

Distance Learning Students' Mobile Phone Self-efficacy and Utilization for Learning: A Case of St. Paul's University POODLE Application, Kenya.

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Abstract

Mobile phones are used in virtually every area of life in the contemporary society. In Africa, mobile phones have radically changed the way people do business and socialize, and Kenya has not been left behind in this development. However, mobile phone technology has not been effectively utilized in education at the same level of efficiency and effectiveness. Studies have shown that technology self-efficacy is the most critical factor that determines utilization of any technology particularly for distance education students. Distance education students need effective support through mediated forms of interaction in form of flexible media, which necessitated the development of the POODLE mobile application learner management system at St. Paul's university, Kenya. This study aimed at studying mobile phone self-efficacy and its utilization for learning with special reference to the use of POODLE application at St. Paul's University. A descriptive cross-sectional survey research design was used. The study targeted 320 respondents. A questionnaire was used to collect data from a sample of 176 students. Data obtained was analyzed by use of frequencies, percentages and Pearson Chi-Square(χ^2) at a set significance level of ($p < .05$) and presented in form of tables. The findings of the study revealed that most students used the POODLE application, where slightly more male students used in comparison with their female counterparts. The study revealed no significant relationship between students' year of study and the use of POODLE application. Attitudes of the students using the application varied but most regarded the POODLE application as useful in their studies. Most students had skills in the use of the application but there was a significant relationship between the distance learning students' year of study and the students' self-evaluation on whether they have the skills in the use of POODLE application. The study concludes that the mobile phone application's utilization and its self-efficacy among St. Paul's University distance learning students is relatively high. However, there is need for more sensitization, training and regular updates of the application to increase distance learning students' self-efficacy and utilization of the POODLE application.

Keywords: Mobile Phone, POODLE Application, Self-Efficacy and Distance Learning.

Introduction

Mobile phones have dramatically changed the social and economic life of human beings over the last few years. This is more pronounced in a number of African Countries especially in Kenya. Lep, Barkley and Karpinski (2015) note that mobile phones are an integral part of human life today. Iraki (2015) contends that this has largely been brought about by affordability of mobile phones and access to internet services. In its report, the Communication Authority of Kenya (2016) indicated that by end of 2016 an estimated 62.9 percent of the population worldwide already owned a mobile phone representing about 4.77 billion people and was expected to grow to 67% or about 5 billion people by 2019. Statistics from the Communication Authority of Kenya indicate that by June 2017, there were 39.7 million (90%) mobile subscribers in Kenya. By December 2018, there were 49.5 million (106%) mobile subscribers in Kenya (CAK, 2019). As a result of the rapid and extensive mobile penetration and use of smart phones, internet usage has equally increased. The Global Digital Report (2017) postulates indicates that by January 2017 there were 3.77 billion (50%) of the world's population being internet users. This growth was attributed to the use of smartphones with remarkable capacity and versatility. Smartphones have opened new opportunities, creative and varied applications in different areas of human life.

Mobile phone technology has had a great impact in various fields such as communication, banking, financial transactions and agriculture among other areas. In Kenya, products such as M-Pesa and M-Shwari have revolutionized money and financial transactions. However, as noted by Iraki (2015) mobile phone usage in the teaching and learning process is very low. Cheon, Lee, Crooks and Song (2012) opine that mobile learning has been widely used in informal learning but has had low usage in formal learning. This is despite the fact that it can provide mobile flexible, practical, and personalized opportunities of use in and outside the classroom (Kukulka-Hulme & Traxler, 2005). Vasquez-Cano (2014) and Yang (2012) agree with this assertion when they argue that use of mobile phones for learning would play a fundamental role in University education by facilitating and extending access, knowledge construction, information collection and exchange, independent and lifelong learning as well as collaborative learning among other benefits. Smartphones in particular enable quick content delivery, enhanced support time, and a higher level of student engagement in learning in diverse geographical locations. (Clough, Jones, McAndrew, & Scanlon, 2007; Cowie et al., 2009; Falaki et al., 2010).

In distance education, the teacher and the student are largely removed from one other in both space and time. This brings about the absence of interaction in the teaching and learning process synonymous with conventional physical classroom setting. Holmberg (1983) and Moore (1993) opine that in distance education, there is both a geographic separation between the teacher and the learners and a pedagogical one. There is thus a psychological and communicative space as well a likelihood of misunderstandings between instructors and students who are physically separated. According to Anderson (2010), interaction is fundamental to educational experience. Studies indicate that students' learning is largely determined by social interaction through problem-solving under the guidance of a teacher or in collaboration with peers (Brindley & Paul, 2004; Garrison & Shale 1987; Lave & Wenger, 1991). Thus, distance education requires providers to use technology to mediate interaction students and students as well as amongst students. The fundamental concern by providers in distance education then, is the use of the best technology that can support such interaction.

