The Perception of Students and Lecturers on the Benefits, Opportunities and Challenges of the Use of ICT Gadgets during Lectures

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Abstract

Technology has set a very diverse platform for teaching and learning for lecturers and students. We might not be able, like we could in the past, tell anymore who teaches who or who learns from whom.

Information Communication Technologies (ICT) gadgets now imported in the lecture rooms/theatres, have somewhat changed the texture of teaching and learning. In a university like the Catholic University of Zimbabwe (CUZ), where students and lecturers are encouraged to bring with them their ICT gadgets and where internet floats freely and unlimited all over campus through the courtesy of WIFI, so many concerns ensue. One stands to benefit from such a study on issues of multi-tasking, attention, concentration, focus on defined activities and the whole engagement of teaching and learning. This study focused on the perception of students and lecturers on the benefit, opportunities and challenges brought by the use of ICT gadgets in the lecture room for teaching and learning by students and lecturers. The research was conducted at CUZ campuses. A quantitative and qualitative paradigm guided the study. The research population was made up of two distinctive groups, that is, lecturers and students. The sample of participants comprised 64 students and 30 lecturers. Participants were selected using a random stratified sampling taken from three faculties. The questionnaire with a Likert Scale and a semi- structured interview schedule were used to gather data for this study and the analysis was done using the Statistical Package for Social Sciences (SPSS) Ver.23.0.0. Descriptive statistics were used while qualitative data was thematically interpreted.

The key results of the study indicated that ICTs promoted 'edutainment' during lectures and there is a lack of integration of ICTs gadgets use during teaching and learning, among others.

This study concluded that CUZ should aim to promote responsible ICTs usage during lectures, ensuring that each lecture progression stage, as much as is feasible, infuses usage of such gadgets. There is also need for a policy framework on the operation and usage of ICTs gadgets during lectures. It was therefore recommended that CUZ comes up with strategies of combining and infusing curriculum with ICTs and show how the integration will improve teaching and learning. It is also recommended that CUZ embraces the inevitable transformation brought about by ICTs in lecture rooms.

Keywords: teaching, learning, ICT, gadgets, lecturer, lecture room

Introduction and background to the study

A vision of the Catholic University of Zimbabwe (CUZ) is to strive to be a paperless university, a demonstration on the value attached to ICTs across campus. This vision blends very well with the Science, Technology, Engineering and Mathematics (STEM) initiative by the Ministry of Higher Education, Science and Technology Development (MHTESD). Computer: students' ratio is regulated from the Zimbabwe Council for Higher Education (ZIMCHE). CUZ also encourages each student and lecturer to own at least a smart gadget for purposes of having access to the internet. With some of the lecture rooms equipped with state of the art technologies, the relevance of ICT's in teaching and learning then becomes very clear. Vajargah, Jahani and Azadmanesh (2010:33), quoting Forcheri and Molfino (2000), iterate the benefits of ICTs as they promote collaborative learning, group problems solving activities, and articulated projects. This new way of interacting is seamless though the interaction should be focused upon achieving learning outcomes the graduate should boast to have now and in the future work life. As Vajargah et al. (2010:33) state,

> It is generally understood that university teaching and learning refers to both the contents (skills, understanding and values) and the processes of teaching in higher education. In the case of an institution's internationalization efforts, this may apply to both the 'what' and the 'how' of teaching and learning, usually with reference to educational borrowing or lending from international sources.

There is no doubt that CUZ wants to train graduates who are competitive locally, regionally and internationally through globalizing the curriculum.

ICT drive in Zimbabwe

The importance of ICTs in Zimbabwe and in education is undoubtedly clear as evidenced by the government's emphasis on the 8th goal of the Millennium Development Goals (MDGs) (2000) and from Zimbabwe ICT policy from the Ministry of Information and Communication Technology 2010-2014 (Mashetswetu and Mhishi (2013:105-106).

In his study, 'Teaching and Learning through ICTs in Zimbabwe's Teacher Education Colleges', Musarurwa (2011) emphasises incorporating ICTs in education and highlights the major constraints of this thrust. The constraints emanate from infrastructure, end users' skills and resources, and budget prioritisation. Chitanana, Makaza and Madzima (2008:5-15) attest to the fact that ICTs in Zimbabwe Higher Education Institutions (ZHEIs) are somewhat at infancy stage, as many universities are more concerned with Administration Management Systems Software (AMSS), rather than Learning Management Systems Software (LMSS).

