs received equal chances in education starting from pre-school up to tertiary education as has been highlighted in the Malaysian Education Act 1996, Malaysian Persons with Disabilities Act 2008, and Malaysian Action Plan for Person with Disabilities 2016-2022 by Ministry of Women, Family and Community.

Roslinda Alias et al. (2013) emphasized that technology is one of the best solutions to ensure SWDs are included in HEIs and survived in their studies. Thus, MoTSEL, a technological-based model is developed to provide a framework for the implementation of inclusive education in Malaysian higher education (Roslinda Alias, 2016). MoTSEL has six technological-based sub-components that are 1) Academic Affairs, 2) Students Affairs, 3) Library, 4) University Administration, 5) Community, Industrial Networking and Alumni and 6) Special Department/Unit for SEN.

As highlighted earlier in this chapter, three sub-components will be discussed further to illustrate how MoTSEL could foster a heutagogic-inclusive environment particularly for SWDs in Malaysian higher education. This is to ensure that SWDs will be not excluded in the heutagogical approach agenda that is to produce competent and capable individuals who are ready to face the complex working atmosphere in the future via self-determined learning. To illustrate how MoTSEL could be utilized in creating heutagogic-inclusive environment, it's three sub-components namely Academic Affairs, Student Affairs and Library will be briefly discussed.

MoTSEL: Academic Affairs

The first important sub-component is known as Academic Affairs (as

illustrated in Figure 2.0) deals with the academic-related matters of SWDs, including the provision of technology-supported learning in classrooms and other learning spaces. In addition, automated notification to all academic units on the registered SWDs which is based on the university database will promote the heutagogic-inclusive environment in higher education.
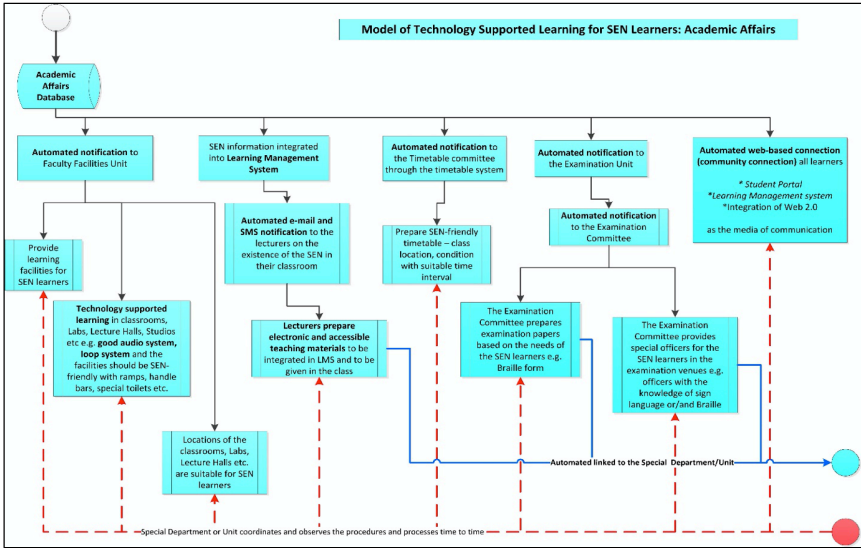

Figure 2: MoTSEL – Academic Affairs

MoTSEL: Student Affairs

The second MoTSEL sub-component is Student Affairs and as a technological model, the main element of Student Affairs element is automated notification on the registered SWDs to all units under Student Affairs department. This will ease SWDs' lives in campus, will support them in facing challenges and barriers and welcoming them inclusively. Student Affairs components as displayed in Figure 3.0 below.
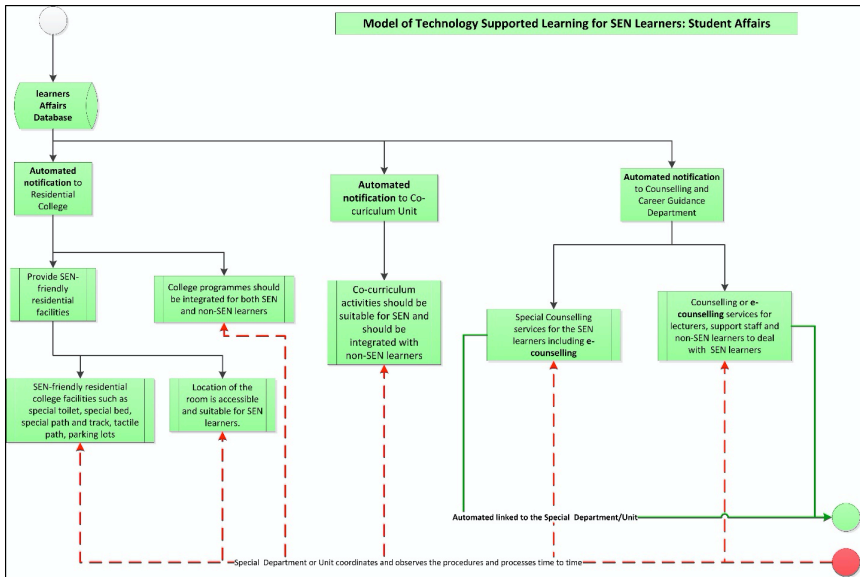

