Case Studies in Business and Management
ISSN 2333-3324
2014, Vol. 1, No. 1

Momentum to Distance Education Initiative at Africa University Zimbabwe

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ISSN 2333-3324
2014, Vol. 1, No. 1

Received: March 26, 2014 Accepted: April 24, 2014 Published: May 10, 2014

doi:10.5296/csbm.v1i1.5574 URL: http://dx.doi.org/10.5296/csbm.v1i1.5574

Abstract

To spearhead the Distance Education (DE) initiative at AU, the DE and ICT units under the instigation of the Deputy Vice Chancellor held a Distance Education and E-learning Symposium from the 30th to the 31st of January 2014. The symposium was meant to bring momentum to the distance education initiative and ensure that we are all geared and ready for online distance education. The research designs used were Ex post Facto and correlational research designs. Data was analysed using qualitative technique such as coding and quantitative technique, including descriptive and inferential statistics. The major draw backs to the momentum to distance education initiative included; technical problems in accessing the virtual classroom, lack of theoretical and pedagogical knowledge of teaching and learning to effectively engage with students in on line learning. From the inferential statistics, the most important factor that can lead to adoption of technology is to change the views of academic staff about the relevance and importance of distance education and e-learning.

Keywords: Africa University, Distance Education, E-learning and ICT

1. Introduction

As early as the year 2000 Africa University, (AU) and the General Board of Higher Education and Ministry presented Distance Education (DE) as a priority area for urgent attention which should translate among other the establishment of Africa University Learning Centres (Satellite campuses) in Liberia, Sierra Leon, Cote De voire, Nigeria, Democratic Republic of Congo, Angola and Mozambique. It is envisioned that the Distance Education Department at AU will increase enrolment while at the same time fulfilling the Pan-African vision of AU to reach all nations of Africa enabling the institution to achieve its vision of having a ratio of 60/40 student enrolment (60% being foreign nationals and 40% Zimbabweans).

1.1 Benefits of Distance Education

Distance Education will bring the following benefits:

1) Increased enrolment which will improve the financial viability of the institution
2) It is an opportunity for faculty development and allows lecturers to experiment with new pedagogies and techniques
3) Increase in staff income through module writing and creation of online course sites
4) Gives faculties a chance to revive courses which are not popular on campus

1.2 E-learning

E-learning at AU was introduced in 2006 with the establishment of the AU Virtual Classroom, (a Moodle learning management system) to support campus based courses.

The ICT department has supported e-learning at AU by: a) Upgrading the Moodle platform from version 1.65 to the most current version 2.5 which is more user friendly and offers more tools and activities that enhance online learning b) Holding e-learning workshops which introduces and inducts lecturers to the use of the Virtual Classroom.

1.3 AU Proposed Mode of Distance Education

While full online courses are envisioned for courses and programs with a universal appeal such as the Masters in Business Administration, a Hybrid Online Model is proposed for other programs for the reason that, it is more appropriate for our target market in Africa because it offers quality online learning with a personal touch. The proposed hybrid learning offers an optimal mix of online and face-to-face instruction that will leverage the major advantage of asynchronous learning (any time, any place) while still maintaining quality faculty-student interaction.

2. Statement of the Problem

To spearhead the Distance Education (DE) initiative at AU, the DE and ICT units under the instigation of the Deputy Vice Chancellor held a Distance Education and E-learning Symposium from the 30th to the 31st of January 2014. The symposium was meant to bring

momentum to the distance education initiative and ensure that we are all geared and ready for online distance education. More specifically, the symposium aim was to clarify technology driven DE and help to conceptualize the instructional design process in our context as well as to illuminate the trajectory from traditional learning to online learning.

3. Literature

3.1 Challenges Facing Higher Education Institutions (HEIs)

As HEIs aim to increase enrolments and to reach out to many students through distance learning, it is important that they be able to articulate their position and context so they can capitalize on their potential taking into account the vision and where they want to be. In adopting e-learning as a vehicle of teaching and learning in distance education it is important that HEIs understand the complexities of change management and take tentative steps in trying to achieve set goals whilst appreciating small milestones.