The survey, ICT Education in Africa: Zimbabwe Country Report by Isaacs (2007), acknowledges Zimbabwe's ICT policy adopted in 2005, chronicling the following ICT initiatives and projects:

- Africa Virtual University Teacher Education Report
- College IT Enhancement Program (CITEP)
- Kubatana Trust of Zimbabwe

- World Links Zimbabwe

The studies above show clear evidence of initiatives institutions in Zimbabwe are making to incorporate ICT's in the education sector, not to mention other sectors of the economy.

What the above studies have not addressed in the literature survey so far are the benefit(s) of ICT gadgets operated by learners during lectures, and this is the gap this study aims to bridge.

In trying to establish benefits of ICT usage during lectures, the following framework informs this study.

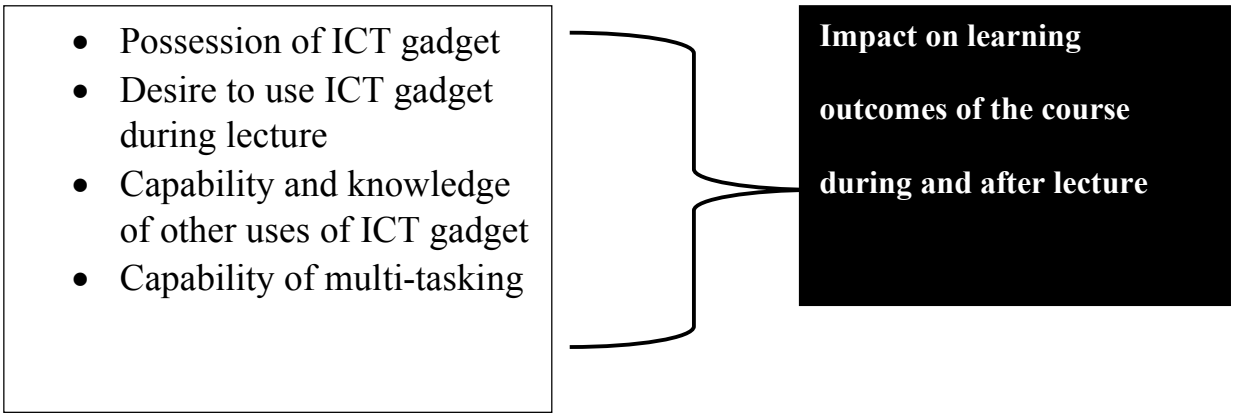

Fig 1. Conceptual Framework.
(Source: Nisar, Munir & Shad, 2011)

ICT gadgets may influence the desire to use even when the user is engaged in another task, which presupposes capacity of multi-tasking. A student has to pay attention to the lecturer and at the same time operate the gadget. All this has an impact on the learning outcomes.

Improving teaching and learning through ICTs

ICTs have impacted on the teaching and learning at CUZ; therefore, by realising the supposed benefits from ICTs towards teaching and learning, the more the need to have students bring these gadgets to class and use them during lectures. Students may therefore operate their gadgets as the lecture progresses.

Yousulf (2005), cited by Ul-Amin (2015:2), states that, "CTs potentially could innovate, accelerate, enrich, and deepen skill, to motivate and engage students, to help relate learning experiences to the world of work, by creating economic viability for tomorrow's workers, as well as strengthening teaching ….". The advent of the use of ICTs at CUZ, just as Ul-Amin (2015) puts it, requires that students and lecturers should have and should use technology in the lecture room. What could be the pre-conditions then of such practice? The pre-conditions, borrowing from Zhao and Cziko, quoted in Ul-Amin (2015:3), could be:

- Belief in effectiveness of technology;
- That the use will not cause disturbances; and
- That there is some control over the use of these gadgets

Would a lecturer be comfortable with students browsing the internet, tweeting, blogging using Facebook, LinkedIn, WhatsApp etc. as (s)he is delivering a lecture? How will the lecturer ascertain that learning is taking place when one clearly knows there is no demonstratable control any longer in the digital classroom? Coming from the traditional role, a lecturer was the planner and leader of what was to be learnt, and supervised the learning process towards a learning outcome. Such a role is now difficult to assess as students have many options around them to learn from during and after lectures. Contemporary learning theory emphasizes the idea that learning is 'an active process of constructing knowledge and not anymore its acquisition'. There is no doubt then that by allowing students to operate their ICT gadgets during lectures, they are supposedly constructing their own learning.