Figure 3: MoTSEL – Student Affairs

MoTSEL: Library

Library is the third sub-component of MoTSEL that plays important roles in promoting heutagogic-inclusive ambience in higher education and again, automated notification on the registered SWDs to all units under Library department is the core element. As shown in Figure 4.0, besides automated notification, the provision of special needs room, special services and facilities will foster and produce the self-determined SWDs in higher education.
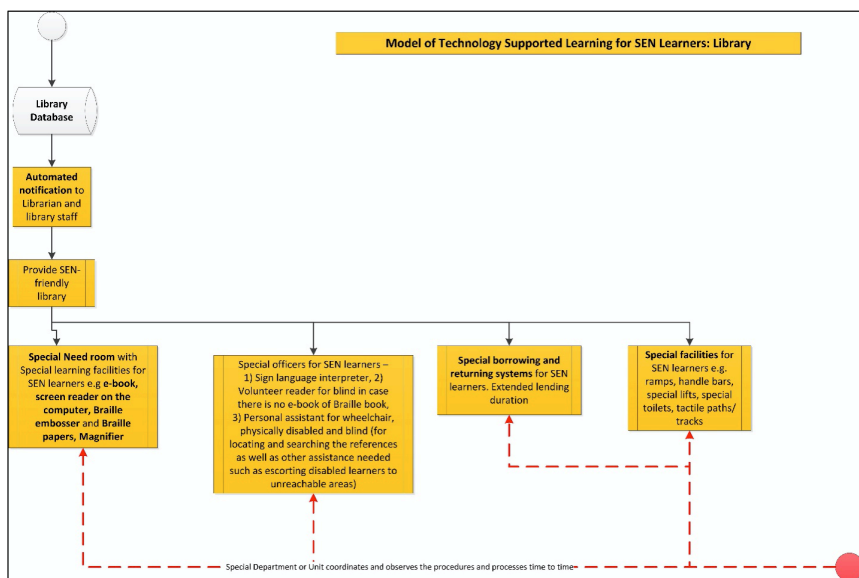
Figure 4: MoTSEL – Library

HOW WOULD MOTSEL CREATE A HEUTAGOGIC-INCLUSIVE ENVIRONMENT IN HIGHER EDUCATION?

Before we can implement a heutagogic-inclusive approach that will promote self-determined learning among SWDs in higher education, learning supports should be established. Support is one of the elements besides stability and connectedness in ensuring that students could succeed in their education and life (National Association of School Psychologists, 2010).

According to the Center for Medical Health in Schools (2002), learning supports refer to "resources, strategies and practices that provide physical, social, emotional and intellectual supports intended to enable all learners to have an equal opportunity for success at school" (p.1).

The provision of learning support for SWDs in higher education is vital because it can create a trouble-free transition in education. Trouble-free transition and educational aspirations are the two important elements that it will promote SWDs engagement in higher education (Adams and Holland, 2006).

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Roslinda Alias (2016) concluded that there are four categories of learning support for SWDs that are: 1) physical supports, 2) intellectual supports, 3) social supports and 4) emotional supports. The establishment of effective learning supports will nurture the creation of heutagogic-inclusive environment as the SWDs is given opportunity to be equally treated in higher education.

The purpose of the MoTSEL is to provide a framework in providing learning supports for SWDs particularly in higher education via technology (Roslinda Alias, 2016). Referring to the main component in MoTSEL shown in Figure 1.0, the technology-supported learning for SWDs is given from the first day of registration until they graduated from their respective HEIs.

In addition, the technological-related components in the MoTSEL three sub-components (Academic Affairs, Students Affair and Library) would foster the implementation of the 4Cs of 21st century learning and innovation skills namely: 1) critical thinking, 2) communication, 3) collaboration and creativity on students particularly on SWDs.

