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M-Learning Readiness at Higher Institution: A Case of Polytechnic of Namibia

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Abstract

Mobile phones have advanced in technology and have become available and affordable. These characteristics have made mobile phones a good choice of mobile computing device for lightweight operations in addition to telephony. Students of higher institution of learning form part of the users of mobile phones. Sequel to the computing ability of mobile phones, especially smartphones, socialisation, entertainment and learning are some of common activities available on such devices. This paper investigates the readiness of Polytechnic of Namibia in integrating mobile phones into teaching and learning. The investigation is focused on the readiness of students and lecturers. The understanding of such readiness would inform decision on integration of mobile phones in teaching and learning at the Polytechnic of Namibia, and likely serve as reference to other higher institutions of learning.

Keywords: *M-learning, eLearning, mobile phone, teaching, learning*

1. Introduction

Technology is one of the fastest growing industries in the world with almost all, if not all, other industries depending on it for improved operations, services, productions, products, *etc*. At individual level, the technology could be embedded into household or handheld devices where it could be used to improve quality of life. The most commonly used mobile device today is the mobile phone. Young people are at the heart of using mobile phone; according to Callum and Jeffrey [1], this led to the deployment of mobile technology into teaching and learning. In the past, students only made use of desktop personal computers, laptops and notebooks to access course materials [2]. According to Cheung and Hew [3], mobile devices help students to undertake learning wherever they are. This is significant, especially with the use of smartphones.

Literature indicates that teachers and learners have different opinion regarding the use of mobile devices in teaching and learning. Many teachers fear that mobile devices will cause distraction and many learners will use them to perform non educational activities [4]. However, according to Callum and Jeffrey [1], lecturers at Malaysia universities believe that mobile learning introduction will have a major success in enhancing education on campus. M-learning is not a replacement for eLearning but it is a compliment. eLearning is a learning tool designed to be accessed via electronic communication, such as the internet, intranet and other forms [5]. One of major misconceptions about eLearning is the assumption that it could become a solution to all learning problems, that lecturers may no longer be required and that anything could be e-taught [6]. Similarly, M-learning will not solve all problems or address all challenges of teaching and learning but will extend the accessibility of teaching and learning materials.

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According to Armatas, Holt and Rice [7], mobile phones are the mostly used devices, and that most of students in higher institution of learning own at least one. In Turkey, students use mobile phones in accessing their educational materials for the purpose of learning [8], and according to Mockus, Dawson, Edel-Maliza, Shaffer, Sung and Swaggerty [2], students always have access to their mobile phone which help them in recapitulating past lecturers. Additionally, mobile phone helps students to participate in group discussions regardless of where they would be with the possibility of immediate feedback [9].

Readiness is defined as the state or quality of being ready, preparation, promptness, aptitude and willingness [10]. Readiness to the use of mobile phone in teaching and learning at the Polytechnic of Namibia (PoN) is the focus of this paper. The readiness is centred on students and lecturers. Hence, the remainder of this paper is organised as follows. Section 2 introduces the concept of M-learning, while the current learning technologies at PoN are introduced in Section 3. The methodology employed in the study is discussed in Section 4, results are presented and discussed in Section 5 and conclusions are drawn in Section 6.

2. M-Learning

M-learning is a method of learning that is enhanced by mobile devices, especially mobile phones [12]. It is also a form of learning which leverages on the mobile devices portability and affordability [13]. M-learning could also be described in terms of mobility of learners and mobility of learning [14]. Mobile phone is likely to be the common choice of device for M-learning owing to its wide use [15]. M-learning is changing the way students learn and the way lecturers work by reducing their dependence on fixed locations [16].

According to Jaradet [17], mobile learning was not introduced to replace traditional learning or to eliminate personal computers by converting all learning features into mobile format but rather to enhance and strengthen teaching and learning in higher institutions of learning. Where M-learning services exist (among other learning platforms) within an institution, it would be the most used learning platform by students [5]. The deployment of M-learning upon an existing eLearning would extend eLearning further by widening accessibility via handheld devices such as mobile phone [5].

