

Perception of Technical Education Students on the Role of ICT in General Studies Programme (GSP) In University Education

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Abstract

The role of Information and Communication Technology (ICT) in teaching and learning is rapidly becoming one of the most important widely discussed issues in contemporary general studies programme in university education. The paper examined the perception of technical education students on the role of information and communication technology in general studies programme in Nigeria. The paper discussed National Policy for Information and Communication Technology, the role of ICT in general studies in university education, general studies in university education, university education policies, and approaches to ICT integration in general studies. The study made use of questionnaire as instrument of the study. The population of the study was 48 students in technical education unit of technical and business education department, Delta State University, Abraka. The students attested that some of the ICT facilities are available but not properly utilized in learning general studies in the university. The findings also revealed that there is a significant difference in the perception of students on the extent of availability and utilization of ICT facilities in learning general studies. It was based on these findings that the researcher recommended that general studies should be equipped with ICT facilities to facilitate learning in technical education field among others.

Introduction

The role of information and communication technology in teaching and learning is rapidly becoming one of the most important and widely discussed issues in our universities in Nigeria. Obanya (2009) stated that university must strive to meet common 21st century challenges of providing students with an education that is viewed by employers as relevant and valuable, and that education must be driven by information and communication technology (ICT).

In the information field, introduction of information and communication technologies (ICTs) to perform research, classify materials and help clientele seek information has

opened a lot of opportunities for further studies in our universities. Those with information skills and the spirit of acquiring more knowledge have emerged as a new generation of information professional, finding and organizing information on contractual basis with individual and organizations (Bjorner, 1995).

The university students and information seekers require some information skills to excel in general studies and education growth. According to Tenopir (2002) essential competencies for the information seekers to cope in the changing information seekers to cope in the changing information environment have been identified. These competences, which can be translated into recommended coursework, are knowledge of information resources, information management, information access, information policy. Information resources in library/information centre are no longer only print records and audio-visual materials associated with the traditional libraries, but include electronic resources of internet, digital libraries, CD ROMs and a remote access to a wide range of information resources. Training of students in general studies must equip them to use traditional resources and electronic resources to effectively meet needs of the curriculum and their studies. Database searching skills are very important component of such training in general studies.

Information management and research skills of librarians are applied on other areas by information seekers in general studies. According to Bureau of Labour statistics (2009), such areas include database development, reference tools equipment, information systems, publishing, internet coordination, marketing, web content management and design and training of database users. With these emerging areas, training of library/information seekers has become more multidisciplinary in general studies programme in our universities (Anachobi, 2010).

According to United Nations Economic and Social Commission for Asia and the Pacific (2004:4) stated that a student is said to be information and communication technologically empowered when he/she has in-depth awareness, access to ICT resources, motivated, competence and knowledge to participate in ICT. Such ICTs include computer operating systems, internet, mailing lists, simulations, teleconferencing, search engines, web logs, online publishing systems, wikiwikiweb-techniques or common world wide web (www) publishing formats, information and communications technology cameras, cell-phones digital technologies, satellites, television and interactive audio among others.

Edozie and Agu (2010) Explained that information and communication technology (ICT) empowerment enhance the abilities of people to use ICT to improve their life-skills and strengthen their study capabilities. Such empowerment could be facilitated through awareness and motivation for ICT. Awareness refers to having knowledge of and understanding the potential opportunities of using any new technology, like the internet. Motivation is the desire and interest to use ICT as essential element in all kinds

of learning and development. Applying the explanation of the scholars to the role of ICT to general studies programme in university education, therefore, the awareness and the motivation of students in this section can assist the students and teachers to search and get relevant information from the internet that can assist the them to study and acquire more knowledge in the general study programme in the university education in Nigeria.

National Policy for Information and Communication Technology

National policies could be planning tools which take cognizance of national needs and objectives and set course of action to achieve them (Ejedafiru, 2011). A policy is meant to coordinate activities. It spells out the whys and hows of the activities for which it is designed. Information and communication technology policy is an official statement, which spells out the objectives, goals, principles, strategies, etc. intended to guide and regulate the development, operation and application of ICT (Achugbue, 2010).

Ejedafiru (2010) further stated that there is need for a realistic National information and communication technology policy for university education. He further reiterated that a goal oriented policy as well as well-thought-out plans and strategies to harness the potential of information and communication technologies for national development should be established.