In encouraging the adaption of the self-determined learning or heutagogy among students Blaschke and Hase (2016) proposed the six main heutagogic design elements to be considered which are: 1) Explore, 2) Create, 3) Collaborate, 4) Connect, 5) Share and 6) Reflect. These six elements could be used to support the lifelong learning using technology in higher education Blaschke and Hase (2016).

By combining the technological framework of MoTSEL and the six heutagogic design elements a heutagogic-inclusive environment could be established not only to cater for the needs of SWDs specifically, but it is will also benefit all students in HEIs.

CONCLUSION

Heutagogy and inclusion are not new unfamiliar terms in teaching and learning field nowadays. Both terms share the same objective that is to promote the lifelong learning, yet the focus of heutagogical approach is mainly for all students. SWDs needs a special support to help them enduring

their education journey particularly in higher education. Thus, recognizing the roles of technology in education, MoTSEL offers a technology-supported learning framework to foster inclusive environment in higher education. The provision of knowledge and skills in higher education are not enough as this will only produce competent students, however, with the advent of technology, the work setting has changed and becoming more complicated. Thus, HEIs should prepare capable students who could be more flexible, creative and innovative in dealing with the complex situation as requested by employers. This could be done through heutagogy i.e the self-determined learning approach. Merging MoTSEL and heutagogy approach could establish a heutagogic-inclusive environment that make HEIs more inclusive for everybody including SWDs.

REFERENCES

Adams, M., & Holland, S. (2006). Improving access to Higher Education for Disabled People. In M. Adams & S. Brown (Eds.), Towards Inclusive Learning in Higher Education: Developing Curricula for Disabled (1st Editio, pp. 10–22). New York: Routledge.

Blaschke, L. M. (2012b). Heutagogy and Lifelong Learning: A Review of Heutagogical Practice and Self-Determined Learning. The International Review of Research in Open and Distance Learning, 13(1), 56–71.

Blaschke, L. M. (2012a). Heutagogy and Lifelong Learning: A Review of Heutagogical Practice and Self-Determined Learning.

Blaschke, L. M. (2014). Using Social Media to Engage and Develop the Online Learner in Self-Determined Learning. Research in Learning Technology, 22(1). https://doi.org/10.3402/rlt.v22.21635

Blaschke, L. M. (2016). Strategies for Implementing Self - Determined Learning (Heutagogy) within Education : A Comparison of Three Institutions (Australia , South Africa, and Israel). Carl von Ossietzky Universität Oldenburg. https://doi.org/10.13140/RG.2.2.23074.63687

Blaschke, L. M., & Hase, S. (2016). Heutagogy: A Holistic Framework for

Creating Twenty-First-Century Self-determined Learners. In B. Gros, Kinshuk, & M. Maina (Eds.), The Future of Ubiquitous Learning: Learning Designs for Emerging Pedagogies (1st ed., pp. 25–40). Springer-Verlag Berlin Heidelberg. https://doi.org/10.1007/978-3-662-47724-3_2

Canţer, M. (2012). E-heutagogy for lifelong e-learning. Procedia Technology, 1, 129–131. https://doi.org/10.1016/j.protcy.2012.02.025

Center for Medical Health in Schools. (2002). What are Learning Supports? Retrieved from http://smhp.psych.ucla.edu/pdfdocs/ whatlearningsupports.pdf

Cochrane, T., Antonczak, L., Gordon, A., Sissons, H., & Withell, A. (2012). Heutagogy and Mobile Social Media: Post Web 2.0 Pedagogy. In ascilite 2012: Future Challenges, Sustainable Futures (pp. 204–214). Wellington.

Dillahunt, T., Wang, Z., & Teasley, S. D. (2014). Democratizing Higher Education : Exploring MOOC Use Among Those Who Cannot Afford a Formal Education. International Review of Research in Open and Distance Learning. Special Issue: Research into Massive Open Online Courses, 5(Nov), 178–196.

Education Act 1996 (1996). Malaysia.

Hase, S., & Kenyon, C. (2000). From Andragogy to Heutagogy. Retrieved July 20, 2017, from http://pandora.nla.gov.au/nph-wb/20010220130000/ http://ultibase.rmit.edu.au/Articles/dec00/hase2.htm

Hase, S., & Kenyon, C. (2003). Heutagogy and Developing Capable People and Capable Workplaces: Strategies for Dealing with Complexity. In Proceedings of the Changing Face of Work and Learning Conference. Alberta: University of Alberta. Retrieved from http://www.wln.ualberta. ca/events_con03_proc.htm

Hase, S., & Kenyon, C. (2007). Heutagogy: A Child of Complexity Theory. Complicity: An International Journal of Complexity and Education,

4(1), 111–118. Retrieved from www.complexityandeducation.ca

Knowles, M. S. (1970). The Modern Practice of Adult Education: Andragogy versus Pedagogy. New York: Associated Press.

