Electronic Learning Media at Higher Education in Uganda: The Impact of Gender, Media Ownership and Field Of Study.

Ndawula Stephen (PhD)



Background

- Uganda is a landlocked developing country located in East Africa with a population of 33.4 million
- The Uganda system of education is based on an initial seven years of primary education. Students who successfully complete primary schooling join a four years secondary ordinary level (O.Level).
- Those who successfully complete O.Level may then choose to enroll in the two- year Advanced Level (A.Level) program after which to tertiary institutions.

Higher Education in Uganda: An Overview

- The terms higher" or "tertiary" are often used interchangeably to denote types of postsecondary institution education (Mohamedbhai, 2008).
- Uganda has 29 universities, of which 5 are public and 24 are private (New Vision, 2011). In Uganda apart from universities there are other postsecondary institutions and colleges that constitute to higher education.
- However, given the pace of the permeation of e-media in the country's education sector, more progress has been registered at universities. Higher education in Uganda began with Makerere University initially established in 1922 as a technical school. Makerere is the largest University in Uganda with 22 faculties merged into eight colleges, and a student population of about 40,000.

Other public Universities in Uganda

- **Mbarara University of Science & Technology (MUST)** http://www.must.ac.ug/must.php is a public university founded in 1989.
- **Kyambogo** (http://www.kyu.ac.ug/) is the second largest University in the country, established on 18th July 2003
- **Gulu University** http://www.gu.ac.ug/ is located in Gulu Municipality; was established at the same time with Kyambogo University in 2003.
- **Busitema University** (**BU**) http://www.busitema.ac.ug/ is the latest of the public universities in Uganda founded in 2007

The Electronic Learning Media and Higher Education in Uganda

- The concept of electronic media takes into account power driven teaching/ learning devises. In this paper shall be confined to computers as pedagogical devises at higher education (Balarabe, 2006).
- Using technology to enhance student learning in universities has become an important area for discussion and study. Electronic (ICT) devices are recently emerging technologies that have become integral part of higher education system (Mukwa et al, 2008; Crowe, A., et al 2006 and UNESCO, 2000).
- In complicity with national ICT policy, universities in Uganda provide Electronic Learning Media to students so as to increase their capacity to incorporate the resource while attempting academic tasks. Some universities have developed Web presence for students and the outside world.
- Electronic Learning Media in Uganda as one of the most significant technological developments in institutions of higher learning, has the potential to provide learning opportunities all the time, at any location, is cost effective and has wide reach (Kim, et al, 2005 and Michau et al, 2001).