3. Polytechnic of Namibia

Polytechnic of Namibia is a technical tertiary institution that is currently transforming into a University of Science and Technology. It offers three modes of study namely distance, full-time and part-time. Through observation, most students could be spotted using mobile phone while others using mobile devices such as tablet. Some of the students use their mobile phone to check class timetables available online.

The current educational system in PoN is classroom teaching-learning system, whereby students are required to have at least 80% class attendance for the whole semester. According to Wambui and Black [11], this is the most recommended platform by PoN because it gives students an opportunity to interact with their lecturers in person; they get opportunity to knowing the lecturers better and likewise the lecturers. However, with other study modes such as distance, this becomes challenging. To address this, Moodle (an eLearning platform) has been introduced where students could use desktop personal computers, laptops or notebooks to access learning materials. The eLearning platform caters for all study modes.

According to Wambui and Black [11], Moodle is a course management system designed to help educators who want to create quality online courses. Moodle also allows for online assessment. Since most students, if not all, have mobile phone (smartphone in

particular), it will be helpful if students have access to education materials via such device.

4. Methodology

The overview of the methods and techniques used in establishing the readiness of PoN for the use of mobile phones in teaching and learning are here discussed.

4.1. Qualitative and Quantitative Method

Data collection was done using mixed methods (qualitative and quantitative) to investigate the readiness and perception of students and lecturers on using mobile phone in teaching and learning at PoN. Quantitative method was used to collect and analyse numeric data from participants; lecturers and students.

The qualitative method was employed in the collection of data where description or explanation is required. For instance, question such as how would mobile phone impact on learning? The qualitative method grants the opportunity to obtain more detailed information from participants.

4.2. Population

It is clear from the previous section that the population sample of this work consists of students and lecturers at the PoN. The participants were drawn from 4 different Schools (Faculties): Computing and Informatics, Natural Resources and Spatial Sciences, Management Sciences and Engineering. Due to time limitation, the population of students is drawn from full-time mode of study.

4.3. Instrument

A questionnaire was used for the individual Schools to establish the perception of its target population regarding M-learning. The questionnaire consisted of open-ended and closed-ended questions. The closed-ended questions required simple answers, for instance a ‘yes,’ ‘no’ or ‘do not know.’ The open-ended questions provided opportunity for the participants to give their opinions on the subject matter.

5. Results

A total of 55 students and 20 lecturers participated in the survey. The students’ participation by age range and gender is detailed in Table 1 while that by School in Table 2.

Table 1. Students’ Participation by Age Range

	Age Range			**Total**
	15 - 20	21 - 25	26 - 30	
Male	11	13	3	27
Female	9	12	7	28
Total	20	25	10	**55**

Table 2. Students' Participation by School

	School				Total
	Computing and Informatics	Natural Resources and Spatial Sciences	Management Sciences	Engineering	
Male	6	6	8	7	27
Female	7	5	10	6	28
Total	13	11	18	13	**55**

The lecturers' participation by age range is detailed in Table 3 while that by School in Table 4.

Table 3. Lecturers' Participation by Age Range

	Age Range				Total
	30 - 35	36 - 40	41 - 45	45 - 50	
Male	3	4	2	0	9
Female	2	2	4	3	11
Total	5	6	6	3	**20**

Table 4. Lecturers' Participation by School

	School				Total
	Computing and Informatics	Natural Resources and Spatial Sciences	Management Sciences	Engineering	
Male	3	2	2	3	10
Female	2	3	3	2	10
Total	5	5	5	5	**20**

Data was then collected from the population sample using questionnaire, the data was further analysed according to each category (students and lecturers) as presented next.

5.1. Students

All the students indicated that they own mobile phone, and out of the 55 students, 47.27% own smartphone, 30.91% own basic (traditional) mobile phone while 21.82% own both smartphone and basic mobile phone. This is shown in Figure 1 below.