HEIs need to understand the 21st century learner as an individual who is a techno-savvy with multiple identities recognized by digital presence in various platforms. The 21st century learner is a digital citizen who is only a click away from information. The demand for distance learning has increased with increased accessibility to ICTS whilst boundaries in distance education have become blurred. Educational technologies' are important in engaging students to apply knowledge to new situations, analyse information, collaborate, solve problems and make decisions in distance learning programs. Utilising emerging technologies in distance education provide expanded learning opportunities to students who can not conform to campus based learning. Innovation is thus a culture that institutions should learn to adopt if they are to succeed in teaching the digital citizen.

Whilst technology has proven to be a noble vehicle in distance learning, there is need to understand the challenges that arise in the African context most of it based on the digital divide which is outstanding on the continent. HEIs taking the route of technology enhanced distance learning in Africa have to contend with: Economic Pressures; under – preparedness of students; Diversity of students and multi-lingualism.

Despite the infiltration of technology in education the teaching and learning process in many university lecture rooms has remained very traditional and didactic. Teaching is still: Predominantly teacher centred; Lecture based; Relies on rote learning and Transmission learning models.

In cases were technology is used the teaching has followed the same pattern, replicating traditional, passive teacher centred and didactic instruction. Yet technology has the potential to change the way students learn despite distance. By constantly ignoring the digital citizen student and sticking to these didactic methods of instruction universities are disengaging learners leading to high failure rates.

Although lecturers and students are seemingly embracing emerging technologies enthusiastically, it is taking longer for institutions and policy makers to adopt and implement them. Institutions and policy makers are not yet fully engaging with these technologies to

understand the usefulness of these technologies and therefore administrative policies may slow down or halt adoption.

Effective teaching and learning in an online environment is achieved through informed use of E-learning tools. It is important to understand the theories and pedagogies of learning to ensure a worthwhile online learning experience. Of paramount importance is the need to choose a tool that suits a particular teaching pedagogy rather than having the tool determining the teaching method.

4. Methodology

4.1 Research Design

The research designs used in ex post facto and correlational research designs. Kerlinger (1983) defines Ex Post Facto research design as a systematic, empirical inquiry in which the researcher does not have control of independent variables because their manifestations have already occurred, in this study the opinion of the respondents who participated in the symposium had been made therefore cannot be manipulated by the researcher. Correlational research design was used to evaluate the association between the dependent variable (motivation to embrace technology) X_6 and independent variables X_2, X_3, X_4 and X_5 according to the following equation.

$X_6 = a + bX_2 + cX_3 + dX_4 + eX_5$ where:

X_6 = Motivation to Embrace Technology in teaching

X_1 = Success of the Symposium

X_2 = Resource Speakers knowledge of the subject matter

X_3 = presentation well structured and easy to understand

X_4 = How helpful the symposium in understanding distance education & E-Learning

X_5 = change of views of Distance Education & E-learning after the symposium and b, c, d and e are regression coefficients.

4.2 Data Analysis

Data was analysed using both qualitative and quantitative techniques. Qualitative technique used included coding that enabled the researchers to come up with the themes that were commonly mentioned by the participants (Creswell, 1994).

Quantitative techniques used included both descriptive and inferential statistics. Descripive statistics used included mean and standard deviation, while inferential statistics used were: Pearson Correlation and Analysis of Variance (ANOVA) and Multiple Regression. The advantage of the above mentioned inferential statistics is that they permit one to analyze relationship among large number of variables in a single study (Gall and Borg, 1996).

5. Findings and Discussions

5.1 Qualitative Data

5.1.1 The Following were Participants' Main Concerns about Distance Education and E-learning at Africa University

- Constant technical problems in accessing the Virtual Classroom.
- Lack of theoretical and pedagogical knowledge of teaching and learning to effectively engage with students in online learning.
- There is need for clear defined policies on e-learning and distance education at AU.
- Workshops provided by ICT department are not enough to support staff use of Moodle, therefore there is need to have a team responsible for all online content at the institution.
- There is no internet access at off campus university staff residence which makes it difficult to work on the Virtual Classroom after working hours.
- The diversity of AU student population means that most of them are unprepared for e-learning.
- Heavy teaching loads are demanding and using technology in teaching is time consuming.
- Need to provide part time lecturers with assistance in creating online courses.
- Module writing concerns for distance education however there was strong argument that course readers should be used in the face of financial constraints.