The Role of ICT in General Studies in University Education

The importance of ICT is quite evidence from the educational perspectives through the chalkboard, textbooks, radio/television and file have been used for educational purposes over the years, none has quite impacted programme on the educational process like the computer (Ugwoke, 2007).

Until the beginning of 1980s, the work of planners was mainly that of forecasting and managing the quantitative growth of educational system in many countries. This meant that the social demand for education would be met to the extent that the financial capacity of the state allowed it to ensure the expansions at all levels Ugwoke cited Radi (2001). Since 1980s many countries have encountered economic and financial difficulties, making the implementation of ICT development plans more and more subject to economic and budgetary hazards and uncertainties. ICT has contributed a great deal to the preparation of students for educational policies and strategies for effective education in Nigeria.

ICT models have become an indispensable tool in ensuring coherence in the development of educational sub-sectors and a better understanding of the implications of their objectives, by facilitating the identifications of pedagogical and institutional inputs, as well as the financial resources which these imply. Studies have found that with ICT awareness and motivation, students of general studies gain new abilities and

ways to participate and express themselves in a networked information technology driven society.

ICT empowerment as a role is likely to influence the products general studies entrepreneurship, pathways since it is generally considered to be an essential requirement for access to the desirable labour market. Not only does information and communications technology empowerment through general studies affect the ability of individuals to compete in the labour market, it also affects their learning-to-learn skills, types of jobs they obtain, the international interactions they obtain, the status they attain and the wages they receive. Student's digital empowerment, as the pew Internet and American Life Project (2003:4) stated that the world is changing fast. New ideas, new technologies sand new economic and social imperatives at work are bringing nations and regions closer together both as partners and as competitors in technology and others fields of education.

Unfortunately, Dryden (2008) observed that nearly every educational system in the world is trying to get to grips with ICT, but nearly all are doing it incorrectly because they are trying to graft 21st Century technology on to a 19th century school model. He noted that even the top universities are making the same blunder. Replacing black and white overhead projector, transparencies with one-way power point colour presentations without empowering the students in ICT (Edozie et al, 2010: 35). Whether, and how well, Nigerian universities are preparing students for the world that has created an international project like the Airbuses – needs to be empirically investigated.

General Studies in University Education

The philosophy behind the general studies is to expose the students to knowledge outside their chosen disciplines as fresh students in the university. The general studies courses are meant to expose students to greater awareness for the graduate about other disciplines of study with a view to making them perform better in their chosen field of study and become better members of the society on the long run. The review of general studies programme in different universities can not be overemphasized in Nigeria. The Nigeria university commission over the years also stressed the need for the review of general studies programme. Mokobia (2009) stated that the idea of reviewing and producing the general studies programme of Delta State University was as a result of the inclusion of new and relevant topics by NUC in the general studies programme of Nigerian universities. He further stated the essence of introducing the new topics was to ensure an all-round development of the Nigerian graduate and possibly help such graduates to be self- sustaining. Yes, but what is the role of ICT in the new topic included and what about the knowledge and skills of ICT in this regard? The answer is simple in the different universities in Nigeria, the ICT is lacking in our general studies programme and should be integrated. This is to ensure an all-round development of the Nigerian

graduate and also improved the entrepreneurial skills for the graduates of our universities.

It can be emphasized here that there is wider dimension to the issues of all-round development of Nigerian graduates and their counter part all over the world. Ever changing demands and shifting opportunities characterized the 21st century workplace due to rapid globalization, innovation and information and communication technology (ICT). In response to the demands of the 21st century, universities are not only being held accountable for validating the contents of their courses through advisory boards and accrediting bodies of (NUC), but they must also graduate students who are knowledgeable, competent and empowered to meet the over changing needs of different aspect of general studies to assist them in the industry (Dryden, 2008).

University Education

An institution at the highest level of education where you can study for a degree or do research (Hornby, 2006). University education as popularly suggested is for three purposes: (i) to train the minds of young people (ii) for research activities and (iii) to recognized achievement, considering these purposes the need for quality and relevance of the education in any university cannot be over-stressed.

The quality and relevance of higher education in today's dynamic world should exist between the objectives and content of education. This implies that the social expectation and skills needed, within the world of work should be achieved through teaching and learning in tertiary institution (Ogunleye, Oke, Adeyemo and Adenle, 2008).