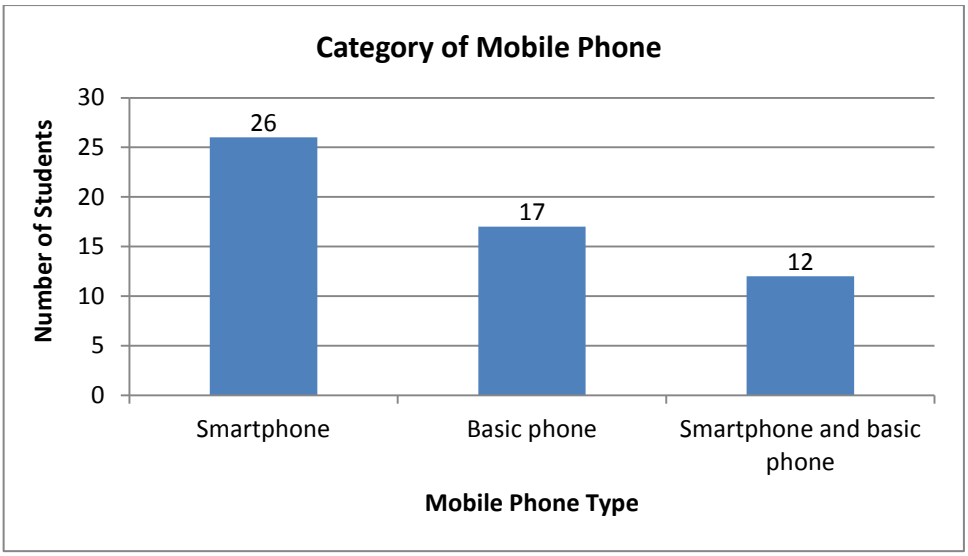

Figure 1. Category of Mobile Phone Owned by Students

Figure 1 reveals that a total of 69.09% (38) of the 55 students own at least a smartphone which is capable of supporting features required for pleasant user experience in M-learning. It is therefore interesting to see whether the students use their mobile phone for any form of learning. This is shown in Figure 2 and it is presented according to School. The results include all categories of mobile phone.

Figure 2 shows that a total of 32 students use their mobile phone for learning while 23 use it otherwise. Due to the ease of use of smartphone for such purpose, it is likely that the 32 students were among the 38 students who own smartphone. Although, not all the students use mobile phone for learning, it is interesting to know what the students think of mobile phone in terms of making learning easier. Figure 3 shows that 94% of the students believed that mobile phone will make learning easier while 6% thought otherwise. Hence, this illustrates the positive attitude of students towards M-learning.