As noted by Bull & McCormick (2012) and Tao & Yeh, (2013) mobile phone technology provides students with immediate and, portable access to education-enhancing capabilities. It is also an accessible and relatively cheaper form of technology that offers learning that is intimate, spontaneous, pervasive and versatile and also meets the interactive need. Zhou (2014) and Kukulsa-Hulme and Traxler, (2005) argue that the main advantages of mobile technology include the ability to support situated learning and mobility. In distance education, mobile phones can be very useful in mediating interaction between students and lecturers, and also for students support in their learning. In universities, as noted by Lep, Barkley and Karpinski (2015), and Cheon, Lee, Crooks and Song (2012), most students and lecturers possess mobile phones. However, they were mainly used for communication and leisure activities such as social networking, internet surfing, watching videos and playing games.

Self-efficacy in relation to the use of any technology is very important in the uptake and utilization of technology. Technology self-efficacy can be defined as an individual's self-judgment on their ability to use the technology. Adedoja and Oluwadara (2016) point out that there are many factors that influence the uptake and use of technology. Findings from a number of studies reveal that technology self-efficacy is a major factor in the adoption and use of a technology. Isman and Celikli, (2009) note that students' technologic self-efficacy and attitudes are the core factors which determine the success of the students' participation and use of the technology. Aremu and Fasan (2011) and Chia-Pin & Chin-Chung (2009), though interested in the training of teachers, intimate that self-efficacy in any technology used is important in the acquisition of required competence and attitude for effective utilization of the

technology. This is a clear indication that for effective use of mobile phones in learning by distance learning students, self-efficacy should be evaluated and considered. Yang (2012) argues that studies done by Brock & Sulsky, 1994; Barbeite & Weiss, 2004; Kao & Tsai, 2009) have shown that technological self-efficacy influenced by the psychological factors, including computer anxiety and the perceptions toward computers was helpful and self-directed tools. It is therefore imperative to determine self-efficacy and any technology utilization developed in order to improve on its usage, uptake hence the need for this study.

St. Paul's University developed a mobile phone application Learner Management System (LMS) known as POODLE (Portable Object-Oriented Dynamic Learning Environment) in 2017 for use by distance learning students and lecturers. It mirrors the MOODLE (Modular Object-Oriented Dynamic Learning Environment) Learner Management System (LMS) platform. It is designed for mobile phones using the Android operating system. The POODLE application can be downloaded from the Google Play Store. It allows users to utilize mobile internet networks and access learning materials offline thereby making access to the e-learning platform easier, flexible and versatile for both students and lecturers by improving access, flexibility, quality and student-lecturer interaction. POODLE was developed to mitigate e-learning LMS user challenges such as access to cabled internet network, as well as resistance and complaints due to accessibility, among others. Considering that the POODLE application had been in use for two years since its implementation at the University, there was need to conduct a study on its utilization and efficacy among distance learning students, hence this study's purpose. This will not only help in improving its usage but also inform future designs and development, and also mobile phone-based technology usage in university distance education at St. Paul's University, as well as other universities and institutions of higher learning.

The purpose of this study was to examine the mobile phone self-efficacy and its utilization for learning among distance learning students. The study is based on the Technology Adoption Model (TAM) by Davis (1989). The study objectives were; to assess the level of POODLE mobile phone application utilization by distance learning students at St. Paul's University, and investigate distance learning students' self-efficacy in utilization of the POODLE mobile phone application in learning.

Materials and Methods

A descriptive cross-sectional survey research design was used in this study. Fraenkel and Wallen, (2009); Borg, Gall and Gall, (2003) contend that a descriptive cross-sectional survey design is good when the study aims at describing a phenomenon or characteristic associated with a subject, estimate proportions of a predetermined population that have these characteristics and discover associations among different variables at a specific point in time. In this study, the characteristics of interest already existed in the subjects which enabled the researchers to conduct an in-depth analysis and associations of the variables of study. The study was carried out between March to April 2018.

The target population of this study was all the 320 distance learning students using the St. Paul's University E-learning Learner Management System. Gender-based stratified random sampling using of a table of random numbers to select 176 students as indicated in Table 1.1 below.

