Original Paper

Digital Immigrants in a Blended Learning Environment: A Case Study in Malaysia

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Abstract

In this rapidly changing environment, an increasing number of people are turning towards open distance universities to earn their degrees, develop new skills and acquire current knowledge in order to upgrade themselves in their professions. A number of them who enrol in these blended learning or fully online courses are middle-aged, born or brought up before the widespread use of digital technology. These digital immigrants, being used to traditional classrooms, are not very tech savvy and can be fearful about using technology as part of their learning. This study gives an insight into their learning styles, learning emotions, challenges and experience of using technology in the e-learning process during their first semester at an open distance university. The findings show that regardless of the difficulties and challenges that participants had gone through during the semester, all participants observed some changes in themselves such as the increase of confidence levels, better stress and time management skills, improvement in writing skills and becoming more independent learners with an increased ability to use technological tools for their learning. In addition, even though the learning environment is technology-based, digital immigrants maintain that they still prefer the blended learning mode rather than going completely online.

Keywords

digital immigrants, blended learning, learning experience, learning styles, learning emotions

1. Introduction

Technology has brought about great changes to learning especially to the blended environment. Blended learning refers to using electronic applications and processes, and this includes web-based and

computer-based learning, as well as virtual classrooms and digital collaboration (Clark & Mayer, 2016). Technological tools such as mobile devices, learning management systems and the Internet are also used to assist learning activities and serve as an important learning and communicative tool for learners to interact with their educators, peers and learning resources. The face-to-face interaction is usually limited in this form of learning. Many of the people who return to learning for professional upgrading are from the middle aged group who are used to more traditional forms of learning with limited exposure to technology. They are known as digital immigrants and studying in a blended learning environment poses great challenges to their learning experience. This article discusses these learning challenges and summarises the findings and proposes some solutions that can be provided to help these learners.

2. Background Study

Today, almost all higher education institutions involve computer-based learning. The revolution also can be seen in distance learning education which is heavily dependent on technology in delivering teaching and learning (Rahman, Ghazali, & Ismail, 2010). The university in this study is a young established private open distance university that offers programmes in the blended learning mode. The university uses the e-learning approach for most of its teaching and learning. There are learners ranging from 21 years of age to about 76 years of age in this institution. However, it has been observed that the learners especially those over 40 years of age face numerous challenges acclimatising to e-leaning in their first semester due to the challenges faced in the arena of technology.

3. Problem Statement & Research Objectives

Many higher education institutions have started to adopt and implement information and communication technology (ICT) solutions in Malaysia (Rushby, 2011; Osman, Anuar, Ahmand, Jamil, & Mohamed, 2017). Some higher education institutions are testing technology simply because technology is meant to be a "cool thing" rather than using technology as a tool for learning (Mukherjee, 2013). Therefore, Njenga and Fourie (2010) critiqued that the enthusiasm to use technology for endless possibilities has led to the beliefs that the availability of technology leads to meaningful knowledge creation. On the other hand, there are also studies claiming that technology does not necessarily bring about a positive learning experience to learners (McNeely, 2005; Motamedi, 2009; Njenga & Fourie, 2010; Lin, Tang, & Kuo, 2012). Explaining further, McNeely (2005) asserted that the inability to move between platforms or the lack of accelerated fundamental skills, especially for middle-aged learners, is a major hindrance for technology-based learning. Hence, the key objective of this research is to identify and observe the learning experiences of digital immigrants in an e-learning environment.

4. Theoretical Background

4.1 The Learning Process Model

The learning process has been described by Illeris (2003) as one where the cognition and emotions are interrelated within the process of learning. The details of the learning process, learning styles and learning emotions are discussed to elaborate on the learning model.