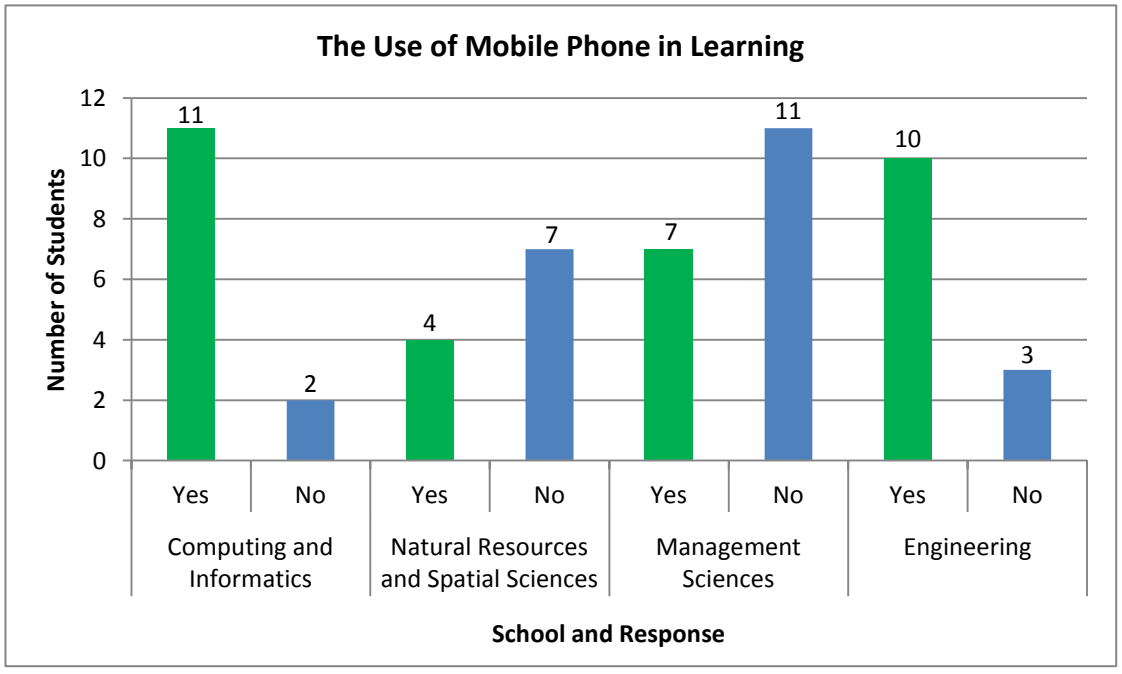

Figure 2. The Use of Mobile Phone in Learning by School

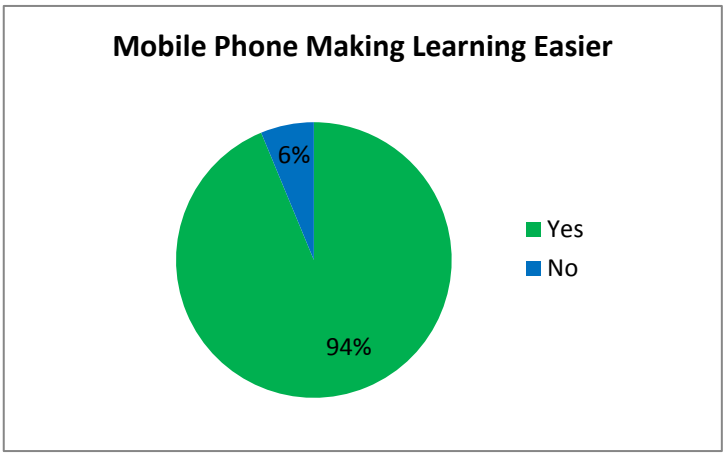

Figure 3. Perception of Mobile Phone in Making Learning Easier

Furthermore, a survey among same sample of students was performed to obtain the perception of students towards PoN's readiness for M-learning. The result is shown in Figure 4, where majority of the students believed PoN is not ready due to slow wi-fi on campus and inadequate infrastructure to handling M-learning.

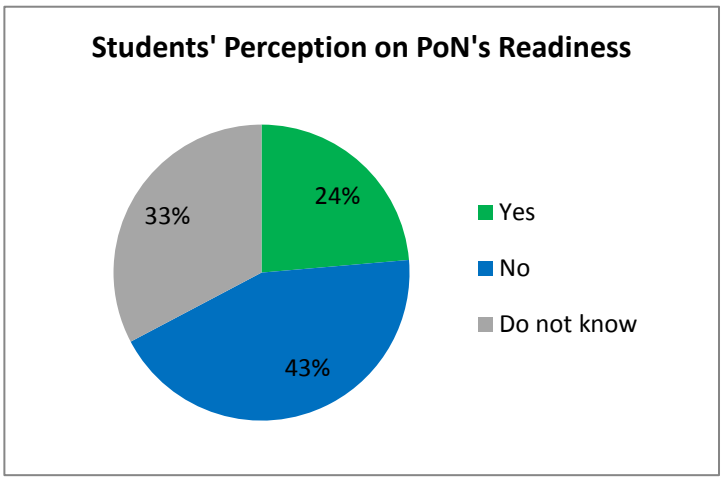

Figure 4. Students' Perception on PoN's Readiness

5.2. Lecturers

Among the 20 lecturers, all of them own mobile phone; where 16 own smartphone, 3 own basic mobile phone and 1 own both smartphone and basic mobile phone. The use of mobile phone for teaching among lecturers per School is shown in Figure 5. In total, 12 lecturers make use of mobile phone in teaching while 8 use it otherwise.