5.2 Quantitative Data

5.2.1 Descriptive Statistics

When the participants who attended the symposium were asked about their participation, the following were their responses. The responses were on a four point likert scale, as shown in the coding tables 1-6 (Appendix).

Table 1. Mean and Standard Deviation of Respondents

	Mean	Standard Deviation
1. How do you rate the success of the symposium (X_1)	3.333	0.4875
2. How would you describe the speakers knowledge on the subject matter (X_2)	3.800	0.41404
3. Do you think that most of the presentations were well structured and easy to understand (X_3)	3.2667	0.59362
4. How helpful was the symposium in understanding Distance Education & E-Learning? (X_4)	3.4667	0.63994

5. How has your view of Distance Education and E-Learning changed after the Symposium (X_5)	3.2667	0.79881
6. How motivated are you to embrace technology in your teaching after the symposium (X_6)	3.2667	0.79881

From the coding tables it can be concluded that:

i. X_1 with a mean of 3.333, suggesting that the symposium was **successful.**

ii. X_2 had a mean of 3.800, describing the speaker's knowledge of the subject matter as **excellent.**

iii. Most participants **agreed** that most of the presentation were well structured and easy to understand, since the mean of X_3 was 3.2667

iv. With a mean of 3.466 (X_4) shows that the symposium was **very helpful** in understanding distance education and E-learning.

v. X_5 and X_6 had a mean of 3.2667 and 3.333 respectively, showing that the views of the participants on DE and E-learning have **somehow changed**, and the participants were **motivated** to embrace technology after the symposium.

5.2.2 Inferential Statistics

5.2.2.1 Linear Multiple Correlation

Linear multiple correlation was used to analyze the data to establish the extent to which the independent variables (X_2, X_3 , X_4 and X_5) affect the dependent variable (X_6). The correlation coefficient ranges from -1.0 to + 1.0 that means a correlation can be positive or negative. A higher absolute value of correlation coefficient indicates a close relationship between the independent variable and dependent variable, while a small value indicates a less definite relationship.

Table 2. Correlation between the Variables

	Knowledge X_2	Structure X_3	Helpful X_4	Changed X_5	Motivation X_6
Knowledge X_2					
Pearson Correlation	1				
Sig	-				
Structure X_3					
Pearson Correlation	-0.038	1			

Sig	0.837	-			
Helpful X_4					
Pearson Correlation	0.108	0.401	1		
Sig	0.702	0.138	-		
Changed X_5					
Pearson Correlation	-0.043	0.592*	0.417*	1	
Sig	0.879	0.02	0.03	-	
Motivation X_6					
Pearson Correlation	0	0.658**	0.610*	0.672**	1
Sig	1	0.008	0.016	0.06	-

* Correlation significant at 0.05 in a two tailed test

** Correlation significant at 0.01 in a two tailed test

From Table 2: X_3, X_4 and X_5 were highly correlated with X_6 (motivation to embrace technology). The highest correlation was between X_6 and X_5. The correlation was 0.672 and it was significant at 0.01 levels in a two tailed test. This can be interpreted that, the most important factor that can lead to adoption of technology at Africa University, is to change views of the academic staff about distance education and E-learning. Other factors that could enhance the acceptance of technology include X_3 (well structured and easy to understand presentation), with a positive Pearson correlation coefficient of 0.658, significant at 0.01 levels in a two tailed test.

5.2.3 Multiple Regression Analysis

Multiple Regression Analysis was also used to show the individual effect of each independent variable on the dependent variable. It can also show the combined effects of a set of independent variables.

When using regression, the independent variables should be correlated with dependent variable, but not with one another. A condition when two or more of the independent variables are highly correlated with each other is called multicollinearity. If the intercorrelations are as high as 0.500 among the independent variables in regression analysis, then a group of highly correlated variables should not be used (Hedderson, 1991).