Improving lecture environment through ICTs

ICT gadgets in lecture rooms have certainly changed the idea of the traditional lecture room, where students would literally wait for the lecturer for learning to begin. ICTs today have bridged that gap, as 'critical thinking, research, evaluation' are learning skills constructed in

the lecture rooms today. These ICT gadgets have created flexibility as students learn in the midst of information explosion within their reach, before, during and after lecture times. This study sought to establish how these lecture room operated gadgets are enhancing teaching and learning (UI-Amin, 2015).

CUZ practice

CUZ is open to students importing and operating ICT gadgets during lectures, a practice that can actually be misused in some instances. Some lecturers and students have registered how such a practice has become a big distraction to the teaching-learning process. There are concerns that students end up engaging in 'edutainment' and other activities that are not connected in any way with the lecture in progress. For example, students may be streaming music and movies, responding to WhatsApp messages and emails, twitting and using LinkedIn, side by side with a lecture. Furthermore, depending with how 'boring' the lecture is, students may resort to games or other activities that they find more interesting on their ICT gadgets. Meantime, the lecturer could easily lose control of the situation as it would be difficult to know what each student is doing.

CUZ, however, is aware that technology cannot be prohibited from the lecture-room and no one can fight technology. Therefore, there is need to take advantage of these gadgets and to incorporate their use in the curriculum as well as in the lecture room. This study gathered perceptions of benefits, opportunities and challenges associated with the operation of ICT gadgets during the progression of the lecture.

Statement of the problem

What are the lecturers' and students' perceptions of benefits, opportunities and challenges in the use of ICT gadgets by students during lectures?

Purpose / Objectives of the article

The main objective of the study was to gather students' and lecturers' perceptions of benefits, opportunities and challenges in the use of ICT gadgets during lectures.

Significance of the study

Findings from this study may be used for guiding usage and influencing policy on ICTs gadget usage during lectures in universities. The study could help in the re-designing of curriculum and allaying fears of embracing technology as aids in teaching and learning at CUZ.

Research questions

1) *Which ICT gadgets are brought by students into lecture rooms for educational use?*
2) *What specific activities are these gadgets used for in the teaching and learning process?*
3) *What impact does the use of ICT gadgets have in lecture rooms during teaching and learning?*
4) *What challenges emanate from the use of ICT gadgets in lecture rooms?*

Related literature review

A general review of literature has shown the importance of ICTs in teaching and learning. For example, Vajargah et al. (2010:34) reported that researches in the developed and developing world show that governments have made ICTs a priority in the education of their people. They further state that the place of ICTs in education, in the teaching and learning process, is invaluable. Adedokun-Shittu and Shittu (2012:23) in the study entitled, *'Evaluating the Teaching and Learning'*, report that:

- Students and lecturers regard teaching technology as having positive effects on teaching and learning;

- That technology impact on learning can be understood through examining lecturers' and students' perception of technology use.
- That technology has changed the nature of student/lecturer interaction, improved higher order thinking, transformed learning environment, increased students' motivation, and facilitated learning and improved lecturer-student collaboration.

However, Adedokun-Shittu and Shittu (2012:26), quoting Robinson (2007) and Adedokun-Shittu et al. (2013), state that technologies alone cannot guarantee students' learning, but integration of technology should be understood as an integral component of a more comprehensive package. Technology integration happens in a free and enabling environment and surely not where access is restricted.

The role of lecturers in a university is three pronged, that is, they are expected to teach, conduct research and offer university service. The teaching function of a lecturer is one of the primary duties just as much as the role of ICTs, and how it relates with this major function has to be understood in the spirit of complementarity. There is therefore need for a study on the co-existence of ICTs with the teaching and learning process.