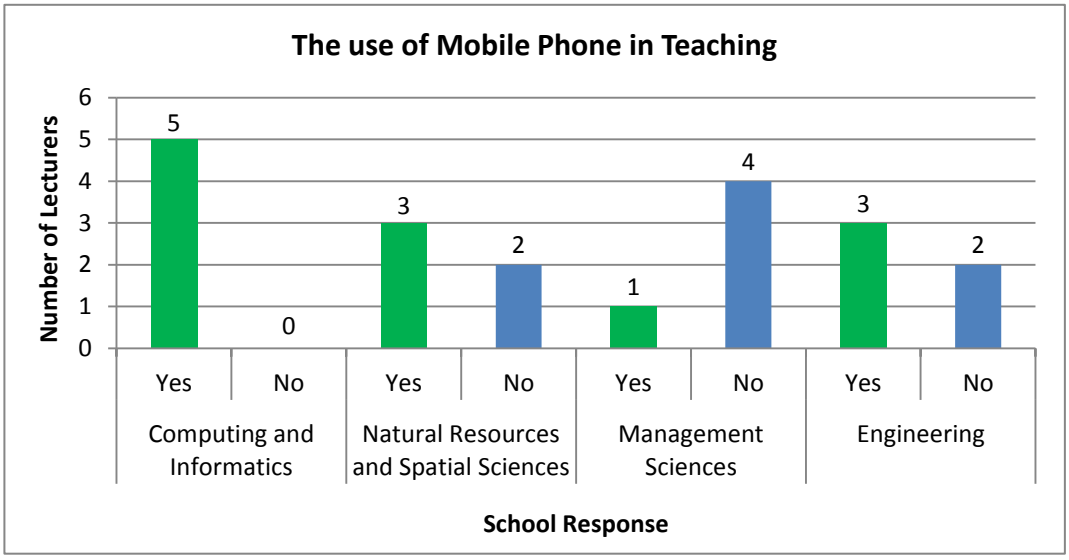

Figure 5. The Use of Mobile Phone in Teaching by Lecturers

Additionally, all the 12 lecturers who use mobile phone in teaching believed that the use of mobile phones in teaching would make the job easier. In terms of PoN's readiness, 13 of the 20 lecturers indicated that the PoN is not ready while 7 indicated that they do not know. The reasons for PoN not being ready according to the 13 lecturers are mainly due to slow wi-fi on campus and inadequate infrastructure to handling M-learning (similar reasons to students' perception).

6. Conclusions

This work investigated the readiness of the Polytechnic of Namibia to using mobile phone in teaching and learning. A survey was conducted where 2 categories of population were considered; students and lecturers. Qualitative and quantitative methods were employed while questionnaire was used for data gathering.

The analysis of the data showed that all students who participated in the study owned mobile phone, with vast majority owning smartphone. The vast majority of the students used mobile phone for learning, and indicated that mobile phone would make learning easier. Similarly, the analysis showed that all the lecturers who participated, owned mobile phone, with vast majority owning smartphone. Most of the lecturers used mobile phone in teaching, and indicated that mobile phone would make teaching easier.

However, the vast majority of lecturers and students indicated that the Polytechnic of Namibia is currently not fully ready to using mobile phone in teaching and learning. This is due to the slow wi-fi on campus which would make accessibility an unpleasant experience. The inadequacy of infrastructure (technology) to supporting M-learning was also indicated as a concern. Although the sampled population indicated that the Polytechnic of Namibia is not fully M-learning ready with regards to infrastructure, all is not gloomy as its students and lecturers indicated positive M-learning readiness.