Aladekomo (2004) stated that before now, little attempts were made to translate the broad terms of the university education policy into consequences for employment planning. There is, for example, no provision for enterprise orientation for undergraduates or whether graduates could expect to find themselves in various kinds of self employment. Regrettably, most tertiary education systems in Nigeria as a developing country operate close-ended educational systems which are only good for the attainment of obsolete behavioural objectives that predetermine outcomes and foster lower-order thinking processes (Adelabu, 2006).

UNESCO (2003) in this regard calls for a review of recommended and mandates approaches to teaching, learning and assessment so that appropriate knowledge and skills are fostered. Skills to be fostered in the process include skills for creative and critical thinking, oral and written communication, collaborative and cooperation skills. Others include; conflict management, decision making, problem solving and planning using appropriate ICT and practical citizenship. It is imperative that universities should look inwards at the millions of unemployed youth and devise a way of equipping

undergraduates to be self-reliant before graduating particularly now that the dream jobs are no longer there.

Higher Education Policy and the General Studies Programme

In 1959, the Ashby commission was set up to review the earlier educational policy. At that time, the country wanted to produce manpower for independence and that led to the 1960 Ashby report titled investment in education (Adelabu, 2006). There was a great concern to produce manpower to take over the affair of the government vacated by the colonial masters.

This need culminated in the production of a document titled: the Nigerian National Policy on Education (1981). Probably this document marked the first linkage of education policy with industrialization policy and the issue of self-reliance. However, a look at the policy document reveals that the issue of self-employment or self-reliant at the end of higher education was not given adequate attention (Aladekomo, 2008). Examination of section 5 of the policy on Higher Education (i.e. Universities, polytechnics and colleges of education) was absolutely silent on self-reliance issue. The higher education policy concerned itself mainly with the development of 'higher level manpower' which was to be in the context of the needs of the economy perceived mainly then in the field of science and technology. Thus the higher education policy as stipulated in the 1981 National Policy on education expectedly had serious orientation for science and technology and absolutely none for information and communication technology for self-reliance. Universities and other levels of the education system were specifically required to pay greater attention to the development of individual that can be a better member of the society.

Equally, it was quite evident from the policy that Nigerian educational system was hitherto design to produce a pool of graduates who depended on the government for employment. This is in contrast to a system that could equip beneficiaries with knowledgeable skills, make them self-reliant, self-confident, ICT literate, and employer of labour. The acquisition of knowledge and skill in the university was therefore aimed at satisfying the perceived end of the line employers that is government and industry. Emphasis was also in preparing undergraduates of the general studies programmes for leadership styles, managerial, thinking, decision making procedures, ICT literate suitable for large organization and the society (Ezeugbor, 2010).

With the world advances and development in all facets of life, the environment created by the education policy in institutions of learning could not stand a taste of time. There has been an accelerated growth of unemployment among university graduate and resulting to having a great number of people living below the poverty line. Perhaps no one has captured the significance of the global unemployment situation better as the

ILO's Director General, Juan Somaria in the latest ILO Global Employment Trends Report as noted by Ogunleye, Oke, Adeyemo & Adenle (2008).

In view of this situation, the Nigerian education policy makers have made frantic efforts to review and revise the policy on education in terms of its relevance to the needs of the individuals and those of the society, in consonance with the realities of our environment and the modern world.

Consequently, the national policy on education revised 2004, section 8 (d) stated clearly that tertiary education shall help undergraduates acquire both physical and intellectual skills which will enable individuals to be self-reliant and useful member of the society. Universities must change their focus from producing graduates to fill existing jobs to producing graduates who can create jobs in a dynamic growth sector of the economy (Raybould and Wilkins, 2005: 214). This critical issue underlies the directive of the Federal government to all tertiary education regulatory agencies to establish necessary mechanisms for the introduction, development and sustenance of self-reliant graduate (Akpomi, 2009).

Approaches to ICT Integration in General Studies

ICT is a powerful tool in the hands of confident, capable and creative general studies teachers, can greatly enhance many teaching and learning situation. ICT integration is the combination of ICT technology into different subject areas of general studies to enhance learning (Asogwa, 2008).

ICT integration within general studies can take many forms. This work organizes various ICT integration in general studies into four categories:

a) **ICT Skills Development Approach**

This approach has an emphasis on general studies programme in ICT literacy of the students, basic skills and design and development skills. It addresses how to use ICT in the classroom such as selecting appropriate ICT tools and supporting students in the use of those tools, developing new methods of facilitating learning and evaluating performance etc. In other words, knowledge about various software and hardware and their use in educational process is provided.