Foehr (2014, October 23) states that, in order to accommodate 'the digital citizens' or the 'E-Era students', the 21st century classroom should promote both cognitive processes plus technologies, to create learning environments that are student-centred, project-based and lifelong worthy. Below is an example adopted from the article, '*The 21st Century Classroom'*, by Foehr (2014, October 23) which might be useful when thinking and deciding on the needs of the 21st century student:

Table 1

21st Century Classroom

Research and information fluency	Problem solving and critical thinking	Collaboration and communication	Creativity and innovation
Lecturer • Opportunities for student development of essential skills	Lecturer • Provide opportunities for students to develop and demonstrate essential skills	Lecturer • Creates structures, provides opportunities, assesses student performances	Lecturer • Provides opportunities for students to develop and demonstrate essential skills
Student • Appropriate digital skills to assemble, evaluate, utilise information • Apply varied research skills • Use information and resources to accomplish real-world tasks	Student • Use multiple resources, to plan, design and execute real-world problems • Use technology to collaborate and solve authentic problems	Student • Initiate communication in real and non-real time • Communicate and collaborate with learners of diverse cultures • Form collaborative	Students • Apply critical thinking, research methods and communication tools to create original work • Collaborate effectively with an audience beyond

	• Develop and answer open ended, higher order thinking skills	teams to solve real-world problems and create original works	classroom to create original work.

Source: hcs21century blogspot.comsite

Methodology and design

The study used mixed method research paradigm and a case study research design. Case studies are used when one intends to have an in-depth understanding of the phenomenon. In this study the phenomenon to be understood is the operation of ICT gadgets by students in a lecture room while the lecture is in progress.

The study was conducted at CUZ campuses, with a sample of 64 students and 30 lecturers. The research population was made up of two distinctive groups, that is, lecturers and students. Respondents were selected using a random stratified sampling taken from three faculties. The questionnaire with a Likert Scale and a semi-structured interview schedule were used to gather data for this study. Data analysis was done by use of SPSS for descriptive statistics, while qualitative data was categorised thematically and analysed.

Results and discussion

Respondents Age

Table 2a

Students by Age Range

Age Range		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	15-25yrs	49	76.6	77.8	77.8
	26-35yrs	9	14.1	14.3	92.1
	36-45yrs	2	3.1	3.2	95.2
	46-56yrs	2	3.1	3.2	98.4
	57yrs and above	1	1.6	1.6	100.0
	Total	63	98.4	100.0	
Missing	System	1	1.6		
Total		64	100.0		

Tables 2a & b, show the majority of student respondents were from the age range of between 15-25yrs, and the least percentage being from 57yrs and above. The ages of lecturers who participated in the study were in the ranges of: 26-35yrs = 30.8%, 36-45yrs=38.5%, 46-56=23.1%, and finally those with 57yrs and above = 7.7%

Table 2b

Lecturers by Age Range

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	26-35yrs	8	29.6	30.8	30.8
	36-45yrs	10	37.0	38.5	69.2
	46-56yrs	6	22.2	23.1	92.3
	57yrs and above	2	7.4	7.7	100.0
	Total	26	96.3	100.0	
Missing	System	1	3.7		
Total		27	100.0		

The distribution of respondents by faculty

Table 3, shows that the majority of students were from the Faculty of Commerce, while for lecturers, majority of respondents were from the Faculty of Humanities (66.7%), Faculty of Commerce (14.8%), and Faculty of Theology (18.8%).

Table 3

Lecturers and Students by Faculty

		LECTURERS		**STUDENTS**	
		Frequency	Percent	Frequency	Percent
Valid	Commerce	4	14.8	62	96.9
	Humanities	18	66.7	1	1.6
	3	4	14.8		
	Total	26	96.3	63	98.4
Missing	System	1	3.7	1	1.6
Total		27	100.0	64	100

Students' year of study and lecturers' university teaching experience

Table 4a & b show the students by year of study and the lecturers by university teaching experience.

Table 4a

Year of Study of Students

Year of study		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1st	32	50.0	51.6	51.6
	2nd	18	28.1	29.0	80.6
	4th	12	18.8	19.4	100.0
	Total	62	96.9	100.0	
Missing	System	2	3.1		
Total		64	100.0		

Table 4a shows that most participants were 1st years as compared to 2nd and 4th years respectively. Lecturers were also categorised according to their experience in teaching at university level as follows: 1-2yrs experience =30.8%, 3-4yr experience =38.5%, 5-6yrs experience =23.1% and 7-8yrs experience =7.7%. All lecturers have had at least some experience of teaching at university level

Table 4b

Lecturers' University Teaching Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-2	8	30.8	30.8	30.8
	3-4	10	38.5	38.5	69.2
	5-6	6	23.1	23.1	92.3
	7-8	2	7.7	7.7	100.0
	Total	26	100.0	100.0	