Since X_5 (change of views of Distance Education & E-learning after the symposium) was highly correlated with X_4 (how helpful the symposium was in the understanding of distance education and E Learning) and X_3 (well structured and easy to understand presentation)), X_5 was removed from the school model to be analyzed by regression using SPSS statistical analysis package.

Table 3. Model Summary

Model	R	R^2	Adjusted	Standard Error
1	0.78	0.61	0.57	0.359

Predictors: Rate (X_1); knowledge (X_2); structure (X_3); helpful (X_4)

Dependent Variable: Motivation to embrace technology (X_6)

In Table 3, the multiple R is a correlation between the dependent variable (Motivation to embrace technology) and the entire set of independent variables. It can be seen from the table that the correlation between the dependent variable and independent variables was as high as 0.782.

The multiple R squared (R^2) is the proportion of variance in the dependent variable associated with variance in the dependent variables. This proportion is a good indicator of the explanatory power of the regression model.

Explanation: from Table 3, R^2 is 0.6120. This shows that motivation to embrace technology, according to the model summary is 61.20% affected by; X_1 (success rate of the symposium); X_2 (resource speakers knowledge of the subject matter), X_3 (well structured and easy to understand presentation) and X_4 (how helpful the symposium was in the understanding of distance education and E Learning). The other 38.80% of the factors absent from the model summary could have been from participant's different characteristics such as age, educational level, experience and their previous exposure to technology.

Table 4. Analysis of Variance (ANOVA)

Model	Sum of Squares	df	Mean Square	F	S.S
Regression	2.04	4	0.51	3.946	0.04
Residual	1.29	10	0.129		
Total	3.333	14			

Predictors Rate (X_1); Knowledge (X_2); structure (X3); helpful (X_4)

Dependant Variable: Motivation to embrace technology (X_6)

Explanation: From Table 4, above, Analysis of variance (ANOVA) shows an F of 3.946 (>2.000) and a significance of 0.036 (< 0.05) confirming the findings from Table 3 (model summary), that motivation to embrace technology (dependent variable) X_6 is affected by the independent variables (predictors) such as rate (X_1), knowledge (X_2), structure (X_3) and helpful (X_4).

Table 5. Regression Coefficient

Model	Unstandardized Coefficient Beta	Standard Error	Standardazed Coefficient Beta	t	Sig
Constant	0.573	1.164		0.492	0.633
Rate (X_1)	0.206	0.212	0.206	0.972	0.354
Knowledge (X_2)	0.108	0.252	-0.091	-4.28	0.678
Structure (X3)	0.406	0.178	0.494	2.282	0.046
Helpful (X_4)	0.334	0.167	0.438	2.003	O.050

Independent variables (predictors): X_1, X2, X3, X_4

Dependent variable: X_6 (motivation to embrace technology)

From table 5, the equation for the model can be expressed as follows

$$X_6 = a + bX_1 + cX_2 + d\ X_3 + eX_4 \quad (2)$$

Where a = 0.573

b = 0.206

c = 0.108

d = 0.406

e = 0.334

$$\mathbf{X_6}\ (\text{motivation}) = 0.573 + 0.206\ \mathbf{X_1} + 0.108\ \mathbf{X_2} + 0.406\ \mathbf{X_3} + \mathbf{0.334}\ \mathbf{X_4} \quad (3)$$

The beta column indicates the values of the standardized regression coefficient. Beta represents the effect that a standard deviation difference in the independent variable would have on the dependent variable in standard deviation (the standardized scores of the dependent variable).

Interpretation: From the regression analysis the un standardized beta when X3 (structuring of the presentation) was regressed against $\mathbf{X_6}$ (motivated to adopt technology), was 0.406, with t value of 2.82 which was greater than 2.00 and a significance of 0.046 (< 0.05). This shows that X_4 is a major predictor of X_6. This could be interpreted that 10% increase in well structured and easy to understand presentation by the resource person will increase motivation to adopt technology by 4.06%.