(b) **ICT Pedagogy Approach**

This approach integrates ICT skills in respective subject areas in general studies course. Here the students learn how to use ICT in their classroom by actually being engaged in the process of ICT-integrated training. Description and practical demonstrations of how technology can be used in general studies instruction in the classroom is provided. In this approach general study students design lessons and activities that centre on the use of ICT tools that will foster the attainment of

learning outcomes. This type of strategy seems to be supported by previous research that argues that students are likely to integrate in their learning in the classroom if they experience ICT skills as a learner (Collins and Latchem, 2003).

c) **Subject Specific Approach**

In this approach, ICT is embedded into one's own subject in such a way to reflect its real world applications. Through this method, subject experts expose students not only to new and innovative ways of learning but are provided with practical understanding of what learning and teaching with ICT looks and feels like. By this method, ICT is not an "add on" but an integral tool that is accessed by the teachers and students across a wide range of the circular (Junh, 2005).

d) **Practice Driven Approach**

In this approach emphasis is on providing exposure to the use of ICT in practical aspects of general studies programme. The central focus is on the developing methods of using ICT in the classroom solving problems and assignment in general studies. Using ICT skills in their work experience at various levels provides students the opportunity to assess the facilities available at their school and effectively use their own skills.

In spite of accompanying gains in the integration of ICT as integral tool in teacher training, there are obvious problems that are set to hinder the successful implementation: These include:

- i) **Inadequate Supply of Electricity:** Almost all the ICT tools depend on electricity power to function. At present, the power supply is very low, unstable and not available in most part of the country. The implication of this situation on ICT integration is great.
- ii) **Low Teledensity:** Access to unhindered utilization of ICT tools such as telephone and internet has been very low. Though, the recent introduction and infusion of GSM telecommunication technology has improved access greatly, it is still far below what is needed to boost the actual utilization of ICT resources for educational purpose.
- iii) **Skill in Designing Course Wares/ Softwares**
There is currently a dearth of skills possessed by lecturers to design and deliver their lessons in electronics formats. Many are still not ICT-complaint and therefore not enthusiastic about its use in general studies.
- iv) **Funding:**
The government investment in ICT for educational purposes is very poor as can be observed by the ratio of students per computer and level of internet connectivity. In Nigeria these are still very low (IET, 2000).

Statement of the Problem

In spite of the mergence of information and communication technologies as instrument of change, a driving force in educational uplift. It appears that the traditional methods of teaching and learning general studies remained a predominant methods of teaching and learning in our universities in Nigeria. In our university education there is little evidence of a slight utilization of emerging information and communication technologies (ICT). The skill requirement of students is today becoming complex and sophisticated as the emerging technologies call for changes in general studies strategies. Students have to cope with the demands of emerging information and communication technologies which have moved the students away from analogue to digital technology (Nkokelonye, 2008). However, researches have been carried out and the findings revealed on the information and communication technologies in arts, science, technology and mathematic (STM, An, 2006; Umendu, 2006, Umaru, 2003) Similar in information and communication technology in general studies. Against this background, the problems of this study are to identify the ICT Facility availability and unitization in the learning general studies in university education.

Purpose of the Study

The study was conducted to find out the role of ICT in general studies programme (GSP) in university education. The study specifically investigated the extent off availability and utilization of ICT facilities for the accomplishment of different learning task in general studies.

Research Questions

The study was guided by two research questions:

- i) What are the ICT facilities available to accomplish the general studies learning task in the university?
- ii) To what extent are the available ICT facilities utilized in learning general studies task in the university?

Hypothesis

Ho₁: There is no significant difference in the mean response of technical education students on extent of availability and utilization of ICT facilities in the university.

Methodology

The work adopted was a case study research because the researcher based the investigation on a single class of general studies. The population consisted of all the first year (second semester) technical education students taking general studies as courses in their unit in Delta State University, Abraka in 2009/2010 session. The choice of this

population was based on the fact that all the one hundred (100) level students were expected to have been fully exposed to the course at the end of second semester.

The population comprised of 48 students in technical education unit of technical and business department, Delta State University, Abraka. All the members of the population were used, No sampling was done as a result of small population size.