Kyun, N. C., Tat, L. Y., M. Iqbal Saripan, & Ahmad Fauzi Abbas. (2007). EDUCATION FOR ALL : DISABLED FRIENDLY FLEXI E-LEARNING SYSTEM. In AEESEAP Regional Symposium on Engineering Education (pp. 120–124).

Luckin, R., Clark, W., Garnett, F., Whitworth, A., Akass, J., Cook, J., … Robertson, J. (2012). Learner Generated Context: A Framework to Support the Effective Use of Technology to Support Learning. In M. J. W. Lee & C. McLoughlin (Eds.), Web 2.0-Based E-Learning: Applying Social Informatics for Tertiary Teaching (1st Editio, pp. 70–83). Hershey , PA: IGI-Global.

Manisah Mohd Ali, Ramlee Mustapha, & Zalizan Mohd Jelas. (2006). An empirical study on teachers' perceptions towards inclusive education in Malaysia. International Journal of Special Education, 21(3), 36–44.

Ministry of Women Family and Community. (2016). Action Plan for Persons with Disabilities 2016-2022. Putrajaya: Ministry of Women Family and Community. Retrieved from https://www.kpwkm.gov.my/kpwkm/uploads/files/Dokumen/Dasar/PelanTindakan_OKU.pdf

Morra, T., & Reynolds, J. (2006). Universal Design for Learning: Application for Technology-Enhanced Learning. Inquiry, 15(1), 43–51. Retrieved from http://www.eric.ed.gov/PDFS/EJ881564.pdf

Narayan, V. (2014). Towards a Theoritical Mobile Heutagogy Framework. In Proceeding ascilite 2014 (pp. 150–160). Dunedin, New Zealand. Retrieved from http://ascilite.org/conferences/dunedin2014/files/fullpapers/138-Narayan.pdf

National Association of School Psychologists. (2010). Learning and Social – Emotional Supports for Students Experiencing Family Transitions : Meeting the Needs of Military, Foster, and Homeless Children. Bethesda: National Association of School Psychologists.

P21 Framework Definitions. (2015). Retrieved July 20, 2017, from www. p21.org

Persons with Disabilities Act 2008, Pub. L. No. Act 685 (2008). Malaysia.

Rose, D. H., Harbour, W. S., Johnston, C. S., Daley, S. G., & Abarbanell, L. (2006). Universal Design for Learning in Postsecondary Education : Reflections on Principles and their Application. Journal of Postsecondary Education and Disability, 19(2), 135–151.

Roslinda Alias. (2016). Development and Validation of A Model of Technology Supported Learning for Special Educational Needs Learners in Malaysian Institutions of Higher Learning. Universiti Teknologi MARA.

Roslinda Alias, Nor Aziah Alias, Abu Bakar Ibrahim, & Jamizan Jalaluddin. (2013). Proposed Technology Solutions for Special Educational Needs (SEN) Learners : Towards Inclusive Education in Malaysian Universities. International Journal of Information and Education Technology, 3(2), 206–210.

Roslinda Alias, Nor Aziah Alias, Johan Eddy Luaran, Rosilawati Sueb, & Mahadi Kamaludin. (2017). The Model of Technology-Supported Learning for Special Educational Needs Learners: Towards Inclusive Environment for Students With Disabilities (SWDs) in Malaysian Higher Education. In H. C. Alphin, R. Y. Chan, & J. Lavine (Eds.), The Future of Accessibility in International Higher Education (pp. 202–218). IGI-Global. https://doi.org/10.4018/978-1-5225-2560-8.ch012

Sloan, D., Stone, S., & Stratford, J. (2006). Creating Engaging, Accessible Multimedia for Learning. In M. Adams & S. Brown (Eds.), Towards Inclusive Learning in Higher Education: Developing Curricula for Disabled (1st Editio, pp. 129–142). New York: Routledge.

UNESCO. (1994). The Salamanca Statement and Framework for Action on Special Need Education. France: UNESCO. Retrieved from http:// www.unesco.org/education/pdf/SALAMA_E.PDF

UNESCO. (2005). Guidelines for Inclusion: Ensuring Access to Education for All. France: UNESCO.

Zabala, J. S. (2005). Using the SETT Framework to Level the Learning Field for Students with Disabilities. Retrieved from http://www.joyzabala.com