Gadgets for educational platform use

This instrument sort to find out types of ICT gadgets students bring to class (see Appendix C). Gadgets brought to the lecture rooms by students included laptops (students =98.5% and lecturers=100%), IPad (students=79.9% and lecturers=84%) and smartphones (students=81.3%and lecturers=100%). Therefore, the majority of students have at their disposal three possible options of gadgets to use in a lecture – through ownership and/or through sharing. The implication is that students learn through use and operation of electronic gadgets. The major concern remains whether these gadgets are used for enhancement of learning or might be a distraction in the learning process. However, there could be no doubt that such gadgets are a silent requirement to each and every lecture and might soon be put on the course outline as a prerequisite.

Gadgets' Uses

Responses as to uses of ICT gadgets during lectures is shown in Table 5.

Table 5

Gadget Uses during Lectures

	Students		Lecturers	
	N	Mean	N	Mean
To entertain themselves from a boring lecture	58	2.83	26	3.08
To understand the lectures more	55	1.84	26	1.54
To verify authenticity of lecture content	59	1.71	26	2.08
Valid N (listwise)	53		26	

The majority of students strongly agreed that ICT gadgets have become a big entertainment source during a boring lecture, students (Mean=2.83) and lecturers (Mean=3.08), while others think that gadgets help students to understand lectures better, students (Mean=1.84) and lecturers (Mean=1.54). Respondents also contended that gadgets were used to help students verify authenticity of lecture content, students (Mean=1.71) and lecturers (Mean=2.08). These results show the need to control the use of electronic gadgets to benefit students in the teaching and learning process. The major challenge is what could be done to profitably use such gadgets during lectures.

Impact of ICT gadgets use in Lecture Rooms

Table 6, shows respondents' views on the impact attributed to ICT gadgets operations during lectures.

Table 6

ICT Gadgets Use in Lecture Rooms

	Students				**Lecturers**			
	N	**Sum**	**Mean**	**Std. Dev**	**N**	**Sum**	**Mean**	**Std. Dev**
Students research more	56	112	2.00	.853	26	40	1.54	.508
Students connect with friends and classmate for discussion	58	122	2.10	1.054	26	50	1.92	.935
Its a perfect opportunity for social media	56	167	2.98	1.495	26	48	1.85	.967
Lectures are now interesting	56	125	2.23	1.191	26	46	1.77	.587
Students are enabled to think critically	59	127	2.15	1.014	26	42	1.62	.496
Lectures are student oriented	55	125	2.27	1.162	26	48	1.85	.675
Students now independently carry out their research	57	111	1.95	.854	26	44	1.69	.471
Students are always engaged even in the absence of a lecturer	57	117	2.05	.875	26	44	1.69	.618
Learning is now independent	56	120	2.14	1.052	26	42	1.62	.496
Valid N (listwise)	50				26			

When respondents were asked regarding the impact of electronic gadgets in lecture rooms, some indicated that ICTs make lectures interesting. Other respondents pointed out that ICTs help students connect with the outside world and in a way changing the teaching-learning environment. However, lecturers' mean score on the items is lower than that of students showing the extent to which respondents agree/disagree. However, both students and lecturers agree on the importance of students owning such gadgets and their use in lecture rooms. These findings are an extension of what Lowther *et al*. (2008) found in their study that teaching and learning with ICT is characterised by *autonomy, capability* and *creativity.*

Challenges of ICT gadgets use in lecture rooms

Table 7 shows responses by students and lecturers to challenges that are attributed to the use of ICT gadgets during lectures.

Respondents were asked what they considered as major challenges of using ICTs in the lecture room. The results show that distraction was one of the major challenges and as a result very little planned learning would take place. The teaching process does not incorporate use of gadgets at any given point in the lecture. Both students and lecturers show that there is a major challenge in the operation of ICT gadgets during lectures. As can be seen in the table above, the mean scores for the items related to responses are very high showing the strengths of the challenges shown.