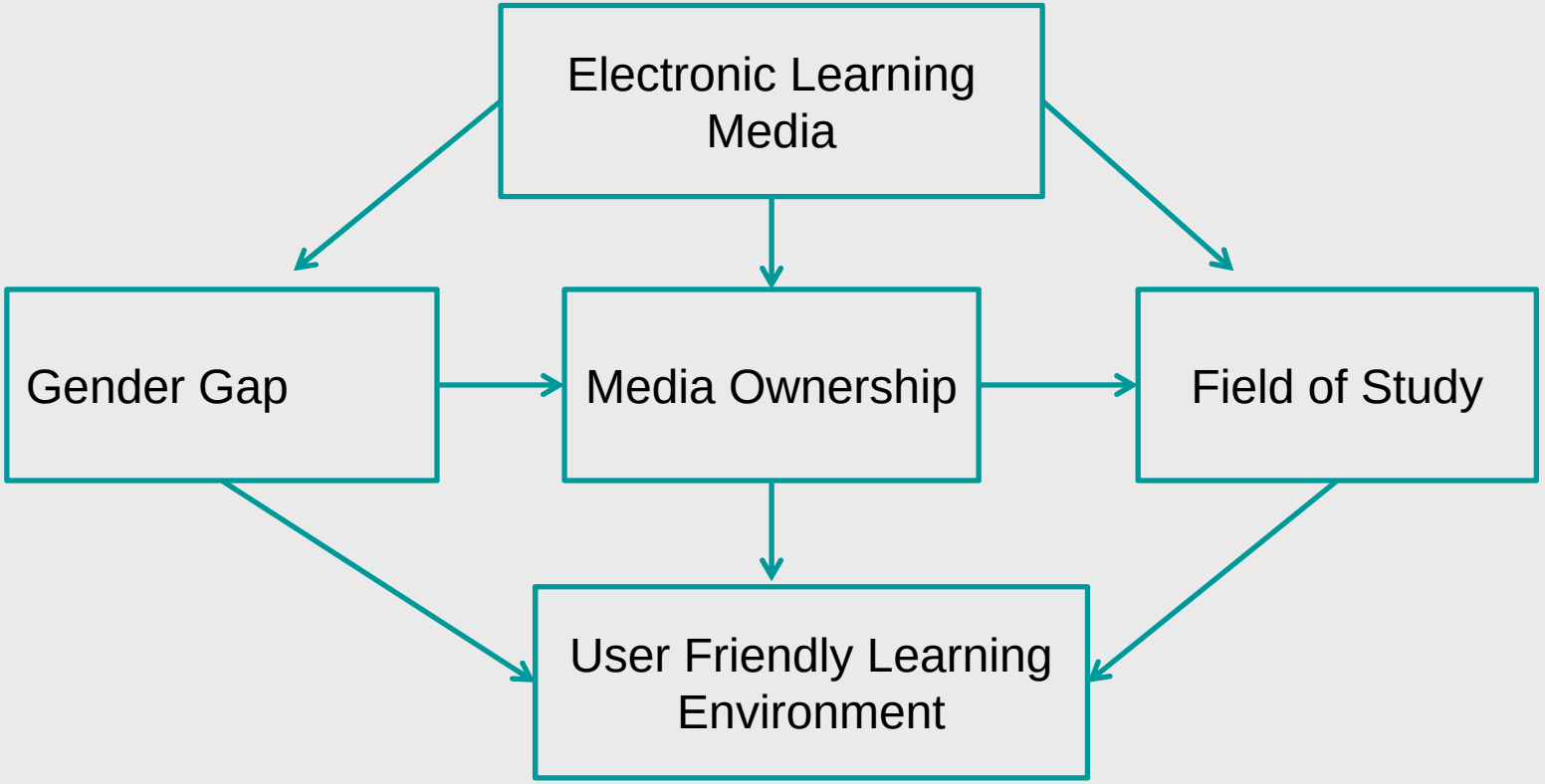
Conceptual Framework

Conceptual framework for Electronic Learning Media

- Field of Study
- Media Ownership
- Gender Gap

A conceptual framework of the user factors according to (Slate et al, 2002, Bates, 1996 and Coley at el, 1997) that guided the study.

Conceptual Framework



Literature was reviewed basing on the above model

Gender Gap

- This can be attributed to a combination of gendered technology embodying male values, stereotyped content that favors men and sex differences in cognition.
- The user gender gap affects the learners' time spent on e-media for some academic tasks. To a great extent success or failure of students' use of the e-media in a learning institution is a gender question (Slate et al, 2002).

Media Ownership

- Media ownership implies the possession of computers by students/ users. Students who have personal computers tend to develop more Internet knowledge and confidence (Coley at el, 1997).

- A Personal Computer, for instance, increases the user opportunities to access the Internet for academic purposes. Students without personal computers are disadvantaged in the current technology-based education.

Field of Study

- Field of study constitutes the learners' areas of specialization at university. The two broad fields of study in this research are the sciences and humanities. Students' field of study influences functions and methods used with e-media. In some fields of study the subjects give chance of training in computer use; and hence the level of implementation of among students will automatically differ (Hong et al, 2003).

- In higher education academics, there are students obliged to regularly use the technology into their classroom activities. A computer obviously becomes a main medium necessary for implementation of an academic program.

- From the foregoing literature, it is evident that electronic media has added a new dimension to educational communication and technology at higher education. No doubt, the Electronic media is a powerful ingredient of the information resources universities have. This study is therefore timely since it examines the key impacting factors.