Table 1.1 Sample of Respondents Based on the Programmes of Study

Respondents Programme of Study				
	Frequency	Percent	Valid Percent	Cumulative Percent
Bachelor of Business Administration	86	48.9	48.9	48.9
Bachelor of Arts In Leadership and Management	29	16.5	16.5	65.3
Bachelor of Arts in Communication	18	10.2	10.2	75.6
Bachelor of Arts in Community Development	29	16.5	16.5	92.0
Bachelor of Commerce	3	1.7	1.7	93.8
Diploma in Business Management	11	6.3	6.3	100.0
Total	176	100.0	100.0	

A sample size of 176 (36.34%) was selected and considered adequate for the study which is descriptive in nature with a targeted confidence level of 95% or a 5% margin of error. The minimum sample required in this case was 175 respondents. Table 1.1 shows the sample selected per programme of study.

The unit of the study was the distance learning student and therefore all students were considered as one target group irrespective of the programme and the year of study.

Research Instruments and Data Collection Procedures

A questionnaire for the students was used in this study. The questionnaire had closed ended and open-ended items. The closed-ended items solicited specific information while the open-ended sought for respondent's own opinions, views and experiences. Data was be collected by distributing the questionnaires to students through the MOODLE e-learning system. The study was mainly interested in mobile phone self-efficacy and utilization by the respondents and thus a questionnaire was considered appropriate for the gathering the required data since it would help to get the required data for the study. The validity of the instrument was evaluated through expert evaluation by experienced lecturers who have used the POODLE and MOODLE LMMSs along with piloting of the instrument to a group of 10 distance learning students. Unclear and ambiguous items were corrected or removed and where necessary additions were made. Reliability of the instruments was tested through the split-half method. The Kuder-Richardson formula (KR20) was applied to determine the reliability of the questionnaire since most of the items were dichotomously scored. The reliability achieved is as indicated in Table 1.2.

Table 1.2 Split Half Reliability (r_{tt}) Analysis

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.771	.750	79

A reliability level of 0.771 was obtained as shown in table 1.2. This level of reliability was considered adequate for the study. Babbie, Halley and Zaino (2003) and Gibbon and Morris (1987) indicate a reliability (r_{tt}) level of 0.60 is adequate for a test while Fraenkel and Wallen (2009) recommend a reliability coefficient of at least 0.7 or above.

Quantitative data from the questionnaires was analyzed by use of descriptive statistics in form of frequencies, percentages and Pearson Chi-Square(χ^2) at a set significance level of ($p < .05$) and presented in form of tables. Chi-Square was selected since the data obtained was mainly at nominal and

ordinal levels. Qualitative data was coded and the response on each item was put into specific main themes. Thereafter frequencies, percentages and chi-square were calculated for each theme and presented in form of tables. Some of the respondents' responses were reported verbatim.

Results

Distance Learning Students' Gender, Age and Year of Study Results

The essence of the respondents' gender, age and year of study data was to relate the three variables to the distance learning students' mobile phone level of utilization and self-efficacy for learning. The results on respondents' gender, age and year of study are as shown in Tables 1.3, 1.4 and 1.5 respectively

Table 1.3 Distance Learning Students Gender

	Frequency	%	Valid %	Cumulative %
Male	69	39.2	39.2	39.2
Female	107	60.8	60.8	100.0
Total	176	100.0	100.0	

Table 1.3 shows that 39.2 % of the respondents were male while 60.8 % were female. This indicates almost one and half times as many female than male distance learning students at St. Paul's University, which and is in tandem with actual statistics of all distance learning students at the university.

Tables 1.4 Distance Learning Students' Year of Study

	Frequency	%	Valid %	Cumulative %
18-25 years	13	7.4	7.4	7.4
26-35 years	85	48.3	48.3	55.7
36-45 years	56	31.8	31.8	87.5
46-55 years	14	8.0	8.0	95.5
56 years and Above	8	4.5	4.5	100.0
Total	176	100.0	100.0	

From Table 1.4 it is clear that majority of the respondents 48.3% were between 26-35 years of age, followed by the 36-45 years at 31.8%. The least were those of 56 years and above at 4.5% of the sample. It can therefore be concluded that most of the distance learning students at St. Paul's University were the youth and middle aged.