References

[1] K. M. Callum and L. Jeffrey, "Factors Impacting Teachers Adoption of Mobile Learning", Journal of Information Technology Education; Research, Retrieved from http://www.jite.org/documents/Vol13/JITEv13ResearchP141-162MacCallum0455.pdf, vol. 13, pp. 141-162, **(2013)**.

[2] L. Mockus, H. Dawson, D. S. Edel-Maliza, D. Shaffer, A. N. J. Sung and Swaggerty, "The Impact of Mobile Access on Motivation: Distance Education Student Perceptions", **(2011)**.

[3] W. S. Cheung and K. F. Hew, "A Review of Research Methodologies used in Studies on Mobile Handled Devices in k-12 and Higher Education Settings", Australian Journal of Educational Technology, vol. 25, no. 2, **(2009)**, pp. 153-183.
[4] T. H. Dang, "Towards the Use of Mobile Phones for Learning English as a Foreign Language: Hesitation or Welcome?", ISSN 1930-2940, vol. 13, no. 10, **(2013)**.
[5] H. G. Friedel, "Smart Phones-Smart Students: A Review of the Literature", **(2012)**.
[6] F. M. Kwaileh and A. A. Aljarrah, Graduate Students' Perceptions Towards Mobile-Learning (M-Learning) at the University of Jordan, **(2011)**.
[7] C. Armatas, D. Holt and M. Rice, "Balancing the Possibilities for Mobile Technologies in Higher Education", **(2005)**.
[8] O. Serin, "Mobile Learning Perceptions of the Prospective Teachers Turkish Public of Northern Cyrups Sampling", The Turkish Online Journal of Education Technology, vol. 11, no. 3, **(2012)** July.
[9] P. Pollara, "Mobile Learning in Higher Education: A Glimpse and a Comparison of Student and Faculty Readiness, Attitudes and Perceptions", The Department of Educational Theory, Policy & Practice, **(2011)**.
[10] R. Rahamat, P. M. Shah, R. Din, and A. J. Aziz, "Students Readiness and Perceptions Towards using Mobile Technologies for Learning English Language Literature Component", The English Teacher, vol. XL, **(2009)**, pp. 69-84.
[11] L. Wambui and E. Black, "Factors that Impede Adoption of E-learning in Developing Countries: Advice for Moving Beyond Challenges with Integrating E-learning Platforms at Polytechnic of Namibia", **(2011)**.
[12] P. Mtenga, R. Bernard, C. R. Msungu and R. Sanare, "Using Mobile Phones for Teaching and Learning Purpose in Higher Learning Institutions: Case of Sokoine University of Agriculture in Tanzania", **(2012)**.
[13] Z. W. Abas, C. L. Peng and N. Mansor, "A Study on Learner Readiness for Mobile Learning at Open University Malaysia", IADIS International Conference Mobile Learning, **(2009)**.
[14] M. O. M. El-Hussiein and J. C. Cronje, "Defining Mobile Learning in the Higher Education Landscape", Educational Technology and Society, vol. 13, no. 3, **(2010)**, pp. 12-21.
[15] S. Lindsay, A. Sultany and K. Reader, "An Investigation into Student Mobile Devices at City University", London, Learning Development Centre and the Schools of Arts and Social Sciences, **(2010)**.
[16] I. Ismail, S. F. Bokhare, S. N. Azizan and N. Azman, "Teaching via Mobile Phone: A Case Study on Malaysian Teachers Technology Acceptance and Readiness", **(nd)**.
[17] R. M. Jaradet, "Students Attitudes and Perception Towards Using M-learning for French Language Learning: A Case Study on Princess Nora University, Department of French Language", Faculty of Languages and Translation, Princess Nora Bint Abdel Rahman University, Riyadh, **(2014)**.

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