

Influence of Information Communication Technology Tools on Quality of Teaching in Selected Tertiary Institutions In Osun and Ogun States, Nigeria

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ABSTRACT

The use of Information Communication Technologies (ICT_s) in Nigerian Tertiary institutions is rising and considerably increasing. ICT use in producing quality teaching provides significant opportunities for students and teachers alike to work progressively in this information age. This paper therefore, draws on the influence of ICT on quality of teaching in some selected tertiary institutions in south-western Nigeria. The study investigated tertiary institutions teachers' level of use of ICT tools and how the use of ICT tools have helped to improve quality of teaching from teachers' perspective in selected tertiary institutions in South Western Nigeria. The study adopted descriptive survey research design and 95 respondents were used. Descriptive analysis of frequency count distribution and percentages were used to answer the research questions. The results showed that many of the teachers who participated in this study do not regularly employ social media applications in teaching their students. It was also discovered that there are some frequently used ICT tools by teachers that had considerably improved their teaching which include projector (70.5%); Laptops/Desktops (83.2%); Telephones/Tablets (80.0%) while ICT tools less utilized by the teachers include referencing tools (48.4%); Virtual class/meetings (38.9%) and Video lectures. The study recommended that mandatory in- service training should be done quarterly for the teachers of tertiary institutions which should include how some social media application can be used to enhance quality teaching. Teachers should be mandated to use at least two ICT tools in their teaching- learning process.

Keywords: Influence, ICT, Quality of Teaching, Tertiary Institutions, Nigeria

Aims Research Journal Reference Format:

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1. BACKGROUND TO THE STUDY

Information Communication Technology (ICT) is considered as a key factor for economic growth and social wealth (World Bank, 2004). Thus, educational institutions around the world have been undergoing fundamental changes to meet the demands of the knowledge, society and ICT has been functioning as a catalyst for this educational reform (McDonald & Ingvarsore, 1997; Collins, 1991) cited in Yildirim (2007). Variables involved in the use of ICT in education include objectives, the availability of technologies, applications and content as well as teachers' capacities (UNESCO, 2011). These are defined as combinations of competencies, motivation and the characteristics of teacher' working environments. According to Ogunniran, Odujobi and Afe (2016) citing Wong (2015) stated that the advancement of ICT in the past decade has had a great impact on education and research shows that ICT can potentially benefit teaching if used properly. In support of this, Torruam and Abur, (2013) has no doubt that ICT had changed the face of teaching and learning globally. In the same vein, Karamani and Haveri (2012) professed that in realizing the process of teaching and learning through ICT, can be achieved inner alia through some factors such as infrastructure relevant to technologies and preparation accompanied by training of human resources that will work with the technology. They further stated that technology has driven the way teachers teach. The National Policy on Education (FRN, 2013) focuses more on the need of ICT at all Nigerian educational levels.

Ogunniran et al (2016) citing Ogunsola (2005) opined that Information Communication Technology is an electronic based system of information transmission, reception, processing and retrieval which drastically changed the way we think and the environment we live. ICT_s are information usage tools that are used for the production, storage, processing, distribution and exchanging of information. Many different information tools work together, and merge to make a networked world-which gets into every part of the world (UNDP. Evaluation Office, 2001). Cox, Preston and Cox (1999) elucidates that constant use of ICT by teachers in their learning, and which were also seen to be of main importance to these teachers in their teaching will make teaching easier for them. Obahiagbon and Otabor (2014) citing Adeyemi and Olaleye (2010) stated that information and knowledge changes rapidly hence teaching and learning process as well as school management has to change. They opined that the use of ICT can potentially improve education quality, expand learning opportunities and make education accessible.

In the same vein, Yusuf and Onasanya (2004) stressed that ICT provides opportunities to communicate with one another through e-mail, chat room and other facilities. It provides quicker and easier access to more extensive and current information. They further stated that ICT can also be used to do complex tasks as it provides researchers with a steady avenue for the dissemination of research reports and funding. Thierer (2000) also agreed that experts in the field of education maintained that if ICT is properly use, it will influence to a great deal in improving quality of teaching in the educational sector generally compared to the traditional method of teaching.