Table 1.5 Distance Learning Students' Year of Study

	Frequency	%	Valid %	Cumulative %
Year 1	49	27.8	27.8	27.8
Year 2	41	23.3	23.3	51.1
Year 3	31	17.6	17.6	68.8
Year 4	55	31.3	31.3	100.0
Total	176	100.0	100.0	

Table 1.5 indicates that majority of the respondents were in year four of their studies at 31.3%, followed by year one students and year two students at 27.8% and 23.3% respectively. The least were year three students at 17.6 % of the sample. Thus, one can conclude that the total number of distance learning students in all the four years apart from year three are relatively close.

Distance Learning Students Level of POODLE Mobile Phone Application Utilization

Each of the respondent was asked to indicate the type of a mobile phone he/she used. This was necessary in order to determine the number of distance learning students who could access the POODLE software on Android-based smartphones. These results were as indicated in table 1.6.

Table 1.6 Type of Mobile Phone used by Distance Learning Students

	Frequency	%	Valid %	Cumulative %
Smart phone	175	99.4	99.4	99.4
Ordinary Phone	1	.6	.6	100.0
Total	176	100.0	100.0	

Table 1.6 shows that most of the students 99.4 % (175) used a smartphone indicating their ability to access the POODLE application. Only one student or 0.6 % used a non-Android phone. These findings

illustrate that most students were in a position to access the POODLE application since almost all of them had a smartphone.

A cross tabulation to establish the association between the students' gender and their POODLE application usage was done as indicated in Tables 1.7 and 1.8 below.

Table 1.7 Distance Learning Students' Gender and Use of POODLE Application

		Respondents Gender		Total
		Male	Female	
Have Used	Count	46	58	104
	% within Respondents	66.7%	54.2%	59.1%
	Gender			
	% of Total	26.1%	33.0%	59.1%
Have not Used	Count	23	49	72
	% within Respondents	33.3%	45.8%	40.9%
	Gender			
	% of Total	13.1%	27.8%	40.9%
Total	Count	69	107	176
	% within Respondents	100.0%	100.0%	100.0%
	Gender			
	% of Total	39.2%	60.8%	100.0%

Table 1.8 Distance Learning Students' Gender and Use of POODLE Application

Chi-Square Results

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.695 ^a	1	.101		
Continuity Correction ^b	2.204	1	.138		
Likelihood Ratio	2.723	1	.099		

Fisher's Exact Test			.117	.068
Linear-by-Linear Association	2.679	1	.102	
N of Valid Cases	176			

Table 1.7 indicates that there were comparatively more male students using the POODLE more at 66.7% than the female students at 54.2%, while non-usage of the application was 45.8% for female students, 33.3 % for male students. However, the Chi-square obtained ($\chi^2 (1) = 2.695, p < .05$) as indicated in table 1.8 was not significant. Therefore, though male students used the POODLE application more than the female students, there was no significant relationship between students' gender and the use of POODLE application. However, the non-utilization of the POODLE application may be due to the fact that it could only be downloaded on an android- system based mobile phone. The results for cross tabulation between the students' year of study and the use of POODLE application is as indicated in tables 1.9 and 1.10

Table 1.9 Distance Learning Students Year of Study and Use of POODLE Application

		Respondents Year of Study				Total
		Year 1	Year 2	Year 3	Year 4	
Have Used	Count	29	24	18	33	104
	% within	59.2%	58.5%	58.1%	60.0%	59.1%
	% of Total	16.5%	13.6%	10.2%	18.8%	59.1%
Have not Used	Count	20	17	13	22	72
	% within	40.8%	41.5%	41.9%	40.0%	40.9%
	% of Total	11.4%	9.7%	7.4%	12.5%	40.9%
Total	Count	49	41	31	55	176
	% within	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	27.8%	23.3%	17.6%	31.2%	100.0%

Table 1.10 Distance Learning Students Year of Study and Use of POODLE Application Chi-Square Results

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.038 ^a	3	.998

Likelihood Ratio	.038	3	.998
Linear-by-Linear Association	.007	1	.935
N of Valid Cases	176		

Table 1.9 shows that 60% of the fourth-year students used the POODLE application more at 60% within the group and 18.8% of all the students. They were followed by first years at 59.2% within the group and 16.5% of all the students. The group that used the application least were the third years at 58.1% within the group and 10.2% of all the students. Table 1.10 shows that the Chi-square obtained ($\chi^2(1) = 0.38, p < .05$) was not significant. There was therefore no significant relationship between students' year of study and POODLE application use. Tables 1.7 and 1.10 show that 40.9 % of the students did not use the POODLE application. This is significant since the aim of developing the application and its implementation was to increase the use of e-learning by distance learning students and upscale flexibility. This is in view of the fact that 99.4% of the students as indicated in table 1.6 have smartphones and therefore are capable of downloading and using it. However, as noted earlier, the non-utilization may partly be explained by the fact that it can only be used in an android system based mobile phone.