Kidd (1973) defined learning as an intellectual change, such as acquiring new ideas or some reorganisation of presently held ideas; or the changes in attitude where that individual will have a different appreciation and more positive feelings about a subject; or changes in skills where the learner becomes more efficient in performing certain acts. In short, learning is not simply having or knowing more information on a certain subject; instead, it is a process that keeps going throughout life (Rogers, 1986). With the advancement of technology, most adults make use of the online learning environment to pursue their studies (Cercone, 2008). They have commitments toward family, society, jobs and other competing issues which can interfere with the learning process. Therefore, learning can be argued to occur within a field set by three vertices of cognition, emotion and environment (Illeris, 2009) as shown in Figure 1.
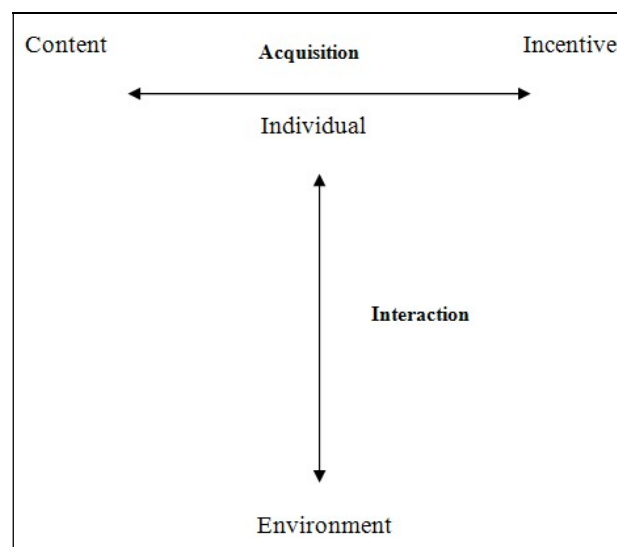

Figure 1. The Processes of Learning

Reprinted from Contemporary Theories of Learning: Learning Theorists in Their Own Words (p. 9), by K. Illeris, 2009, New York: Routledge. Copyright 2009 by Knud Illeris.

There are two arrows representing the basic learning processes. The vertical arrow represents the interaction between the learner and the environment. The horizontal arrow represents the acquisition process of the learner and position between poles of cognition and emotion. The acquisition process is "a process of integrated interplay between two equal psychological functions involved in any learning, namely the function of cognition, dealing with learning content, and the emotional or psychodynamic

30

function, providing the necessary mental energy of the process" (Illeris, 2003, p. 398). On the other hand, the interaction dimension provides the impulses that initiate learning processes. This may take place as perception, transmission, experience, imitation, activity and participation (Illeris, 2007).

5. Literature Review

5.1 Digital Immigrants' Learning Experience in an E-learning Environment

A deep understanding of learners' internal worlds through experiences is needed to achieve effective learning and engagement (Shuck et al., 2013). Blended and online learning should focus on how the use of technology could help learners to improve their learning experience and performance rather than the actual usage of technology (Al-Adwan & Smedley, 2013). In addition, instructors need to be aware of what adults want and need (Cercone, 2008). Once the instructors are aware of the learning styles, it is easy to form useful strategies that enhance the learning experience of adult learners (Kenner & Weinerman, 2011).

Shuck, Albornoz, and Winberg (2013) claimed that experience is not isolated; instead, they are connected to previous learning opportunities and often associated with emotions. Emotion is the cognitive manifestation of behavioural acts, and humans react and learn through emotionally laden experiences (Shuck et al., 2013). Active learning is central to the e-learning process. Hence, continuously engaging learners in the learning process contributes positively to their learning experience (Koohang et al., 2012). An effective learning experience should have some significant characteristics as shown in Table 1.

Table 1. The Characteristics of an Effective Learning Experience

Instructor Characteristics	Characteristics of the Learning Process	Learning Environment
1. Personal qualities	1. Focus on the big picture	Culture of the learning environment
2. Checking-in with students	2. Modelling and demonstrations	technology
3. Interactive style	3. Opportunity to apply new knowledge	
	4. High-Quality feedback	
	5. Focus, specificity and relevance	
	6. Peer Interactions	

In view of the characteristics mentioned above, the emotions of learners may be affected in terms of the confidence level. As stated by Victoroff and Hogan (2006) learners felt confident if the instructor "was there supporting you." Besides, Su (2006) indicated that older online learners are more serious students and appear to be more enthusiastic about learning and appreciated the learning process compared to the

younger ones. Thus, older online learners are willing to invest more time before, during and after classes. Victocroff and Hogan (2006) also listed the characteristics of adult learners, which are; i) adult learners want their learning goal to be relevant to their learning; ii) adults learn best in a supportive environment in which they can practice new behaviours and skills; iii) adult learners need and want feedback. According to Esteban-Millat et al. (2014), learners focus more on the learning environment when the lecturers show attentive and responsive reactions to their requests. Moreover, the past experience of an adult may block, modify or enhance their learning experience. It may affect the perception of learners towards learning, as well as how learners solve problems and make decisions, especially for those who have as many experiences as the digital immigrants. Social, physical and emotional conditions are always changing from time to time; therefore, developing strategies for learning and adaptation are essential for an effective learning experience (Shuck et al., 2013).