Questionnaire was the instrument for data collection the instrument was ICT Facilities in General Studies Learning Task (ICTFGSLT). It was developed by the researcher and validated by two experts in Delta State University, Abraka. The instrument was divided into two section A and B. Section A and B consisted of questions based on research questions and Hypothesis. The response format for the 20 item structured instrument of sections A and B was a five likert type scale of Very Strongly Agree (5), Strongly Agree (4), Agree (3), Disagree (2), strongly disagree (1). Respondents were expected to tick the appropriate item for the learning of general studies the benchmark of these weighted responses is 2.50 in analyzing the responses, means scores were used to answer the research questions using the 2.50 and above as acceptable level of mean score while 2.50 and below as unacceptable level of mean score. Validation of the instrument was carried out by computer experts and general studies teachers in Delta State University, Abraka.

Reliability coefficient of 0.84 was obtained and the figure established reliability coefficient using cronbach alpha.

Methods of Data Analysis

The mean was used to analyse the research question one and two while the z test was used to test the hypothesis formulated in the study.

Table 1
Utilization and Adoption of the Facilities

S/N	Task	\bar{X}	SD
1.	Complete with university students in other country and win prizes scholarship and awards using ICT facilities	1.88	0.77
2.	Learn skills needed to develop and maintain successful self development academically on internet	2.00	0.81
3.	Learn scientific and historical, economic, religions technological skills for global inventions	2.24	0.84
4.	Interaction and getting academic information and data for research through e-mail (yahoo, Google etc)	2.16	0.86
5.	Developing skills for personal website for international,	2.18	0.82

	online e-book and internet publication		
6.	Learning music from the information and communication technology audio (Mps, CD Rom, internet and cell phone)	2.68	0.84
7.	Getting and learning about foreign students achievement in your area of specialization through ICT and e-library	2.66	5.58
8.	Reading foreign bulletin, memo and bills through e-mail on scholarship, awards, sponsorship of international organization	2.93	0.84
9.	Using internet to register as member of organization, purchase, subscribing to journals, magazine and international books.	2.58	0.63
10.	Download vital information on general studies courses from foreign universities and recognized publishers.	2.52	0.67
11.	Internet statistical analysis of data for research in different field.	1.72	0.85
12.	Obtain financial assistance in writing books and journals with foreign a authors organizations.	2.05	0.73
13.	Learn skills needed to develop and maintain successful business venture.	2.45	0.65
14.	Intensive studies, browsing surfing and using search engines for information needed in area of specialization	3.06	0.84
15.	Obtain grants to participate in international conference, group discussion, scientific research and discoveries.	2.24	0.84
16.	Have access to electronic simulation and design through ICT.	1.67	0.87
17.	Learn foreign languages and become a multi-language speaker as a requirement in general studies.	1.88	0.77
18.	Using ICT to connect friends and relations through face book, twitters and u-tube internationally	3.18	0.73
19.	Creation of website, e-mail account for academic and business venture.	2.94	0.86
20.	Communication using ICT during exchange programmes, sabbatical, conference and leave of absence from your university and foreign university between students and lecturers.	2.67	0.79
		2.37	0.78

Mean ranges from 1.67 – 3.18 with grand mean of 2.37 and SD = 0.78.

Table 2

Availability/ Accessibility of ICT Facilities for the Accomplishment of Task

S/N	Task	\bar{X}	SD
1.	Compete with university students in other country and win prizes scholarship and awards using ICT facilities	2.67	0.86
2.	Learn skills needed to develop and maintain successful self development academically on internet	2.59	0.65
3.	Learn scientific and historical, economic, religions technological skills for global inventions	2.46	0.58
4.	Interaction and getting academic information and data for research through e-mail (yahoo, Google etc)	3.46	0.76
5.	Developing skills for personal website for international, online e-book and internet publication	3.16	0.78
6.	Learning music from the information and communication technology audio (Mps, CD Rom, internet and cell phone)	2.69	0.69
7.	Getting and learning about foreign student's achievement in your area of specialization through ICT and e-library.	3.01	0.76
8.	Getting foreign bulletin, memo and bills through e-mail on scholarship, awards, sponsorship of international organization.	2.94	0.74
9.	Using internet to register as member of organization, purchase, subscribing to journals, magazine and international books.	3.37	0.86
10.	Download vital information on general studies courses from foreign universities and recognized publishers	2.85	0.77
11.	Internet statistical analysis of data for research in different fields.	3.36	0.76
12.	Obtain financial assistance in writing books and journals with foreign authors and organizations	2.82	0.72
13.	Learn skills needed to develop and maintain successful business venture.	3.64	0.92
14.	Intensive studies, browsing surfing and using search engines for information needed in area of specialization.	3.08	0.74
15.	Obtain grants to participate in international conference, group discussion, scientific research and discoveries.	3.26	0.75
16.	Have access to electronic simulation and design through ICT.	3.53	0.91
17.	Learn foreign languages and become a multi-language speaker as a requirement in general studies.	2.86	0.89
18.	Using ICT to connect friends and relations through face	3.23	0.76