The results for the relationship between students' age bracket and use of POODLE application are as indicated in tables 1.11 and 1.12

Table 1.11 Distance Learning Students Age and Use of POODLE Application

		Respondent's' Age					Total
		18-25	26-35	36-45	46-55	56	
		years	years	years	years	years	
							and
							Above
	Count	7	56	29	9	3	104
Have Used	% within	53.8%	65.9%	51.8%	64.3%	37.5%	59.1%
	% of Total	4.0%	31.8%	16.5%	5.1%	1.7%	59.1%
Have not Used	Count	6	29	27	5	5	72
	% within	46.2%	34.1%	48.2%	35.7%	62.5%	40.9%

	% of Total	3.4%	16.5%	15.3%	2.8%	2.8%	40.9%
	Count	13	85	56	14	8	176
Total	% within	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	7.4%	48.3%	31.8%	8.0%	4.5%	100.0%

Table 1.12 Distance Learning Students Age and Use of POODLE Application Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.705 ^a	4	.319
Likelihood Ratio	4.689	4	.321
Linear-by-Linear Association	1.438	1	.231
N of Valid Cases	176		

Table 1.11 shows that students between 26-35 years had the largest number of POODLE application users at 65.9% followed by the 46 -55 year and 18-25-year-old students at 64.5% and 53.8% respectively. Above 56 years old students had the largest comparative number that did not use the application at 62.5%. The Chi-square obtained ($\chi^2(4) = 4.705, p < .05$) as recorded in Table 1.12 is not significant, hence the relationship between the students’ age and use of the POODLE application was insignificant.

When asked to indicate the reason for not using the POODLE Application, the students’ responses were as indicated in table 1.13 below.

Table 1.13 Distance Learning Students Responses on Reasons for Not Using the POODLE Application

Reason		Male		Female		Total	
		Frequency	%	Frequency	%	Frequency	%
		n=69	100	n=107	100	n=176	100
I have not downloaded the POODLE application	Yes	23	33.3	44	41.1	67	38.1
	No	46	66.7	62	57.9	108	61.4
Lack of skill in using the POODLE application	Yes	2	2.9	10	9.3	12	6.8
	No	67	97.1	97	90.7	164	93.2
I don’t know about the	Yes	10	14.5	25	23.4	35	19.9

POODLE application	No	59	85.5	82	76.6	141	80.1
POODLE App. not accessible & compatible with my phone	Yes	18	26.1	32	29.9	50	28.4
	No	51	73.9	75	70.1	126	71.6
Phone fonts and interface too small to clearly see	Yes	1	1.4	1	0.9	2	1.1
	No	68	98.6	106	99.1	174	98.9

From Table 1.13 it is clear that the main reason for students not using the POODLE application was not downloading the application with a 41.1% of the female students and 33.3% of the male students.

This could explain Tables 1.8 and 1.11 findings where 40.9% of the students indicated POODLE Application’s non-usage. The least reason was the phone’s fonts and interface being too small to be seen clearly with one student in each gender or 1.4 % and 0.9 % of the male and female students respectively.

Distance Learning Students Self-Efficacy in Utilization of the POODLE Application

The second objective of the study was to find out distance learning students’ self-efficacy in utilization of the POODLE application. In order to test this, respondents’ skills on the POODLE application usage were sought. The results on comparison between gender, year of study and age are presented in the subsequent tables below.

Table 1.14 Distance Learning Students’ Gender and Self-Evaluation on Skills Needed in the Use of POODLE Application

		Respondents’ Gender		Total
		Male	Female	
	Count	63	97	160
I have Skills in the Use of POODLE	% within Respondents	91.3%	90.7%	90.9%
	Gender			
	% of Total	35.8%	55.1%	90.9%
I Don't have Skills needed in the Use of POODLE	Count	6	10	16
	% within Respondents			
	Gender	8.7%	9.3%	9.1%
	% of Total	3.4%	5.7%	9.1%

	Count	69	107	176
Total	% within Respondents	100.0%	100.0%	100.0%
	Gender			
	% of Total	39.2%	60.8%	100.0%

Table 1.15 Distance Learning Students’ Gender and Self-Evaluation on Skills Needed in the Use of POODLE Application Chi-Square Results

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.021 ^a	1	.884		
Continuity Correction ^b	.000	1	1.000		
Likelihood Ratio	.022	1	.883		
Fisher's Exact Test				1.000	.555
Linear-by-Linear Association	.021	1	.884		
N of Valid Cases	176				

Table 1.14 shows most students indicating that they had skills for POODLE Application usage, with male students leading with 91.3% and female students following closely with 90.7%. The Chi-Square results obtained in table 1.15 ($X^2(1) = 0.021, p < .05$) show no significant relationship between the students’ gender and their self-evaluation on skills needed in the use of the POODLE application.