Teaching is a scholarly activity. In order to prepare and teach a course, one must develop a content outlines, prepare a syllabus, choose the most appropriate resources, integrate technology such as visual aids, website, design learning activities as well as construct and grade evaluation measures (Berk, 2005). The field of teaching has been affected by ICT_s which have undoubtedly affected teaching, learning and research (Adomi, 2010). According to OECD (2009,pg 3), quality teaching indicates the first schemes, tools and policies at enhancing the capacity of the teachers to provide the best teaching and hence ensure the best learning of the students. Quality teaching can also be regarded as student –focused support like learning environment. Until recently, tertiary institutions used an evaluation system based mainly on research activity, leaving the professor's educational duties in the background. The students are the ones who have most commonly been chosen to evaluate the quality of teaching performance.

According to the study carried out by Kuzmanovic, Savic, Gusavac, Makajie-Nikolic and Panic (2013), they identified the indicators of good teaching and quality according to students to be availability for the professor, his/her clarity of presentation, the methodology and systematic approach, the information given to the students regarding coursework, encourage active participation in the class as well as considering and responding to students questions. It is very imperative to know that most effective teachers are always the ones who acknowledge their student's needs' and device a means of meeting those needs through different teaching strategies, good communication skills as well as boosting these students' abilities through their words of encouragements. As a result, implementation of series of plans will take place that will improve and change pedagogical practices of these teachers so that teaching and learning can be redefined. In optimizing the educational quality, a change of attitude that will be reflected in a transformation of teaching styles is required.

The World Bank (2004) defines tertiary education as including universities that teach specific capacities of higher learning such as colleges, technical training institutes, community colleges, Nursing Schools, research laboratories, centers of excellence and distance learning centers. In the same vein, Webster's on-line dictionary (2010) stated that tertiary education is an education beyond high school that is provided by colleges, graduate and professional schools while Collins English Dictionary (2014) has it has education and training at colleges, universities and polytechnics.

2. STATEMENT OF PROBLEM

Information, Communication and Technology (ICT) is an invaluable intervention of this modern time (Yusuf, Afolabi and Loto, 2013) as well as an indispensable tool for education in the contemporary world. It is loaded with potentials that are influential in bringing about changes in ways of teachings. However, this potential may not be easily realized as Prasad et al (2015) underlined when they stated that "problems arise when teachers are expected to implement changes in what may be well adverse circumstances (p.61). Due to this, only few teachers and learners incorporate ICT tools into their routine methodology of teaching and learning. Nigeria as a nation is yet to take full advantage of the possibilities of ICT-driven education (Idowu and Esere, 2013). Hence, this study investigated the influence ICT tools on quality of teaching in tertiary institutions in selected institutions in South-West Nigeria.

3. OBJECTIVES

This study specifically seeks to:

1. Investigate the level of use of ICT tools in teaching among teachers in selected tertiary institutions South Western Nigeria
2. examine the influence of ICT use on teaching quality in selected tertiary institutions in South Western Nigeria

3.1. Research Questions

1. What is the level of use of ICT tools in teaching among teachers in selected tertiary institutions in South Western Nigeria?
2. How has the use of ICT tools helped to improve quality of teaching in selected tertiary institutions in South Western Nigeria?

4. METHODOLOGY

4.1. The Research Design

This study is a survey type of descriptive research design. The research was carried out in seven randomly selected tertiary institutions both in Osun and Ogun states respectively. The numbers of questionnaires administered vary from one institution to another. This is due to variance in the numbers of teachers available in these institutions as at the time of this study. A total of 95 questionnaires were returned.

Table: List of institutions and distribution of questionnaires

NAME OF SCHOOL	FREQUENCY	PERCENTAGE (%)
Adeleke University, Ede, Osun state	19	20.0
DOTS Institute of Technology, Abeokuta, Ogun state	22	23.2
Federal Polytechnic, Ede, Osun state	20	21
Federal University Of Agric, Abeokuta, FUNAAB, Ogun state,	4	4.2
Ladoke Akintola University of Technology, (LAUTECH), Osogbo	8	8.4
Moshood Abiola Polytechnic, MAPOLY, Abeokuta, Ogun state	11	11.6
Seventh Day Adventist School of Nursing, Ile Ife, Osun state	11	11.6
TOTAL	95	100

Source: Teachers' availability in Institutions

4.2. Research Instrumentation

The instrument used for the study was a well-designed self and adapted questionnaire titled "influence of ICT on Quality of Teaching Questionnaire" (IICTQTQ). Credits were given to the original authors. It was divided into three sections:

Section A: Socio-demographics of the respondents

Section B: ICT use among teachers

Section C: Influence of ICT use on teaching quality

The instrument had already been validated and found reliable by the original authors. The statistical tools used to analyse the data was Statistical Package for Social Sciences (SPSS) version 21 to generate frequencies, percentages, tables, charts and figures.