The current literature is overwhelmed by studies conducted to explore the potential benefit of online tools in education (Zakaria, 2013). However, technological problems can cause frustration amongst learners (Thurmond, 2003) and lead to an unpleasant learning experience. Thus, the issue of technology is a significant concern in the e-learning environment because this may affect the learning experience of learners if the learners have difficulty accessing the course, especially from remote areas. As such, it is essential for the institution to examine the experiences of their learners so that an effective and authentic learning experience can be created.

D'Mello et al. (2014) claimed that a comfortable learning environment may not necessarily lead to deep learning. Accessibility to all learning resources does not mean that this will bring a positive learning experience to the learners. The environment is only one of the factors that affect learning emotions. The feelings of vulnerability and fear can block or delay significant pieces of the learning experience (Shuck et al., 2013). Perry (2006) explained that adults who earlier experienced negative learning situations would be still thinking about it in a new learning environment that occurs many years later. These people are less capable of concentrating and more anxious compared with the others. The argument is similar to Bastable (2008) who also claimed that middle-aged learners' past experiences may affect their learning performance. If the learners faced negative experiences in the past, their motivation would not likely be at a level high enough to easily facilitate learning.

Moreover, Zakaria (2013) discovered that even with the availability of technology, the traditional face-to-face meeting for information exchange activities is still widely preferred by the learners. This indicates that recent technological tools still cannot completely replace the teacher-student interaction. Furthermore, an in-depth study is required in order to better learn how the blended and online learning environment works for the adult. The following table shows a summary of feedback obtained from the studies in recent years, based on the different learning experiences.

Table 2. Examples of the Middle-Aged Adult Learners' Experience in an E-Learning Environment

Study	Learner's feedback
Kop (2011)	The middle-aged adult learners are ready to study 'alone' and find their way to learn. It is enough that the course conductors offer the structure of the course and the platform (Moodle) to them. The learning depends much more on the time that they can spend and their willingness of finding new friends, trying new tools and checking learning materials.
Veletsianos and Navarrete (2012)	Adult learners with no online learning experience felt apprehensive, lost and "do not know what was expected" during the first few weeks of the lessons.
Mohamad, Hussin, and Shaharuddin (2015)	Adult learners were mentally fatigued and also became reader-fatigued when they read onscreen text documents. They had a tendency to skip lines and got 'lost' on the computer screen. The participants further commented that when the selected text document was too long, the participants lost interest in reading even at the first glance.

As can be seen from Table 2, learners' experiences vary from one study to another. Therefore, this study will provide a holistic overview of learning experiences of learners in an e-learning blended environment.

6. Learning Activities of Digital Immigrants in E-Learning Environment

Anderson and Dron (2011) summarised three generations of pedagogy, namely cognitive-behaviourism, constructivist as well as connectivism. These are being practised in the distance-learning environment where technology plays a major role. Anderson and Dron (2011) concluded the learning activities performed in different generations of distance learning pedagogy as summarised in Table 3.

Table 3. Summary of Pedagogy in Distance Learning

Generation of distance education pedagogy	Technology	Learning activities	Learner granularity	Evaluation	Teacher's role
Cognitive-behaviour	Mass media:	Read and watch	Individual	Recall	Content creator,

ism	Print, TV, radio, one-to-one communication				sage on the stage
Constructivism	Conferencing (audio, video, and Web), many-to-many communication	Discuss, create and construct	Group	Synthesise: essays	Discussion leader, a guide on the side
Connectivism	Web 2.0: Social networks, learning analytics	Explore, connect, create and evaluate	Network	Artefact creation	Critical friend, co-traveller

As it can be seen, the transformation of technology has caused changes in learners' granularity as well as the teacher's role. Thus, the impact of technology on the learning styles and learning experiences on learners are to be uncovered in this study. Such changes of technologies have not only transformed the lives of individuals into being so technology-oriented, but it also changed the learning style and method of people. The adult education system in higher education is no longer just "chalk-and-talk"; in fact, it has been transformed by the application of technology.

7. Methodology

The target group in this study were middle-aged learners who are also known as digital immigrants in the age group of 40 years and above. They were in their first semester at the open distance university and were enrolled in a maximum of three courses including one on learning skills for open distance learning. Their peers included students from a variety of ages.

These learners were selected as the subject of the study because they are the group that received their formal education during their early age in the traditional classroom and returned to a higher education institution with technology-based learning. This study gave an insight into their learning styles, learning emotions and experience of using technology in the e-learning process.

The research tools that were used in this study were interview questions, field notes and a participant weekly journal. The interview questions provided a wider scope of the study as they went into detail about their learning experiences. Meanwhile, the field notes were taken to record the observations and thoughts of the researcher during the study. The purpose of the weekly journal was to track the learning process of the adult learners throughout a semester. Qualitative data were derived from the interviews. Data was collected using the semi-structured interviews about the learning experience of the learner.