Table 1.16 Distance Learning Students’ Year of Study and Self-Evaluation on Skills Needed in the Use of POODLE Application

		Respondents’ Year of Study				Total
		Year 1	Year 2	Year 3	Year 4	
	Count	48	39	28	45	160
I have Skills in the Use of POODLE	% within Respondents	98.0%	95.1%	90.3%	81.8%	90.9%
	Year					
	% of Total	27.3%	22.2%	15.9%	25.6%	90.9%
I Don't have Skills	Count	1	2	3	10	16

needed in the Use of POODLE	% within Respondents	2.0%	4.9%	9.7%	18.2%	9.1%
	Year					
	% of Total	0.6%	1.1%	1.7%	5.7%	9.1%
Total	Count	49	41	31	55	176
	% within Respondents	100.0%	100.0%	100.0%	100.0%	100.0%
	Year					
	% of Total	27.8%	23.3%	17.6%	31.2%	100.0%

Table 1.17 Distance Learning Students’ Year of Study and Self-Evaluation on Skills Needed in the Use of POODLE Application Chi-Square Results

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.340 ^a	3	.025
Likelihood Ratio	9.619	3	.022
Linear-by-Linear Association	8.881	1	.003
N of Valid Cases	176		

Data presented in Table 1.16 shows that distance learning students’ varied self-evaluation skills needed in POODLE application usage. First, second, third and fourth years had 98.0%, 95.1%, 90.3% and 81.8% respectively. Few students across the years indicated that their lack of skills needed in the use of the application. The fourth years at 5.7% had the highest percentage. The Chi-square results presented in table 1.17 ($X^2(3) = 9.340, P < .05$) indicate a significant relationship between distance learning students’ year of study and their self-evaluation on skills needed in the use of POODLE application.

Table 1.18 Distance Learning Students’ Age and Self-Evaluation on Skills Needed in the Use of POODLE Application

	Respondents’ Age Bracket					Total
	18-25 years	26-35 years	36-45 years	46-55 years	56 years and Above	
I have Skills in the Count	11	82	49	12	6	160

Use of POODLE	% within Respondents' Age	84.6%	96.5%	87.5%	85.7%	75.0%	90.9%
	% of Total	6.2%	46.6%	27.8%	6.8%	3.4%	90.9%
	Count	2	3	7	2	2	16
I Don't have Skills needed in the Use of POODLE	% within Respondents' Age	15.4%	3.5%	12.5%	14.3%	25.0%	9.1%
	% of Total	1.1%	1.7%	4.0%	1.1%	1.1%	9.1%
	Count	13	85	56	14	8	176
Total	% within Respondents' Age	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	7.4%	48.3%	31.8%	8.0%	4.5%	100.0%

Table 1.19 Distance Learning Students' Age and Self-Evaluation on Skills Needed in the Use of POODLE Application Chi-Square Results

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.499 ^a	4	.112
Likelihood Ratio	7.434	4	.115
Linear-by-Linear Association	3.343	1	.067
N of Valid Cases	176		

Table 1.18 shows there were varied differences on students' age and their self-evaluations on skills required for using the POODLE application. 96.5% of the 26-35-year-old students indicated skill-possession needed, followed by 36-45-year-olds with 87.5%, 46-55-year-olds with 85.7%, 18-25-year-olds with 84.6%, and 56 years and above with 75% respectively. The Chi-Square obtained though high as shown in Table 1.19 ($X^2(4) = 7.499, p < .05$) was not significant, indicating an insignificant relationship between distance learning students' age and their self-evaluation on the skills needed in the POODLE application's usage.

On being asked whether they need training on the use of the POODLE application, the students' responses were as noted in Table 1.20.

Table 1.20 Distance Learning Students’ Responses on the Need for Training in the Use of the POODLE Application.