Statement of the Problem

- Since the commencement of electronic media use at higher education in Uganda, not much research has been done concerning the impacting factors. It is important to explore students' concerns in relation to any new technology because it is difficult for authorities to know if they are meeting the needs of users effectively (OECD, 2005). This study therefore, attempted to explore the role of gender; media ownership and field of study on students' use of electronic media.

Study Hypothesis

- **H01** There is no significant relationship between gender gap and students' use of the Electronic media.
- **H02** There is no significant relationship between media ownership and students' use of the Electronic media.
- **H03** There is no significant relationship between field of study and students' use of Electronic media

Methodology

Population and Sample

The study considered final year undergraduates who were taking ICT as a compulsory discipline in the university faculties. In all, they were one thousand one hundred five (1165) students who constituted the population. Final year students were identified as potential members of the sample because;

- In Ugandan universities, it is at the final year level that the curriculum has fully covered tasks requiring use of electronic media (KYU, 2007).
- Final year students have had longer experience working with the electronic media than any other academic years.
- It was evident basing on the university teaching time tables that final year students unlike other levels, have more lessons in a week, working with electronic media
- A total of three hundred and fifty students (350) who were randomly selected constituted a sample for the entire study.

Sample selection

- Dale (1979), a sample of 10% to 30% of the total population is appropriate for the study.
- 350 participants out of 1165 were thus regarded appropriate number of respondents
- This sample was deemed accurate and desirable for the study, using a self-administered questionnaire.

Instrumentation (Questionnaire)

A questionnaire with three sections developed according to the independent variables namely;

- Gender gap
- Owning a personal computer
- Field of study

In all, 36 questionnaire items were used to examine students' use of the e-media.

Validity and Reliability of Questionnaire

The formula; $CVI = \frac{\text{Number of Items Declared Valid}}{\text{Total Number of items in the questionnaire}}$

Number of items and the raters for the CVI.

Rater	Total number items in a questionnaire	Number of Items declared valid	Number of Items declared invalid
Rater 1	30	23	**07**
Rater 2	30	22	**08**
Rater 3	30	26	**04**
Rater 4	30	24	**06**
Total	**120**	**095**	**025**

$$CVI = \frac{95}{120} = 0.79$$

- CVI value of 0.79 was considered to be appropriate as suggested by DeVellis (1991).
- Pilot tested on a group of students taking the same course from a nearby university to improve the reliability.

Demographic characteristics of the students

(N=280)

		N	%
Gender Gap	Male	177	**63%**
	Female	103	**37%**
Field of Study	Humanities	140	**50%**
	Sciences	140	**50%**
Media ownership	Yes	152	**54%**
	No	**128**	**46%**

Statistical Data Analysis

A t-test was regarded most suitable since the study involved an evaluation of differences in means between two groups for each hypothesis. For instance:-

- Gender had male and female
- Media ownership had those with and without computers, while
- Field of study comprised of humanities and sciences.

In such a scenario, a-test was most appropriate for comparing mean (Wong et al, 2007). With the variables and the statement responses, a total of thirty six entries were made for each questionnaire.

Gender gap and use of e-media

		Gender			
		Male		Female	
		Count	Col %	Count	Col %
Computer important	No	164	92.7%	92	89.3%
	Not Sure	8	4.5%	8	7.8%
	Yes	5	2.8%	3	2.9%
acquire new learning techniques	No	144	81.4%	84	81.6%
	Not Sure	22	12.4%	17	16.5%
	Yes	11	6.2%	2	1.9%
Clear	No	128	72.3%	61	59.2%
	Not Sure	25	14.1%	18	17.5%
	Yes	24	13.6%	24	23.3%
to accomplish the given academic tasks	No	132	74.6%	73	70.9%
	Not Sure	21	11.9%	12	11.7%
	Yes	24	13.6%	18	17.5%

Gender gap and use of e-media

Gender	N	Mean	Std. Deviation	t-statistic	df	p-value
Male	177	17.1695	4.04022	-1.478	278	.141
Female	103	17.9320	4.36847			

Gender gap and use of e-media

In table, the findings show that the average score of female students was slightly higher (17.1695), with a mean difference of 0.76. An independent sample t-test was used to establish whether there were significant differences in the means. Accordingly the computed value of the t-statistic (-1.478) was insignificant at 0.05 level of significance (i.e. 0.141> 0.05). The finding therefore implies that although the findings of the females are slightly higher than that of males, the difference in the means is not statistically significant. No significant difference was found in the subscales ($p > 0.05$); therefore, the null hypothesis was not rejected. This implies that as far as this study was concerned, use of e-media among students at higher education in Uganda is not dependent on the gender gap.