8. Findings

Learning experience refers to the interaction and engagement of a learner with peers, tutors and other learning materials in the e-learning environment. It also includes the activities performed by participants during learning. Learning in an e-learning environment was a brand-new experience for the participants. All participants had not explored learning using technology before even though they have experiences using computers during work and smartphones when performing daily activities. As such, the learning experience was unique and varied among participants.

8.1 Learning Experiences of Digital Immigrants

8.1.1 Knowing and Doing Are Two Different Things

It was observed that participants were supported by well-designed learning platforms, as well as a variety of services such as online libraries, portals, online searching facilities and emails. However, it was found that participants were not using those facilities actively. For example, S2 knew that she could contact her tutor and peers anytime and anywhere, but she stated that knowing and doing are two different things. To be able to progress, she would still need some time to juggle things (S2/Interview 1). S3 was confused about an Excel formula in her computer course, but she did not dare to ask the tutor. She regretted this and claimed that she should have asked the tutor earlier. She uttered, "I feel dumb over that because I should have asked how to do it, but I didn't… I feel like if I ask these questions, what happen, do they think I'm dumb or what. I don't know but I didn't approach. You know that's also my fault. I should have approach" (S3/Interview 3). In addition, S5 and S7 claimed that they did not want to disturb others during their free time even though they could ask their peers for help when studying (S5/Interview 2; S7/Interview 1).

Many learning resources were available on the learning portal. However, none of the participants read them. S5 and S14 admitted that they knew the information was there and relevant but had no time to go through each of them (S5/Interview 1, Ref 95; S14/Interview 2, Ref 82). S6 claimed that the resources were not helpful and not specific enough (S6/Interview 1, Ref 36).

a. The "Digital Shock" from the First Tutorial

The first tutorial for one of the courses was held in a computer lab and consisted of a practical session. The main issue observed during the first tutorial session was that the majority of participants had problems creating an account on Turnitin, a plagiarism software. The tutor just showed the students her account and asked them to create one by giving them the password and class code. Lack of detailed instructions and hands-on experience resulted in participants having a small "hiccup" in this part (17.07.16/Field notes). This happened to several female participants. They got confused and required assistance from their peers and the tutor. Many of the "first-timers" got "off-track", and it could be seen from their facial expressions that they were puzzled. However, one thing observed was that if the students in the class needed guidance, the tutor alone was not able to handle all their requests. As such, additional support from more experienced peers to guide those who lagged behind was very important.

It was noticeable that using technology brought setbacks to learners who were new to the e-learning

environment. Learners were unable to keep up with the tutor's pace and proceed further as they faced the obstacle of getting used to technological tools (17.07.16/Field notes).

b. When Dealing with Technology

Some participants claimed that they were confused and could not get accustomed to the new learning environment. But this also led them to explore ways that best suited their desired learning methods.

During the first tutorial, it was found that participants did not have an adequate understanding of the functions of each learning platform/system, such as the Learning Management System (LMS), university main page, Online Assignment Submission system (OAS), library main page, student portal and Turnitin system. During the conversation, some participants were unsure of what browsers, links and websites were (18.07.16/Field notes). For example, S1 lost her way online in the first tutorial. She was puzzled and did not know what was going on when it came to the hands-on practice. She explained that she needed more time to familiarise herself when experiencing something new, for example, the different websites (student portal, LMS, e-library) or online tools (such as Turnitin). S1 lost track of the steps that the tutor had demonstrated for Turnitin and needed help from a course mate who sat beside her. S13 also claimed that she was confused about everything in this learning environment (S13/WEJ/Week 1). Until the third tutorial, S14 was still bewildered about the LMS, student portal and OAS. S14 could not differentiate between the LMS and assignment submission platform (OAS) even though they are different. These platforms have different functions but looked similar to her and she considered them as websites.

S4 was also unclear about OAS, LMS and Turnitin at the beginning of the semester. She thought that they were similar websites (S4/Interview 1). She later then started to search for information online on what they are. When she got used to searching for information online, she claimed, "It became a habit, every time before I start the assignment, I will automatically open internet to browse for more information" (S4/TMA2).