		Respondents’		Total
		Gender		
		Male	Female	
I Need Training	Count	34	55	89
	% within Respondents’ Gender	49.3%	51.4%	50.6%
	% of Total	19.3%	31.2%	50.6%
I don't Need Training	Count	35	52	87
	% within Respondents’ Gender	50.7%	48.6%	49.4%
	% of Total	19.9%	29.5%	49.4%
Total	Count	69	107	176
	% within Respondents’ Gender	100.0%	100.0%	100.0%
	% of Total	39.2%	60.8%	100.0%

Table 1.20 show that 50.6% of the distance learning students indicated their need for training. This is despite the fact that 90.9% as noted in tables 1.16 and 1.18 showed that they have the skills required in using the POODLE application. This is perhaps because some of those who had indicated they have skills in the use of the POODLE application may still feel the need for refresher training in the use of the application.

The students were asked to indicate whether they have experienced challenges in the use of the POODLE application. Their responses are as indicated in Table 1.21.

Table 1.21 Distance Learning Students’ Responses on whether they have Experienced Challenges in the use of the POODLE Application.

		Respondents’		Total
		Gender		
		Male	Female	
I have Experienced Challenges in Using the POODLE	Count	46	76	122
	% within Respondents’ Gender	66.7%	71.0%	69.3%
	% of Total	26.1%	43.2%	69.3%
I have not Experienced Challenges in Using the POODLE	Count	23	31	54
	% within Respondents’ Gender	33.3%	29.0%	30.7%
	% of Total	13.1%	17.6%	30.7%
Total	Count	69	107	176
	% within Respondents’ Gender	100.0%	100.0%	100.0%
	% of Total	39.2%	60.8%	100.0%

Considering the findings in Table 1.21, it can deduced that majority of the students (69.3%) had challenges in the use of the POODLE application and perhaps this partly explains the poor usage as recorded in table 1.11. Students were asked to indicate specific challenges they have faced in the use of the POODLE application. Their responses are as indicated in table 1.22 below.

Table 1.22 Challenges Faced by Distance Learning Students in their use of the POODLE Application

Challenge	Male		Female		Total	
	N=	%	N=	%	N	%
	69	100	107	100		
Failure & Malfunction of the POODLE Application	44	63.7	67	62.7	111	63.1

	No	25	36.2	40	37.4	65	36.9
Non-Compatibility of the POODLE Application with my Mobile Phone.	Yes	31	44.9	54	50.5	85	48.3
	No	38	55.1	53	49.5	91	51.7
Non-Accessibility of the POODLE Application	Yes	27	39.1	48	44.9	75	42.6
	No	42	60.9	59	55.1	101	57.4
Lack of Skill in the Use of the POODLE Application	Yes	3	4.3	7	6.5	10	5.7
	No	66	95.7	100	93.5	166	94.3

Challenge		Male		Female		Total	
		N=	%	N=	%	N	%
		69	100	107	100		
Data Displayed in Small Fonts that are Difficult to Read	Yes	5	7.2	6	5.6	11	6.2
	No	64	92.8	101	94.4	165	93.8
Malfunction & Breakdown of the Mobile Phone	Yes	20	29	37	34.6	57	32.4
	No	49	71	70	65.4	119	67.6
Did not Know about the POODLE Application	Yes	2	2.9	5	4.7	7	4
	No	67	97.1	102	95.3	167	96
Slow, Unstable & Non-availability of Internet	Yes	34	49.3	58	54.2	92	52.3
	No	33	47.8	43	44.9	81	46

As can be noted in Table 1.22, failure and malfunction of the POODLE application was the greatest challenge pointed out by distance learning students with 63.1% followed by Slow, unstable & non-availability of Internet at 52.3% and non-compatibility of the POODLE application with the mobile phone that had 48.3%. The least challenge as noted by students was lack of knowledge on the existence of the POODLE application at 4%. The second least challenge was lack of skill in the use of the

POODLE application with 5.7%. Data displayed in small fonts that was difficult to read was the third least challenge with 6.2%. The greatest challenges on failure and malfunction of the POODLE application and slow, unstable & non-availability of Internet may explain the poor usage of the POODLE as noted in table 1.11.

Discussions

The purpose of this study was to find out distance learning students' mobile phone self-efficacy and utilization for learning. The first objective was to assess the level of POODLE mobile phone application utilization by distance learning students at St. Paul's University. The findings obtained indicated that comparatively more male distance learning students used the POODLE application than their female colleagues. The use of the application by the students was slightly above average. A significant number of slightly less than half had not used the application. In terms of the use of the application in relation to the year of study, slight variations were observed. Fourth-years led the group followed by first, second and third-years respectively. The results also indicated that students aged between 26-35 years were POODLE application users, followed by those between 46 -55 years, 18-25 years, then and 56 years and above. The latter had the largest comparative number of students that did not use the application. Data obtained showed minimal differences in the use of the POODLE application in relation to gender, age and year of study. There were slight variations in the number of times the distance learning students in relation to gender, age and year of study though there was no significant relationship between the three variables and the number of times the students used the POODLE application. This difference could be attributed to some cases where some students indicated that at one point they had uploaded the application and used it but later they could not access it as seen in the words of two of the students below.