Table 7

Challenges of ICT Gadgets use in Lecture Rooms

	Students				**Lecturers**			
	N	Sum	Mean	Std. Dev	N	Sum	Mean	Std. Dev
Big distractions during lectures	60	161	2.68	1.384	26	64	2.46	1.630
Very little planned learning takes place	56	180	3.21	1.232	26	64	2.46	1.476
Gadgets do not compliment lecture activities	56	198	3.54	1.375	26	92	3.54	1.421
Because their use is not infused in the curriculum	55	191	3.47	1.476	26	84	3.23	1.608
Their use is not recognized at any stage of the lecture development	57	204	3.58	1.451	26	86	3.31	1.463
No student can seriously pay attention to the lecture while tempted by other unrelated activities	61	211	3.46	1.501	26	90	3.46	1.529
Students and lecturers are not sure of the benefit	57	192	3.37	1.397	26	104	4.00	1.131

There is no clear ICT gadget use during lectures	58	197	3.40	1.270	26	98	3.77	1.336
ICTs are a major challenge to teaching and learning	55	210	3.82	1.203	26	108	4.15	1.317
Valid N (listwise)	51				26			

ICT gadgets use in lectures

The open-ended question sought to find out the general perception of gadgets use during lectures, and the following were some of the typical responses given:

One respondent said,

> "*It allows students to research even during lectures though there is great need for discipline."*

And another respondent added that ICT gadgets,

> *Should be allowed for as long as the use is in line with the lecture*

However, another respondent argued that,

> *They should be banned in lectures because they distract not just the user but the whole class.*
>
> This was supported by yet another respondent who added that,
>
> *It is not a great idea having ICT gadgets operated by students during lectures because students visit other sites not related to the lecture business and as a result do not pay attention.*

Making ICT gadgets useful in teaching and learning

It was also enquired from respondents how ICT gadgets could aid teaching and learning. The following were typical responses given:

One respondent said,

> *By educating and training both students and lecturers on how to properly use these gadgets plus constant monitoring on the usage during lectures.*

Another respondent emphasised regulatory policy on the use of ICT gadgets,

> *There should be time set on when to turn to ICT gadgets during lectures – use control policy.*

The enthusiasm for ICT gadgets was captured by one respondent who stated that,

> *ICT learning should be part of every curriculum.*

However, another respondent pushed for strict control of social media sites,

> *There was need to block all social sites during lecture time.*

The above was supported by another respondent who said that,

> *Educational sites and programs can be installed on students-lecturer gadgets for examples question and answer services, Google Classroom, discussion platforms etc.*

One respondent advocated for limiting the type of ICT gadgets in the lecture suggesting that,

> "*Use of phones, tablets /ipads should be forbidden during lectures and only laptops should be used to enable students view the PowerPoint presentation."*

Discussion

The main findings of the study are that:

1. There is lack of ICTs gadgets use integration during teaching and learning.
2. Students become autonomous learners if allowed to import and operate ICTs gadgets during lecture times.
3. Use of ICTs during lectures has promoted 'edutainment'.
4. There is lack of operation usage policy of ICT gadgets during lectures.

5. There is need for a robust ICT gadgets operation monitoring system during teaching and learning.

6. There is need for ICTs training programs for the benefit of both students and lecturers.

However, the gap between the actual and the preferred use of ICT gadgets in the lecture room points to opportunities and challenges. On one hand, there is a general agreement on gadget use and operation during lectures as attested by both students and lecturers. It would appear most students and lecturers have embraced the clarion call to infuse ICTs during lectures (Vajaragh et al., 2010). On the other hand, there is somewhat a dichotomy between supposed benefit usage and the actual practice from the perceptions of both students and lecturers, thus raising issues that are vital to consider between the intended and the actual usage. For example:

1. How to ascertain whether ICT gadgets operated during lectures are used to enhance teaching and learning process;

2. Incorporation of ICT gadget usage at the lecture planning stage;

3. Embracing opportunities such as autonomy, capability and creativity that ICTs give to students ; and

4. The need to make students and lecturers benefit through ICT gadget usage during lectures.

In consideration of the above issues, and based on the findings of this study, there are benefits and opportunities, challenges and drawbacks of ICT gadgets' usage during lectures (Muarurwa, 2011). However, there are issues to do with the control of such gadgets as they are a potential distraction that may derail learning. There is therefore need to help students and lecturers embrace the benefits that ICT gadgets bring into the world of the lecture room (Ul- Amin, 2015; Mashetswetu & Mhishi, 2013).

Various considerations raise questions as to what the institution can do policy-wise, what lecturers could do at planning stage and, finally, how to cultivate students' commitment towards responsible usage of ICT gadgets during lectures.