On the other hand, it was observed that participants double-clicked when opening a link as well as a folder. They could not differentiate when to "double-click" and "single-click" (17.07.16/Field notes). S6 used the term "website" when communicating on different forums in the LMS (S6/Interview 1). In addition, S6 was not sure where to get tutor marked assignment 2 questions as she was not aware that they were in the same file as tutor marked assignment 1. S6 confessed that she did not know how to search for information in the digital library even though the tutor had already taught her how to do this during the first tutorial (S6/Interview 1). S5 faced similar problems. He had tried to search for the resources in the e-library but found it too difficult. He then gave up after his second attempt (S5/Interview 1). He lamented that it contained too many links and made the search too complicated.

Initially, S7 claimed that she did not know where to begin her studies (S7/TMA2). She needed a step-by-step guide. In fact, according to her there was no step-by-step guide on how to log into the student portal, emails and LMS. She found it very upsetting on the first day. The same happened to S7. S7 was confused with the student and personal emails. She attempted to create an email account using

36

her designated student email (S7/Interview 1).

S10 claimed that during her learning, she did not know where to search for resources (S10/Additional talk) and initially could not get used to the search process. In addition, she also pointed out that she was not familiar with the forums on the Learning Management System (S10/Additional talk) so she did not like to go to the forums.

S8 said that he tried to be a 'technological student'. He was not aware of the usage of double spacing in his assignments, but used technology (YouTube/Google searches) to solve another technological-related issue (learning how to change the paragraph spacing in Microsoft Word). It was also noticed that similar to S7, he also muddled the search engines and Internet browser. He said that he knew, "How to use Google search and Mozilla" (S8/Interview 1). He preferred to use "a few functions" that he was familiar with (S8/Interview 1). These functions were Google searches, basic typing in Microsoft Word, Excel and PowerPoint. He stated that he could still handle these "basic" ones (computer skills). In addition, S8 also claimed that the LMS was complicated - it could only be accessed through the website (S8/WEJ/Week 9). He was not aware that he could access the LMS from a direct link. Whenever he wanted to log in, he logged onto the student portal and clicked on the tab before landing on the desired webpage. In addition, S8 claimed that he could not find the slides that were uploaded by the tutor until the end of the semester (S8/Interview 2).

c. Difficulties Faced by Digital Immigrants in E-learning In earning journey (S8/Interview 1). Nevertheless, he later claimed that he had gotten used to this lonely learning journey (S8/Interview 2). However, he was still not quite happy. Similarly, S10 realised that in this learning environment, there was no one there always as a guide: "Teaching you step-by-step, everything has to depend on your own" (S10/Interview 1). Initially, she could not get used to the way of "searching and learning" and was also not familiar with the forum (S10/Additional talk) but she learned to familiarise herself with all these platforms (S10/Interview 2). The same goes to S11 as she claimed that she was not comfortable going online and she admitted that she lacked computer skills (S11/Interview 1). S4 described that the learning experience was difficult at the beginning because, "The tutors are not there to guide us from first step, mostly it would require ourselves to find the answer" (S4/Interview 1). She wanted the tutor to help her every step of the way and could not function as an independent learner.

S11 encountered some unpleasant experiences from one of the tutorials that she had taken. She had some opinions on the tutor's teaching styles and expressed her dissatisfaction during the interviews. She complained, "Most of the time students are on their own, not much guidance is given to students. Students do assignments with tutor expectation and tutor don't have time to guide but their expectation are high" (S11/Interview 1). She complemented Google more than the tutor as she found that Google helped her more in completing the course (S11/Interview 2).

S13 lamented that she struggled when she was busy with her work, studies and had no time for her family. These are the thoughts she had after three months in this environment (S13/Interview 1). Initially, S14 claimed that she could not adapt to the self-dependent environment. She needed someone

37

to depend on (S14/TMA2), such as her tutor.

Regardless of the difficulties and challenges that participants had gone through during the semester, all participants observed some changes in themselves throughout the semester. Some of them claimed that their confidence levels increased (S1, S3, S4, S5, S7, S8, S10 and S13); some reflected that their learning skills such as stress management, time management and writing skills had improved (S4, S8, S9 and S12); while S2, S4, S6, S11 and S14 described that they became more independent after a semester.

8.1.2 Challenges and Benefits of E-Learning

It was not difficult to see that most learners complained about the lack of time. Indeed, time was important to everyone. Working adults spent their time with their routines and work and found it a challenge to juggle their careers, family and studies at the same time.