It can therefore be concluded that there is no significant relationship between gender and students' use of the e-learning media. This conclusion provides further evidence supporting previous studies by Gulbahar, et al (2008), Wong, et al (2007) and Hargittai (2002) who also argue that there is no significant relationship between users' gender gap and attitudes towards use of the Internet.

Relationship between having a personal and use of e-media

	N	Mean	Std. Deviation	t-statistic	df	p-value
Yes	152	24.2500	3.16699	2.817	278	.005
No	128	23.2656	2.57940			

The findings show that the average score of female students was slightly higher (17.1695), with a mean difference of 0.76. An independent sample t-test was used to establish whether there were significant differences in the means. Accordingly the computed value of the t-statistic (-1.478) was insignificant at 0.05 level of significance (i.e. 0.141> 0.05). The finding therefore implies that although the findings of the females are slightly higher than that of males, the difference in the means is not statistically significant. No significant difference was found in the subscales ($p > 0.05$); therefore, the null hypothesis was not rejected. This implies that as far as this study was concerned, use of e-media among students at higher education in Uganda is not dependent on the gender gap.

Relationship between Field of study and use of e-media

	N	Mean	Std. Deviation	t-statistic	df	p-value
Sciences	140	17.9143	3.74259	3.171	278	.002
Humanities	140	16.4929	3.75796			

The means of the responses by the students towards questions based on their fields of study were tested by using a t-test method. One hundred and forty (140) respondents from sciences and another one hundred and forty (140) respondents from humanities had means of 17.9143 and 16.4929 respectively. The t-test revealed a p-value of .002 and a t-value of 3.0171 degrees of freedom. Since the p-value of 0.002 is less than 0.05, the alpha level of significance, the findings show that field of study has a significant effect on students' the use of e-media. According to the data in the table 1.3, e-media was more used by students pursuing sciences than their counterparts in humanities.

Summary of the Findings

- There is no significant relationship between gender and undergraduate students' use of Electronic media.
- There is no significant relationship between age difference and undergraduate students' use of Electronic media.
- There is significant relationship between fields of study and undergraduate students' use of Electronic media.

Conclusion

- Since hypothesis one has proved that there is no significant relationship between gender and students' use of e-media, it can thus be concluded that at higher education in Uganda girls as well as boys can be successful users of e-technology.

- The second hypothesis in this study concerned the relationship between ownership of a personal computer and students' use of e-technology. It can be concluded that owning a personal computer among university students enhances the use of e-technology.

- Thirdly, field of study was found to be impacting on students' use of e-media. Students from the science related disciplines were found to be more users of e-technology as opposed to their counterparts from the humanities. In conclusion, the types of subject combination offered by students have a significant relationship on use of e-media.

Recommendations

- The study illustrated no significant difference between the male and the female in use of the Electronic media. Drawing upon Hargittai's (2002) findings about gender mentioned earlier, this finding demonstrates that both the female and male can adopt the technology in a manner that fits their everyday practice. With the increasing diffusion of technology, some of the differences between genders can disappear.
- More diffusion of e-media be done at higher education be encouraged among girls to sustains gender balance in use of Electronic media.
- Similarly, more electronic media access which is free should be provided at the university. It is the presenter's belief that this policy is an excellent initiative that might yield positive contribution in the students' usage of e-media.
- It is worth noting here that one very important factor in this study is the issue of computer ownership. Computer ownership is one of the variables that many researchers have intensively investigated and found to be a significant factor that influences Electronic media use. For that matter, at higher education there is need to devise a policy in which students are provided with a personal computer at subsidized prices. Students' loan schemes can also be initiated to enable students acquire personal computers.

Thank you
Arigato!!