“Sometime back I downloaded the app but when I tried accessing my student account it wasn't going through.” (Brenda)

“Year 1 I used the app and it worked so well but since the beginning of this year I haven't used it because when I try to open the app it displays an error that says I should check that my site uses Moodle 2.4 or later and I don't know what that means.” (Alice)

These findings clearly prove that the use of the POODLE application was not adequate with slightly more than half of the distance learning students using it. Most of the students that had downloaded the

poode App with the intention to use it were unable to, citing non-compatibility of the application with their phones. These two reasons could be further explained by the statements of some of the students as cited below:-

“My Phone had some break down leading to difficulties in downloading the pooodle” (Daniel) “Sometimes am unable to log in -Versions change and one cannot download it” (John)

“It cannot be downloaded on my phone. I don’t know what the problem is but I think my phone is not compatible” (Mary)

Lack of utilization of the POODLE application by almost half of the respondents defeats the intentions for developing it, namely, to increase the use of the LMS, and make it more accessible and flexible for the distance learning students. Even though there were insignificant relationships between the use of POODLE with gender and age, it nevertheless indicates some differences that need to be addressed during development and implementation of mitigation strategies.

The second objective of the study was to establish distance learning students’ self-efficacy in utilization of the POODLE mobile phone application in learning. The findings obtained demonstrate that most of the students had the skills required in the use of the POODLE application. Male students had a slightly higher percentage in comparison to the female students. In terms of the relationship between year of study and the students’ self-evaluation on the skills needed in the use of the application, the study results show a significant relationship between the two variables. All the levels of study had over eighty percent led by the first, second, third and fourth years respectively. It thus follows that majority of the St. Paul’s University distance learning students have positive POODLE mobile phone application self-efficacy. The positive self-efficacy of the student can be explained and summed up by the statements from the following students.

“I have been using mobile phone since 2003 and with ICT knowledge I find it easy to work with e-learning applications using my phone” (John).

“I use a computer in my daily routine of work and I have proper training skills on most of its applications” (Wanza)

“It is easy to use the mobile app because it is the same as the e-learning portal” (Muasa)

However, it is also noted that slightly over half of all the students indicated their need for training in the use of the POODLE application. This is despite the fact that over ninety percentage had indicating

possession of the required skills. This could be attributed to some of the respondents indicating their need for further refresher training may be because even some of those who had indicated they have skills in the use of the POODLE application felt that they still need refresher or more training on the use of the application as was noted in the views of the following students:

“I think I need to advance the skills and techniques required” (Wambui).

“I find out that I still learns (sic) something new every time am using this platform” (Kirui)

“I think I just know an 1/8 of what am supposed to know, because I haven't mastered all the areas” (John)

“My wish is to learn more about the poodle so that I can effectively use in my learning” (Ng'endo)

Based on the results of this study, it can concluded that the use of the POODLE application was not satisfactory with slightly more than half of the distance learning students using it. The study also concludes that even though there were insignificant differences between the POODLE use with gender, age and year of study, the differences observed should be considered in developing mitigation strategies. The study also concludes that even though use of the POODLE application was not satisfactory, majority of the distance learning students at St. Paul's University, indicated they had the required skills in the use of the application thus showing a positive POODLE mobile phone application self-efficacy. Adedoja and Oluwadara (2016), Isman and Celikli, (2009), Aremu and Fasan (2011) and Chia-Pin & Chin-Chung (2009) all point at self-efficacy as a fundamental factor in the adoption and use of a technology. The positive self-efficacy is a good indicator that may lead to full adoption of the POODLE application by St. Paul's University distance learning students if the challenges highlighted are effectively dealt with.

There was no significant relationship between students' gender, age and their self-evaluation on their skills in using the POODLE application. However, male students had a slightly higher percentage than the female colleagues. However, the results of the study showed a significant relationship between the respondents' year of study with and their self-evaluation on possessed skills in the POODLE application use. The study recommends regular training and, sensitization on POODLE application for all students. Re-engineering and regular updates of the application is also recommended to make it more stable with minimal or nil malfunctions.

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