The words from Figure 2 are derived from the participants' interviews. The top 30 words used to describe the benefits and challenges of studying in this learning environment were analysed using NVivo through a word frequency query search. The word cloud diagrams are presented as follows:
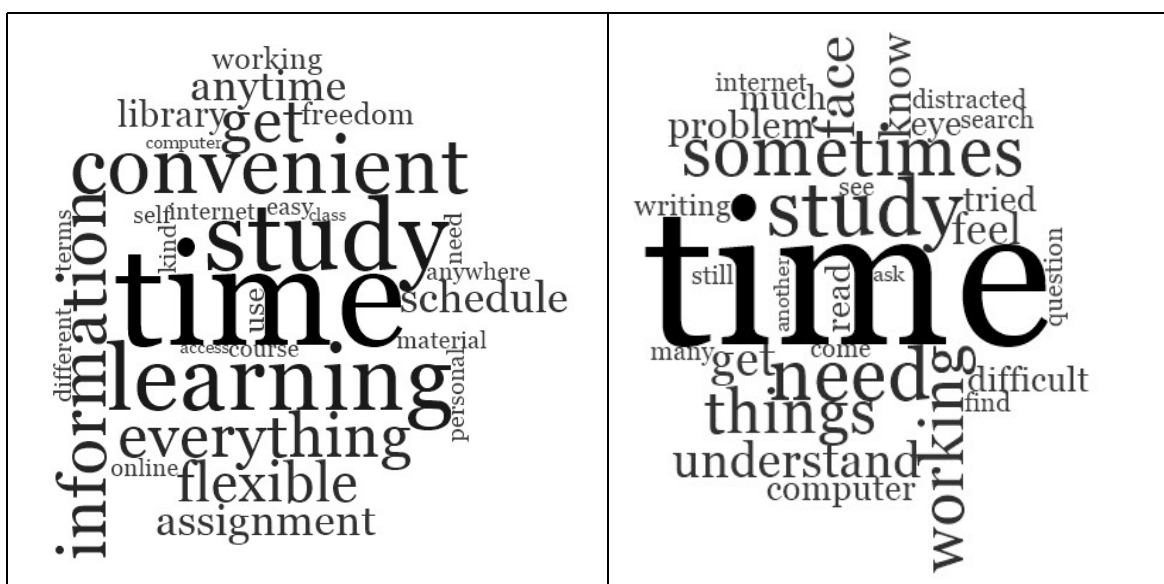

Figure 2. Benefits (Left) and Challenges (Right) of Engaging in the E-Learning Environment

Time was the biggest benefit and challenge among participants. On the positive side, time gave freedom and flexibility for the participants to learn. They viewed such learning as personal learning accompanied by two main elements—the Internet and computer. As such, participants were able to access the library and get everything (information and learning materials) they needed for learning anytime and anywhere. These included assignments that could also be submitted online. Studying became convenient and flexible for them. The following examples are some of the feedback obtained from participants:

"We can get the study material through different resources" (S12/TMA2).

"It is easy to read the materials (provided we have internet access)" (S4/TMA1)

"Read and access the course material, digital library and LMS anytime" (S6/TMA2).

"I can access the material anytime. I can view it" (S5/Interview 1).

"We can arrange our time to learn at any time, any place" (S8/TMA2).

"I have my own time and schedule where and what and when I want to study" (S13/TMA1).

On the negative side, time is still the top-rated barrier for participants. Due to time constraints, forming face-to-face study groups for discussions with peers became a challenge and most of them failed to do so. Other than this, participants also claimed that they had no time to study and work on the assignments. For example, participants intended to read the course materials in detail. However, they were only able to skim through them in a short amount of time. The following examples are the feedback obtained from participants:

"To get a meet-up time for everyone can be difficult" (S1/Interview 2).

"Because no one is pushing you to do your assignments… sometimes you start to procrastinating and everything thinking that there's still a lot of time to do stuff" (S2/Interview 1).

"I am now working and almost all of my time is being taken up by work, by the time I reach home it will be late evening or night which is really tiring" (S4/TMA2).

"We can arrange the time, we try to manage our time but you see, the time is very limited" (S13/Interview 1).

"I don't have enough time", "I still have to squeeze out some time to study" (S14/Interview 1).

 "I have no discipline and allow too much time to relax" (S8/Interview 1).

"Very challenging in terms of time" (S9/WEJ/Week 2).

Another challenge participants faced in the e-learning environment was understanding their learning materials. Participants claimed that they did not understand some of the information (S13/Interview 1; S7/Interview 1, S5/Interview 2) and everything was based on their own understandings (S13/Interview 1; S9/Additional talk). S7 claimed that they did not know who to ask (S7/Interview 1) when encountering such issues even though provisions such as tutors, whatsapp chats and forums on the Learning Management system were made available.