5. DISCUSSION OF FINDINGS

The analysis of demographic statistics of the Teachers/Respondents is presented as follows:

Table 2: Demographic Characteristics of Teachers/Respondents

Variables	N= 95	Frequency	Percentage (%)
Sex			
Male		52	54.7
Female		43	45.3
Level/Rank			
Not Indicated		1	1.1
Lecturer 1 and below		79	83.2
Senior Lecturer		15	15.8
Age group			
Age Not indicated		14	14.7
21 - 30 years		22	23.2
31 - 40 years		40	42.1
41 - 50 years		13	13.7
51 - 60 years		4	4.2
61 - 65 years		2	2.1
Range of years of Teaching Experience			
Years of Experience Not Indicated		9	9.5
1 - 10 Years		76	80.0
11 - 20 years		9	9.5
31 years and above		1	1.1

Table 2 showed the demographic distribution of respondents for this study. Most of the respondents were males and accounted for 54.7% of the respondents while 45.3% were females. Majority (83.2%) of the teachers were lecturer 1 and below while only 15.8% were senior lecturers. Many of the respondents were between age 31 years and 40 years constituting 42.1% of the population under study while teachers between age 21 years and 30 years accounted for 23.2%. Teachers between ages 41 – 50 years, 51 – 60 years and 61 years and above accounted for 13.7%, 4.2% and 2.1% respectively. Regarding years of teaching experience, majority (80.0%) had between 1 to 10 years of teaching experience while 9% and 1% had 11 – 20 years and 31 or more years of teaching experience. The findings implication is that larger percentage of the teachers sampled between 1-10years of teaching experience (80.0%) which indicated that they were employed to teach when ICT is becoming the order of the day.