The views of the participants on how helpful the symposium was to their understanding of Distance Education and E-Learning (X_4) also significantly affected their motivation to adopt technology (X_6). From table 5, the un starndardized beta for X_4 was 0.334 and the linear regression was significant at 0.05 and a t of 2.003 (>2.000). According to equation (3), 10% increase in X_4 will increase X_6 by 3.34%.

6. Recommendations That Could Be Implemented to Ensure the Success of Distance Education

6.1 Putting Moodle on the Cloud

By hosting the Virtual Classroom in the cloud the institution is guaranteed that students and lecturers can access the platform from wherever they are.

6.2 E-Learning Support in Creating Online

It is important that faculty receive as much support as possible in uploading course content on the Virtual Classroom until they are confident to do it themselves. Whilst e-Learning competent expertise to support staff at faculty is important, AU should concentrate on finding a strategy that will assist lecturers to have the skills required to offer support on the issue of the LMS.

6.3 Digital Resources

Institution should find a way to assist lectures to convert non- digital content to for online learning.

6.4 E-learning Champions

E-learning champions should be involved in show and tell workshops as a motivational tool for other lecturers. They should be regarded as change agents who will be able to convert the technological laggards into technology late adopters. It is important that e-learning champions are recognized and given incentives and the institution capitalizes on that for ripple effects.

6.5 Evaluation an Assessment

Whilst it is vital to make the adoption of e-learning part of faculty evaluation, it is essential to be strategic in this aspect since too much regulation stifles innovation. It is important that e-learning champions are recognized and given incentives and the institution capitalizes on that for ripple effects.

6.6 Commitment of Top Management

There is need for unparallel commitment by DVC and Deans to provide and support a network of community of practice among lecturers which will be useful in integration and provision of support structure through the attendance of e-learning workshops in the region.

6.7 Distance Education and E-learning Policy

To ensure efficiency and effectiveness in distance education, there is need for a comprehensive distance education and e-learning policy that spells out what is expected of lecturers in DE and e-learning as well as clarifying priority values and the direction of the university in the initiative. The policy should spell out the universities vision, targets and small milestones.

6.8 Faculty Based Funding Program

To reduce pressure on the institution, faculties should consider sourcing funding for their e-learning initiatives. There are many organizations willing to sponsor such initiatives and a good funding proposal is a good place to start.

7. Conclusion

The symposium was a success in terms of capturing the scope and essence of where we want to go with the distance education initiative. We carried a post online survey which showed that the academic staffs are eager to embrace e-learning but there is lack of structure and policy on how this can be successfully achieved. Whilst it is of paramount importance for such policy to be established, other factors beyond policy are relevant to ICT uptake, including recognising institutional champions and individual staff innovators. In addition, for e-learning to be fully embedded within an organization, the institutional acceptance, sanctioning and legitimisation of the practice must be accepted at the individual level.

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Appendix

Appendix 1. Coding Tables

Table 1 (X1)	Point	Range
Not successful	1	1.00-1.44
Undecided	2	1.45-2.44
Successful	3	2.45-3.44
Very successful	4	3.45-4.00

Table 2 (X2)	Point	Range
Poor	1	1.00-1.44
Good	2	1.45-2.44
Very Good	3	2.45-3.44
Excellent	4	3.45-4.00

Table 3 (X3)	Point	Range
Do Not Agree	1	1.00-1.44
Somehow Agree	2	1.45-2.44
Agree	3	2.45-3.44
Completely Agree	4	3.45-4.00

Table 4 (X4)	Point	Range
Not helpful	1	1.00-1.44
Somehow helpful	2	1.45-2.44
Helpful	3	2.45-3.44
Very helpful	4	3.45-4.00

Table 5 (X5)	Point	Range
Not Changed	1	1.00-1.44
Undecided	2	1.45-2.44
Somehow changed	3	2.45-3.44
Changed	4	3.45-4.00

Table 6 (X6)	Point	Range
Not motivated	1	1.00-1.44
Undecided	2	1.45-2.44
Motivated	3	2.45-3.44
Very motivated	4	3.45-4.00