9. Discussion & Recommendations

Experience comes with age. The combination of learning styles and learning emotions in the learning process has formed a unique experience for each digital immigrant. For instance, one digital immigrant had her first experience submitting an assignment online (learning experience), and was anxious (learning emotion) and worried. To reduce her worry, she prepared and completed her assignment earlier (her preference was to accomplish the task earlier) by scheduling her time properly.

It could be seen that digital immigrants have their own set of learning patterns and they also have a strong value system that controls their emotions that help them in achieving their goals. Learning styles are derived early from the learners' past experiences. In between the learning process, the emotion of

39

displeasure may exist but they will not easily change the pattern of learning. They will still adhere to a particular style before they switch or try a new method of learning. The following summarises a few significant experiences from this study followed by a discussion.

Firstly, it can be seen that digital immigrants learned from their peers. Some digital immigrants claimed that they learned increasingly from peer group discussions. After participating in the classes, these digital immigrants had the opportunity to express their thoughts and what they had learned from the group discussions. This helped to strengthen their understanding and long-term memories. As stated by Hick and Graber (2010), learners were able to learn from each other and develop their understanding of the course content through group conversations. However, the interaction with tutors and peers from the study was limited to tutorial classes held once a month and occasionally in the WhatsApp groups. Therefore, the scenario was different in this case because the learners emphasised that they mainly performed self-learning throughout the semester.

Secondly, connection with technology is a must to learn in an e-learning environment. As it can be seen, whenever digital immigrants had doubts in their learning, they searched for explanations using Google or texted their peers. As learners in a blended learning environment, digital immigrants had begun using technology to solve most of their doubts in learning.

Thirdly, the digital immigrants selectively learned the things that brought value to their working or daily lives. They only focused on their own area of interest or whichever part that they found useful. They ignored information that they were not keen on reading or felt that it did not add value to their knowledge. As a result, not all the learning outcomes of each course would have been achieved for the learners because they would have neglected pertinent information which they considered as unimportant.

These phenomena could also be added points to the andragogy principle: adult learners are practical and result-oriented. They want to see the changes that the learning of certain knowledge will bring through their learning processes. They are more interested in knowing how the learning processes can develop their skills, upgrade them and bring positive changes in their lives.

9.1 Knowing and Doing Are Two Different Things

The university in this study provided services and facilities for all students. These services and facilities include library services, tutor telephone consultations and forum discussions. However, the digital immigrants did not utilise them to a large extent even though they were aware of the availability of such services and facilities. They knew that they could call or send messages to contact their peers or tutors when they had issues, but they would rather keep their doubts to themselves or just try to look for solutions over the Internet. This was probably due to being self-conscious. The digital immigrants were concerned about their self-image in the eyes of their peers and tutors. They had a tendency to assume that others might perceive them negatively. They felt that the tutor would think of them as "dumb" or "annoying" if they kept asking questions. Likewise, they preferred to study alone and did not want to bother others. The act of stepping forward to approach the tutors and peers is still a barrier that they

40

need to overcome.

9.2 "Digital Shock" in the New Environment

The group of digital immigrants from this study were in their forties. They were not trained in computer skills when they were younger. They learned some basic computer skills in their workplaces, but the exposure to technology was limited to just what was necessary to complete their working tasks. Thus, the computer knowledge of digital immigrants can be said to be limited to their job functions. As such since it was the first time they engaged with an e-learning environment, they were not familiar with certain technological functions such as the learning platforms and websites, and doing assignments using computers. This accounts for their disorientation especially during their first tutorial. Nevertheless, the digital immigrants were emotionally prepared before they had decided to return to learning. They may not have been well-versed in all the technological tools, but they had used basic functions of some tools (i.e., typing using Microsoft Word) which they thought was sufficient for them to learn in an e-learning environment.

In addition, even though the learning environment is technology-based, digital immigrants still prefer the blended learning mode rather than going completely online. To them, human interactions and face-to-face communications are a vital part of their learning processes. It is always a better preference when seeing people and interacting with them physically than in the virtual world because they are able to express themselves better in face-to-face situations. As such, to digital immigrants, human interaction is irreplaceable by technology.

9.3 Guidance Required by Adult Learners

Knowles (1984) in his first principle indicated that adult learners are self-directed when they mature. Cercone (2008) on the other hand explained that some adults need help to become self-directed learners. Chang, Hung and Lin (2015) emphasised further by saying that interaction and clear instruction are needed to assist digital immigrants who have less experience with e-learning. Digital immigrants are still proactive but require a certain extent of direct instruction and guidance in certain situations to perform their learning. They need to be told what they are expected to do from a given task, especially when they are new to the learning topics. They are not fully independent as assumed by the educator. Similarly, from the study, it was found that digital immigrants always want someone to be there to answer their doubts even though they may not proactively ask the educator any questions. Some digital immigrants even look to their own understanding in carrying out their learning tasks if they think they are correct.