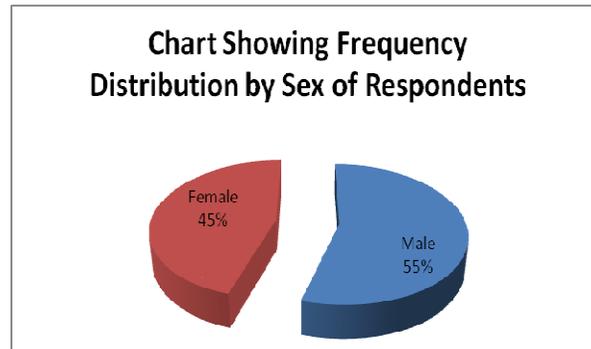


Figure 1: Pie chart frequency distribution of respondents by Sex

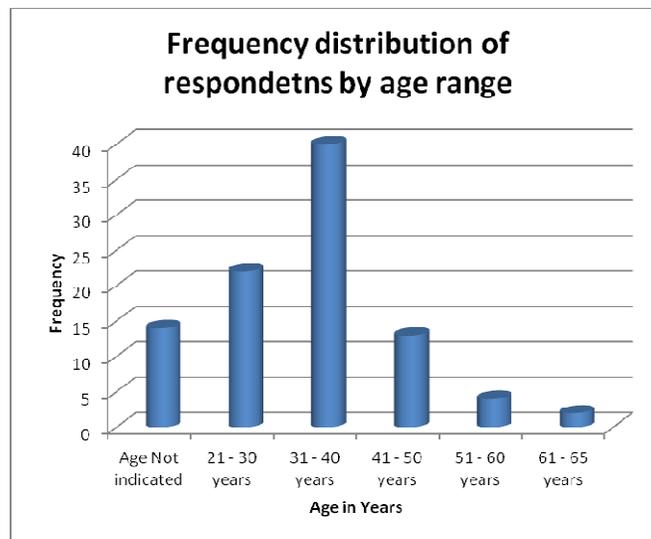


Figure 2: Bar Chart showing Frequency Distribution of respondents by age range

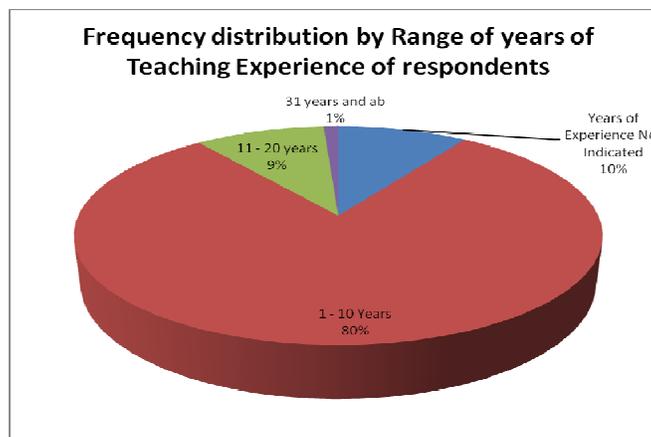


Figure 3: Pie Chart showing frequency distribution of respondents by years of teaching experience

Research Question 1: What is the level of use of ICT tools in teaching among teachers in selected tertiary institutions?

Table 3: Level of use of ICT (Mobile/Computer applications) in teaching among teachers

s/n	Social Media Applications	Level of use in teaching for ONLY those who possess and have access to the ICT applications and tools			
		Never Freq (%)	Sometimes Freq (%)	Frequently Freq (%)	Always Freq (%)
1	Whatsapp	24 (25.3%)	19 (20.0%)	25 (26.3%)	27 (28.4%)
2	Linked in	33 (34.7%)	27 (28.4%)	11 (11.6%)	5 (5.3%)
3	Face book	32 (33.7%)	21 (22.1%)	26 (27.4%)	13 (13.7%)
4	Twitter	29 (30.5%)	25 (26.3%)	12 (12.6%)	4 (4.2%)
5	Drop box	21 (22.1%)	34 (35.8%)	4 (4.2%)	2 (2.1%)
6	Instagram	31 (32.6%)	21 (22.1%)	9 (9.5%)	3 (3.2%)
7	Picasa	34 (35.8%)	12 (12.6%)	2 (2.1%)	1 (1.1%)
8	Pinterest	30 (31.6%)	9 (9.5%)	3 (3.2%)	1 (1.1%)
9	Vidmate	28 (29.5%)	8 (8.4%)	3 (3.2%)	3 (3.2%)
10	Skype	32 (33.7%)	21 (22.1%)	10 (10.5%)	9 (9.5%)
11	Vibe	27 (28.4%)	18 (18.9%)	8 (8.4%)	.
12	To go	33 (34.7%)	18 (18.9%)	3 (3.2%)	.
13	You tube	23 (24.2%)	29 (30.5%)	16 (16.8%)	8 (8.4%)
14	Google plus	14 (14.7%)	17 (17.9%)	21 (22.1%)	20 (21.1%)
15	E – mails	11 (11.6%)	24 (25.3%)	15 (15.8%)	36 (37.9%)
16	Xender	20 (21.1%)	17 (17.9%)	10 (10.5%)	15 (15.8%)
17	Tumblr.com	26 (27.4%)	7 (7.4%)	3 (3.2%)	2 (2.1%)
18	Online /internet based learning platforms	8 (8.4%)	18 (18.9%)	21 (22.1%)	14 (14.7%)
19	Free online course wares e.g. courser	7 (7.4%)	14 (14.7%)	23 (24.2)	11 (11.6%)

Note: No multiple response apply, however, responses presented were only limited to those who possess or have access to the applications.

The results of this study, as reflected in table 3, showed that many of the teachers who participated in this study do not regularly employ social media applications in teaching their students. However there were some social media applications which were averagely employed regularly to teach students. For instance, about 26.3% and 28.4% of respondents frequently and always use what's app in communicating with their students regarding contents of lectures/lesson plans. Also, 27.4% and 13.7% of teachers now employ face book in teaching their students respectively. In the same vein, 22.1% and 21.1% of the respondents frequently and always (respectively) use Google plus in teaching and communicating lesson content to their students. This study is a pointer to the fact that many teachers have employed e-mails (15.8% frequently use emails while 37.9% always use email) in teaching their students. The details of other social applications used by teachers who participated in this study are reflected in table 3,

The implication is that majority of the teachers who possess and have access to these social media applications use them as a tool in teaching of the students to enhance quality.

