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M-LEARNING IMPACT ON SELF-DIRECTED LEARNING IN ZIMBABWE HIGHER EDUCATION

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ABSTRACT

Higher education is being influenced by mobile technology use for education purposes. This paper draws opinions from Zimbabwean lecturers on how self-directed learning (SDL) affects m-learning. The study takes a qualitative approach, in which 30 lecturers were interviewed. Semi-structured email interviews were conducted as lecturers were not available for face-to-face interviews. Thematic analysis was applied to the data collected and NVivo (Version 12 Pro software) was used for coding the data. This paper explains what SDL is, the link with m-learning and what affects SDL. The paper also discusses how students can be prepared for SDL, which subsequently prepares students for m-learning. Consequently, this will allay concerns by lecturers that students are not ready for m-learning because students are not self-directed. This paper sheds light on how students who are not self-directed learners can be assisted to become more self-directed and better prepared for m-learning. Limitations of this paper are that this study was limited to only 30 lecturers.

KEYWORDS

M-Learning, Self-Directed Learning, University, Lecturers

1. INTRODUCTION

The use of mobile technologies has affected various service sectors. Higher education is being influenced by the use of mobile technologies for education purposes. Mobile devices have become more sophisticated with more capabilities making them educational tools. Although there have been improvements in educational indicators in Zimbabwe, such as increased enrolment across the different levels of education, the quality of education still faces noteworthy challenges. Higher education institutions in Zimbabwe are currently in a series of crises due to a decline in economic growth resulting in under-funding coupled with high student enrolment (Kariwo, 2007). Technology adoption in Zimbabwe is under-researched with organisations in education apprehensive about technology adoption (Chiome, 2013).

Mobile learning (m-learning) can be defined as any learning that happens when a student is not at a fixed predetermined location, or learning that occurs when a student takes advantage of learning opportunities offered by mobile technologies (Crompton, 2013). Initially, m-learning definitions were device-driven (Hwang & Tsai, 2011). However, this has shifted to personal and social-driven definitions which take into consideration the technological affordances of the mobile technologies (Baran, 2014).

This paper is part of a PhD research to develop a model for m-learning for higher education in Zimbabwe. In developing a model for Zimbabwe higher education, the study sought opinions from different stakeholders. This paper addresses the following research question:

RQ: What are the stakeholders' perceptions of the mobile learning model in Zimbabwe higher education?

This paper draws on opinions from lecturers when asked to comment on the following statement: Using mobile devices for teaching and learning will allow students to be capable of self-study or self-learning without much intervention from lecturers.

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2. BACKGROUND ON SDL AND M-LEARNING

2.1 Self-Directed Learning & M-Learning

SDL is the ability to take an initiative to diagnose one's learning needs with or without the help of others, identifying the resources required to help in the individual's learning and selecting the appropriate learning strategies (Knowles, 1975). Self-directed learners are more willing to achieve learning goals (Geng et al., 2019). For successful SDL it is important to ensure that learners have access to many information resources to meet their learning needs (Gokcearslan, 2017). SDL with technology refers to the use of information communication technologies (ICT) for learning experiences that enable learners to take control of planning, implementing and evaluation their own learning (Lee et al., 2014). M-learning facilitates SDL (Taylor et al., 2006).

M-learning is largely self-directed as learners have to "find their own way to make a learning situation personalised and sensitised to them" (Park et al., 2010, p. 57). Learning that is aided with mobile technologies implies the learner can take charge of their learning. Fahnoe and Mishra (2013) argue that technology-rich learning environments promote opportunities for SDL as learners have to manage and appropriately use information. Yet, Bartholomew et al. (2017) in their study showed that SDL correlated more closely with student and classroom characteristics than it did with technology tools. Liu et al. (2010) assert that adoption of mobile technologies does not guarantee adoption of m-learning, yet promoting a learner's self-management capabilities will ensure effective use of m-learning. Equipping students to become self-directed learners may help learners to autonomously utilise mobile technologies to fulfil their learning goals. It may be concluded that access to technology may not translate to SDL however; mobile technologies increase access to learning resources that can also encourage self-directed learning.