Digital immigrants still require some extent of scaffolding. In other words, the application of the ZPD (zone of proximal development) (Vygotsky, 1978) to the digital immigrants should not be underestimated. Different digital immigrants have different levels of ZPD. This is a challenge in adult learning. By knowing the ZPD of each digital immigrant, teaching and learning can be more effective. E-learning is a huge environment where everyone can enlist. However, certain groupings based on an individual's ZPD are necessary to help the digital immigrants learn effectively. This is also to maximise

41

the exploratory level of each individual in such learning environments. In addition, the teaching staff should consistently keep track of the learners' progress and provide feedback on the skills they have developed weekly. This is to ensure that they do not lose track of their learning processes within a time gap. An artificial intelligence tutor could be used to perform such monitoring in higher education institutions.

9.4 Challenges of E-Learning—Time

Time was the main challenge experienced by these digital immigrants. Digital immigrants are influenced by both positive and negative conditions in accomplishing their coursework and time crucial for them to learn in an e-learning environment (Jasim et al., 2015). It cannot be denied that the learning environment has promised several benefits to digital immigrants. Technology has shortened the distance between human beings and human interaction. At the same time, it has also shortened the time needed to submit assignments and search for learning materials as the digital immigrants have access to the computer and the Internet.

However, time was also the biggest barrier for them. Many procrastinated doing their assignments because they felt that there was still time for deadlines to be met. Due to this mindset, it was found that many digital immigrants just worked on their assignments and studied right before the deadlines. Also, studying was not a priority for some; instead, work and family were. As such, a lot of things learned were done in a hurry. Learning would lose its purpose if one does not allocate proper time to study as it does not happen overnight and in fact, it subconsciously changes the way one views things over time. The success or failure of learning all depended on how time was utilised. In addition, the institutional factors such as facilities and support provided for the learners are also factors that contributed to learners' learning experience (Amoozegar, Daud, Mahmud, & Jalil, 2017). Therefore, digital immigrants who have a high desire to succeed would see increased positive learning outcomes.

In such circumstances, the 'flexibility' that has always been seen as a bright side of e-learning can also become a disadvantage for the digital immigrants. If they do not manage their time well, they are unable to fully maximise their learning experiences and will end up nowhere. It also seems like a waste of resources by the institution in offering services and facilities to enhance their experiences in the e-learning environment.

Learning styles can be seen as the consistency of patterns of learning, whereas learning emotions can be varied in different particular events. Both learning styles and learning emotions interrelate in a stable manner and form the learning experiences of the learner. This has also resulted in different kinds of interaction and engagement based on different preferences of a digital immigrant in an e-learning environment. It could be said that low interaction leads to passive engagement and this was discussed earlier in section 5.5 and section 5.6 respectively.

10. Conclusion

Today many higher education institutions are offering similar programmes and the courses offered have

a similar body of knowledge. However, the difference between one institution and the other is the way the institution delivers the products and services to their learners. Learning experiences are unique and they are different from one institution to another. Enriching the learners' experiences and creating value should be part of the objectives of a higher education institution nowadays. In addition, blended learning which still allows human interaction offers a more successful learning experience in Malaysia (Azizan, 2010; Tayebinik & Puteh, 2012)

The findings from this study serve as a guideline for course coordinators, tutors and instructional designers to maximise students' learning experiences using appropriate strategy in learning activities. It also helps the institution to offer better blended courses to the students with a well-versed and designated environment and curriculum. By moving from a face-to-face learning environment in the traditional-teaching style at schools to a blended learning environment, which consists of moving from online and face-to-face sessions, to fully online sessions, the blended learning environment may also serve as a bridge to this middle-aged group of digital immigrant learners and prepare them before moving one step ahead to be fully online in the future. Technology impacts how people perform their tasks. Digital immigrants are dependent on online resources to complete their written assignments. Besides, basic digital skills are required for digital immigrants to perform their tasks smoothly in e-learning. However, the technological skills of digital immigrants are limited to the job function areas only. Thus, the university should conduct a digital skill training needs analysis and provide appropriate training to the digital immigrants before the beginning of the semester. This is will help prepare digital immigrants with some basic knowledge of digital skills relevant to an e-learning environment and provide them with greater confidence and preparedness for learning at the beginning of the semester itself.

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45

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