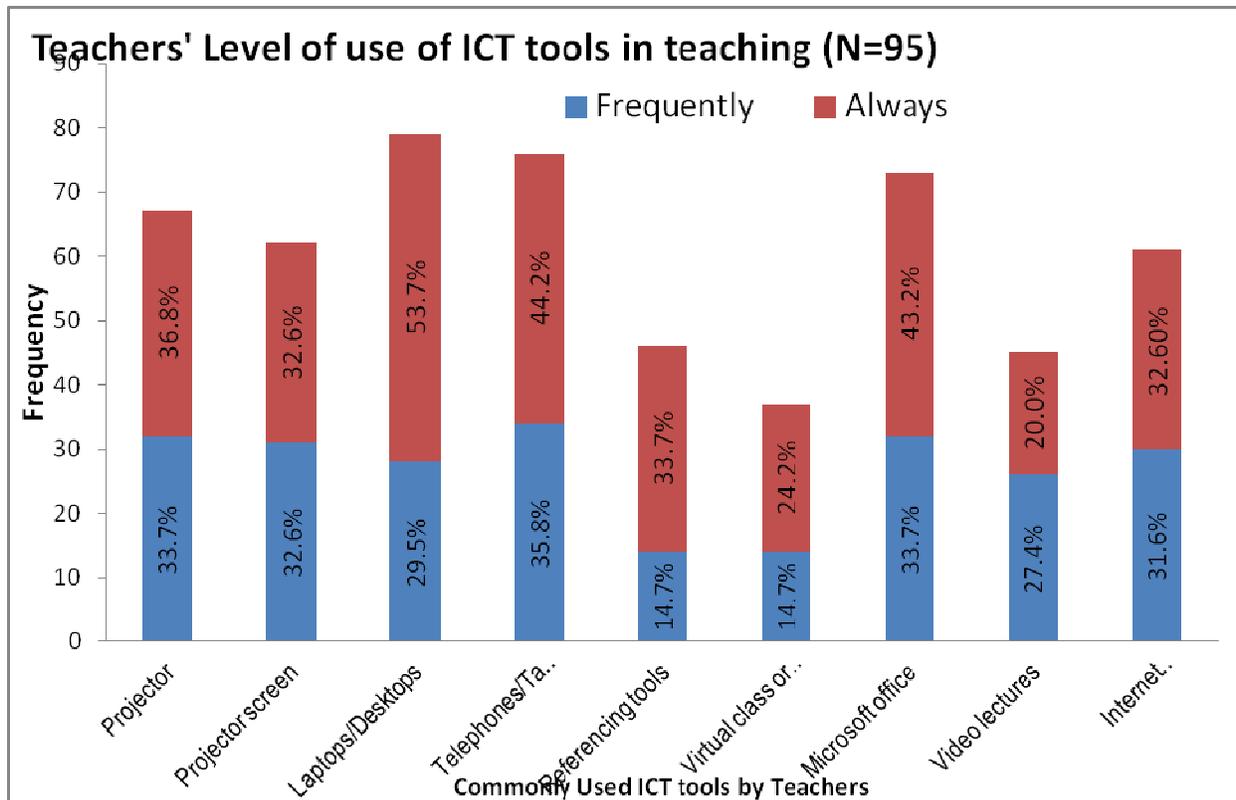


Figure 4: Bar Chart showing the responses on level of use of ICT tool in teaching among teachers

Figure 1 showed the frequency of use of ICT tool in teaching among teachers in selected tertiary institutions South Western Nigeria. This study showed that common and frequently used ICT tools by teachers for the purpose of teaching included projector (70.5%); projector screen (65.3%); Laptops/Desktops (83.2%); Telephones/Tables (80.0%) and Microsoft office (76.8%).

Other ICT tools less utilized by the teachers for the purpose of teaching by respondents include referencing tools (48.4%); Virtual class/meetings (38.9%) and Video lectures (47.4%).

Internet connectivity tools such as modems, routers, MIFI/WIFI appliances are only used by 64.2% of the teachers frequently. Figure 1 further described the proportion of respondents who frequently and always use ICT tool in teaching to enhance quality. The implication of this is that majority of the teachers agreed that use of projector, laptops/desktop, telephones/tables are commonly used to enhance their teaching respectively.

Research Question 2: How has the use of ICT tools helped to improve quality of teaching?