2.2 What Affects SDL?

It has been noted that individual differences of learners affect SDL (Kreber, 1998) since, individual characteristics will in turn determine how learners embrace m-learning platforms on a formal or informal level (Karimi, 2016). According to Spear and Mocker (1984) readiness for SDL can be identified by eight important factors: (1) Openness to the learning opportunities, (2) The concept of self as an effective learner, (3) learning initiative and independence, (4) Accepting informed responsibility, (5) learning love, (6) creativity, (7) future orientation and (8) ability to use basic working and problem solving skills. Yilmaz et al. (2017) argue that to increase SDL with technology there is a need to first develop self-management and intentional learning competences for the students. Lalitha and Sreeja (2020) assert that learners face challenges in making choices on what to choose from given the variety of online resources when adopting SDL. SDL can be achieved by equipping students with skills in planning, monitoring and evaluating their learning processes (Yilmaz et al., 2017). While lecturers may encourage SDL and create environments conducive for SDL, success in SDL seems to depend on how learners are ready for SDL.

3. RESEARCH METHODS

A qualitative approach was adopted in this study to gather perceptions of SDL and m-learning from 30 lecturers. Semi-structured email interviews were conducted, as most lecturers could not attend to other forms of interviews due to other time-competing activities. Analysis started during data collection, with notes made from that stage. Thematic analysis was applied to the data, following the six-step process suggested by (Braun & Clarke, 2006). While the steps are presented as a linear step-by-step procedure, the actual analysis is not linear but iterative. The steps for the thematic analysis are explained in table 1.

Table 1. Thematic analysis steps and description of steps

Step	What is involved in the step
1. Become familiar with the data	Transcribing data, reading and re-reading data, noting down initial ideas.
2. Generate initial codes	This involves generating concise labels for important features of the data of relevance to the research question(s) guiding the analysis.
3. Search for themes	A theme is a coherent and meaningful pattern in the data relevant to the research question(s). Searching for themes involves looking into the codes to identify similarities and differences and coming up with new codes in some cases. Themes are constructed based on different codes. All the coded data relevant to each theme are collated.
4. Review themes	Checking if themes work in relation to the coded extracts and the entire data set.
5. Define themes	Defining and naming themes involved a detailed analysis of each theme. This involved: <ul style="list-style-type: none"> ➤ Exploring what story each theme told. ➤ Examining how the theme fits into the overall story about the data ➤ Identifying the “essence” of each theme and coming up with a concise and informative name of the theme.
6. Producing report	Final opportunity of analysis. Selection of compelling extract examples and relating back to research question(s) and literature.

3.1 Research Outcomes

A diagram extracted from NVivo shows some of the nodes used in coding the data gathered from lecturers are shown in Figure 1.

Name	Sources	References
Interview Questions	0	0
1. In the past few months, how often do you need technical (or IT) support when bro	17	17
10. Using mobile devices for teaching and learning will allow students to be capable of self-study or self-learning without much intervention from le		
11. Give general comments about adopting mobile learning in your discipline.	17	17
12. What are your thoughts--expectations if mobile learning is introduced into a univ	17	17
2. Give your opinions on capabilities of using mobile devices in teaching and learnin	17	17
3. What are the constraints of using mobile devices in teaching and learning--	17	17
4. What are the current needs for professional development on mobile learning--	17	17
5. State some of the teaching and learning activities you can perform using your mo	17	17
6. If some part of your course is offered in a mobile learning mode, would you be int	17	17
7. To create teaching and learning content for mobile devices, what are students' an	1	1
7. To create teaching and learning content for mobile devices, what are students' an	16	16
8. Using mobile devices for teaching and learning enables students and lecturers to a	17	17
9. Using mobile devices for learning will allow students and lecturers to collaborate a	1	1
9. Using mobile devices for learning will allow students and lecturers to collaborate a	2	2

Figure 1. A diagram on coding extracted from NVivo 12

Opinions differed as to whether m-learning improved self-learning. While some lecturers argue that m-learning encouraged SDL, others felt SDL would only benefit certain students and others felt that m-learning would not necessarily translate to SDL. Some lecturers argued that self-learning would benefit certain students who did not require constant monitoring or supervision. One lecturer highlighted that there is a need to train learners to avoid distractions or activities that hinder their learning when using mobile technologies so that they can study independently.