	book, twitters and u-tube internationally.		
19.	Creation of website, e-mail account for academic and business venture.	2.99	0.84
20.	Communication using ICT during exchange programmes, sabbatical, conference and leave of absence from your university and foreign university between students and lecturers.	3.39	0.69
		3.07	0.77

The Table 2 had mean ranging from 2.46 – 3.64 with grand mean of 3.07 and SD = 0.77.

Table 3

Summary of Z-test analysis on Adequacy and Utilization of ICT facilities for Accomplishment of Task

Respondent	N	X	SD	df	Level of sign.	Cal. Z	Z-Crit.	Remark
Availability	48	3.07	0.77	94	0.05	4.297	1.980	Reject Ho ₁
Utilization	48	2.39	0.78					

Reject Ho₁ in favour of HO because the calculated Z is greater than Z-critical.

Table 3 showed that there is a marked difference in the perception of students on the extent of availability and utilization of ICT facilities in learning general studies. The tested hypothesis indicated that there is significant difference between the perception of students on the availability and utilization of ICT facilities. In table 3, the calculated z-value of 4.29 is greater than the critical value of 1.98. The null hypothesis was rejected. This means that there was a significant difference between the perception of the students on availability and utilization of ICT facilities in learning general studies.

Thus a null hypothesis claiming no significant difference in the perception of students on availability and utilization had to be rejected in favour of the alternative hypothesis. This shows that there is availability of the ICT facilities in the university than the utilization.

Discussion

The findings on research question one on availability of ICT facilities for learning general studies courses as displayed in Table 1 revealed that the students attested that the ICT facilities for learning the general studies courses are available. The mean scores indicated that some ICT skills were available and common in the university environment than others as shown in Table 1, where some items obtained higher mean scores than others. In Table 2 on research question two on utilization of ICT facilities for learning general studies course as reflected in Table 2, revealed that the students perceived that the ICT facilities for learning the general studies courses are not fully utilized. The mean scores indicated that as result of lack of knowledge of ICT, the student rarely uses these facilities in learning the general studies courses in the university.

The hypothesis also revealed that there is a significant difference between the availability and utilization of ICT facilities in learning general studies in the university.

These findings justified the perception of the students to use the available ICT facilities in learning general studies. The desire to use the ICT facilities is justified by the flexibility principle in educational administration which holds that long standing programmes and policies can be modified to take care of current developments (Nkokelonye, 2008). The

principles aforementioned further stated that a quality programme adjusts to changing conditions and technological innovations (Nworgu, 2007).

Conclusion

In recent days of modern technology, information and communication technology has been applied for effectively in processing information in education and general studies specifically in different institution of higher learning. These, no doubt, contribute to making the provision of knowledge in relevant areas in general studies more up-to-date. This especially heart warming considering the wide array of information available and required on daily bases for general studies programme in our universities. The challenges facing the utilization of information and communication technology and users must be faced squarely immediately to harness the potentials inherent in information and communication technology in learning and updating knowledge for general studies in technical education programme in Nigeria.

Recommendation

- i) General studies programme should be equipped with information and communication facilities in the universities to facilitate the acquisition of current knowledge in technical education subjects.
- ii) The students should be trained to familiarize them with the knowledge and advantages of information and communication technology to assist to independent in searching and browsing for necessary information in technical education.
- iii) The information and communication technology should be integrated into the general studies curriculum and made core course for all studies in technical education areas and other fields.
- iv) The university, must device means of using the computer or e-mail to send information to students and receiving vital information from students through information and communication technology in their different departments.
- v) Students should be given assignment as cumulative assessment to assess e-library, bulletin, international journal subscription, sending and receiving to equip and improve their knowledge in general studies and technical education subjects.

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