A moot point to be made in the context of this discussion is the balance between traditional lecture room and the 21st century classroom – with the latter expected to be completely digital (Adedokun-Shittu & Shittu, 2012; Foehr, 2014, October 23)

As a way forward, there is need to impress upon responsibilities on the institution (CUZ), lecturers and students to develop a curriculum that translates into responsible, accountable and beneficial usage of ICT gadgets integration during lectures. The success of this initiative is dependent upon lecturers, students and institution-wide response.

Conclusion

CUZ should aim to promote responsible ICTs' usage during lectures by ensuring that each lecture, as much as is feasible, infuses usage of such gadgets. There is also need for a policy framework on the operation and usage of ICTs gadgets during lectures. As ICTs have transformed all facets of life, a lecture room cannot be an exception, as collaborative learning is shared over time and place as may be required. If used well, ICTs being popular with students they may be a catalytic go-between during teaching and learning. It is also worthwhile to define if ICTs are *learning tools* or a *learning structure*, and whichever way it might be, ICTs may take many roles such as learning about ICTs, learning with ICTs and learning through ICTs.

The challenge might be the capacity of lecturers to integrate usage of ICTs in the curriculum. Critical in determining the impact of ICTs in the teaching and learning could be issues such as environment where teaching and learning is taking place, technology integration, teaching methodology, students' learning approach. As was the case for this study, understanding (taking a deep stick on) perceptions of technology in teaching and learning- which obviously

affects student/lecturer interaction, improves higher order and critical thinking, transforms learning environment to a learner-centred one, increases student motivation, independent learning, lessens student and lecturer burden and promotes resource sharing, student/lecturer collaboration and enables both the student and the lecturer make full use of the multifaceted learning environment of the 21st Century classroom.

Recommendations

It is therefore recommended, in the light of the above, that CUZ develops strategies of combining and infusing curriculum with ICTs and demonstrates how the integration will improve teaching and learning. It is also recommended that CUZ embraces the inevitable transformation brought about by ICTs in lecture rooms. It is also recommended that CUZ provides professional development activities on technology usage, updates and technical support. Finally, it is further recommended that technology import into lecture rooms be seen not just as enhancement of traditional teaching methods but also be appreciated, as ICTs can improve lecture discourse.

References

Adedokuni-Shittu, N.A. & Shittu, A.J.K. 2011. Evaluating the Impact of Technology Integration in Teaching and Learning. *MOJET***.** Vol 2, Issue 1 p.

Chitanana, L., Makaza, D &Madzima, K. (2008). The Current State of e-learning at universities in Zimbabwe: Opportunities and Challenges**.** *IJEDICT* Vol.4 Issue 2 pp5.15.

Government of Zimbabwe (2004). Zimbabwe Millennium development goals, UNDP Progress Report. Harare.

Government of Zimbabwe(2007). The Zimbabwe National ICT policy framework. Harare: Government Printers.

Foehr, P.J. (2014, October 23). The 21st century classroom [Blog post]. Retrieved from http://hcs21stcentury.blogspot.com/

Isaacs, S. (2007). ICT in Education. Zimbabwe Country Report Retrieved on 02/10/2016 From: http://www.infodev.org.

Mandoga, E., Matswetu, V & Mhishi, M. (2013). Challenges and Opportunities in Harnessing Computer Technology for Teaching and Learning: A Case of Five Schools in Makoni East District. *International Journal of Humanities and Social Sciences.* Vol.3. Issue 1 (Jan 2013)p.

Musarurwa, C.(2011). Teaching with and Learning Through ICTs in Zimbabwe's Teacher Education Colleges. *US-China Education Review* A7 (2011) 952-959.

Nisar, M.W., Munir, E.U. & Shad, S.A. (2011). Usage and Impact of ICT in Education Sector; A study of Pakistan. Australian Journal of Basic and Applied Sciences, 5(12): 578-283, 2011

UI-Amin, S. N., (2015). An Effective use of ICT for Education and Learning by Drawing on Worldwide Knowledge, Research and Experience: ICT as a Change Agent for Education. Retrieved on 15/10/2016 from:*www.nyu.edu/classes/keefer/waoe/**amins**.pd*

Vajargah, K.F, Jahani, S & Azadmanesh, N. 2010. Application of ICTs in Teaching and Learning at University level: The case of Shalid Beheshti University. *TOJET***.**Vol.9 Issue 2 p.