Table 4: Influence of ICT use on teaching quality

s/n	Teaching quality questions (N= 95) ITEMS	1 = ICT use has in no way improved how I achieved this	2 = ICT use has somewhat helped in achieving this	3 = ICT use has enabled me to achieve this	4 = ICT has really enabled me to carry this out this task
1	Deliver a well-planned and efficient mini-lesson; which captures mini-lesson so students can make reference to it during independent practice	16 (16.8%)	19 (20.0%)	30 (31.6%)	24 (25.3%)
2	Leads students through guided practice so students provide both the answers and the thought process	13 (13.7%)	23 (24.2%)	27 (28.4%)	25 (26.3%)
3	Prepare a lesson plan and other resource materials	21 (22.1%)	14 (14.7%)	26 (27.4%)	30 (31.6%)
4	Works to ensure that the needs of every student are met, providing extra support or enrichment as necessary	14 (14.7%)	17 (17.9%)	32 (33.7%)	25 (26.3%)
5	Communicating Objectives of the lesson to the students clearly	10 (10.5%)	18 (18.9%)	31 (32.6%)	29 (30.5%)
6	The classroom is well organized and free of clutter.	29 (30.5%)	16 (16.8%)	24 (25.3%)	18 (18.9%)
7	Teacher uses bulletin boards and visual displays to support student learning, and includes the necessary displays	9 (9.5%)	17 (17.9%)	33 (34.7%)	21 (22.1%)
8	Systematically assesses every student's mastery of the objectives(s) at the end	8 (8.4%)	22 (23.2%)	43 (45.3%)	12 (12.6%)
9	Student Engagement and Real-Time Assessment	13 (13.7%)	23 (24.2%)	33 (34.7%)	17 (17.9%)
10	Provision of initial and final overviews of the session and/or subject in class	17 (17.9%)	34 (35.8%)	20 (21.1%)	12 (12.6%)
11	Relates the teachings to the professional environment	21 (22.1%)	26 (27.4%)	24 (25.3%)	18 (18.9%)
12	Promotes teamwork	16 (16.8%)	18 (18.9%)	28 (29.5%)	25 (26.3%)
13	Promotes individual work	10 (10.5%)	20 (21.1%)	36 (37.9%)	22 (23.2%)
14	Allows and encourages student participation	11 (11.6%)	18 (18.9%)	37 (38.9%)	23 (24.2%)
15	Give students Internet based assignments	6 (6.3%)	15 (15.8%)	27 (28.4%)	36 (37.9%)

According to table 4, some of the respondents agreed that ICT has enabled them to achieve quality teaching to an extent. This is evidenced by the number of teachers who reported that ICT tools has really enabled them carry out quality teaching tasks. Only 25.5% reported that ICT has enabled them to deliver a well-planned and efficient mini-lesson; which captures mini-lesson so students can make reference to it during independent practice. About 31.6% reported that ICT tools have helped in preparing a lesson plan and other resource materials. The implication is that ICT has in one way or another enabled them to carry out their teaching both effectively and efficiently.

6. CONCLUSION

The findings of the study revealed that many of the teachers that participated in this study do not regularly employ social media applications in teaching because some of them do not have access or possess the social media applications. The findings also showed that certain tools are frequently and commonly used by the teachers to enhance quality teaching. It was also revealed that the influence of ICT tools in preparing lesson contents cannot be underestimated. Areas for further research include accessibility and possession of social media applications, readiness of teachers to learn new methodology of teaching. Similar studies can also be carried out on how effective these ICT tools of social media applications are in teaching.

7. CONTRIBUTION TO KNOWLEDGE

The findings of this study are consistence with those of other researchers. UNESCO, 2011; Ogunniran et al 2016; Torrum and Abur, 2013 and Karamani and Haveri 2012 stressed the importance of ICT tools in application and lesson contents for students. However, UNDP, 2001; Cox et al, 1999; Obahiagbor and Otabor, 2014; Yusuf and Onasanya,2004; Thierer, 2000; and OECD, 2009 emphasized the influence of using ICT tools and their potentials in bringing about quality teaching to ensure best learning for students.

In view of these, the following recommendations are suggested:

1. Mandatory In- service training should be done quarterly for the teachers of tertiary institutions should include how some social media application can be used to enhance quality teaching (Manpower Development is crucial).
2. Teachers should be mandated to use at least two ICT tools in their teaching- learning process.

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