Some comments from lecturers regarding m-learning and SDL are given below:

Lecturer_2: *“It [m-learning] works fairly well with self-actualised students, those who depend on supervision it might not work.”*

Lecturer_4: *“It [SDL] is possible where students are self-starters. Where they are used to being provided with everything the students may initially struggle.”*

Lecturer_20: *“On-self-learning and self-study am not sure students will have that discipline to do so completely without some oversight from the lecturer.”*

Lecturer_23: *“Develops an independent learner who is equipped for problem solving.”*

Some lecturers' concur with previous research that mobile technologies disrupt conventional approaches to knowledge transfer from teacher to student, thereby leading to self-learning (Wang et al., 2009). Some of the findings in this study align with those of Wang et al. (2009) who claim that self-learning plays a critical role in m-learning acceptance. Amongst the lecturers in Zimbabwe universities there are different opinions on how m-learning is impacted or impacts SDL. The findings from this study indicate that some lecturers are of the impression that most students are not self-directed learners.

There are suggestions from this study that learning in some Zimbabwe tertiary institutions is teacher-centred as indicated by comments from the lectures below:

Lecturer_5: *“This is more applicable in andragogy where the lecturer is there to provide guidance and not to drill as it were in pedagogy.”*

Lecturer_8: *“M-learning is a good concept but it requires a firm reading culture which lacks in our students who are only driven by the need to earn marks rather than learning.”*

It is encouraging that some lecturers believe there is potential in increasing SDL through mobile technologies. These lecturers appreciate that m-learning will place them in a facilitator role in which the learning is more student-centred. While there is a huge concern that some students are not self-directed learners’ comments from some of the lecturers below indicate that lecturers would like the learners to be more involved in SDL. M-learning may be the vehicle to promote SDL with lecturers still playing a significant role in facilitating the learning.

Lecturer_6: *“That is true, the lecturer is placed in the background thereby fostering greater interaction between students and learning material and amongst students themselves. The lecturer plays the role of moderator, supervisor and guide.”*

Lecturer_7: *“Students are more attached to their mobile devices, having learning material with them on those devices may help them take an initiative to learn.”*

Lecturer_11: *“We cannot invalidate the role of the teacher in the learning process. Whilst students can enhance how they learn, the teacher still needs to be able to supervise all self-studies that occur.”*

Lecturer_23: *“It gives students independence to study on their own and in their own time.”*

Lecturer_24: *“With calls for student-centred learning, this empowers the learner and gives the learner control over his/her learning.”*

Although lecturers have differing opinions on whether m-learning would improve SDL there are suggestions from lecturers that m-learning could help develop self-directed learners. It may be concluded that learners and lecturers need to cooperate in using m-learning to develop SDL.

3.2 Findings

Lecturers in Zimbabwe have different opinions on how m-learning impacts self-directed learning (SDL). Some lecturers are of the opinion that their students are not capable of self-directed learning yet, with other lecturers expressing that m-learning could lead to SDL. With students not ready for SDL, some lecturers are concerned that such students would not benefit from m-learning. Herrador-Alcaide et al. (2020) conclude that SDL is positively related to use of technology for learning however, the findings from this research do not confirm this.

3.3 Future Research

Future research could involve a study with the students in Zimbabwe higher education, to gather their perspectives on M-learning and SDL to get a more holistic understanding.

3.4 Limitations

The study was limited to only 30 lecturers, this study could be extended to more lecturers, and a survey could be conducted for generalisations of findings.

4. CONCLUSION

Opinions on how mobile technologies impact SDL are different among lecturers in Zimbabwe. The differing opinions suggest that it may be important to ready students for SDL in preparation for m-learning. There are suggestions that students’ take ownership of their learning by planning, monitoring and evaluating their learning process. Ownership of learning by students could include a variety of activities. Students should be able to set their own learning objectives as part of planning. In the monitoring process students should check if they can move on the right path and decide on the point they are in and the process they are following. To evaluate the learning process, students should evaluate their performance by considering whether they have achieved or not achieved their goals. M-learning is likely to benefit students who can independently undertake

learning activities. It is encouraging that even if students are not yet ready for SDL all students can be trained to become more autonomous in terms of their learning. M-learning can be a vehicle to promote SDL in contexts similar to Zimbabwe, in which learning has been more teacher-centred.

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