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An Assessment of the Capability of ICT Education in Bicol University Polangui Campus, Polangui, Albay, Philippines: A Determinant to its Sustainability

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ABSTRACT

The 21st Century poses an urgent need for the integration of ICT in classroom instruction. Education is a lifelong process therefore access to information anytime, anywhere is imperative. We need literates to meet the challenges of illiteracy and poverty and bring about the cost reduction of education, improve the quality and effectiveness of teaching (wikieducator,n.d.). This paper intends to present the results of an assessment on the capability of ICT education where its sustainability largely depends upon it. Specifically, it aimed to determine the profile of the facilities, faculty readiness in ICT literacy, related researches, budgetary allocation for facilities and linkages with non-government and government agencies likewise the level of capability of ICT education was assessed. Findings revealed that the school has the capability to sustain ICT education. In this study, the researchers arrived at the conclusion that capable and sustainable ICT education would produce ICT literates individuals who would meet the challenges of digital world.

Keywords:ICT,Capability,Sustainability, New Literacy, Teachers' Readiness

1. Introduction

There are varied reasons why Information Communication Technology is an urgent need in the educational system. Information explosion nowadays is a phenomenon so access to it is necessary. Our present society requires individuals who are IT literates to increase access and bring down the cost of education to meet the challenges of illiteracy and poverty where ICT is the answer.

It plays a very important role in education because it provides a variety of learning resources and with abundant resources, teaching and learning skills are enhanced. With the useoftechnology, learners are able to communicate ideas, describe projects and order information in their work.It provides immediacy of information. With the use of computers and the web networks the pace of imparting knowledge becomes very fast.

Further, it provides audio-visual materials which conforms with the theory in psychology of learning that, the higher process of memory and concept formation basically start with perception where the senses gain information

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from the environment. Through ICT,audio–visual materials has become so abundant. Information in the net is purely correct and up to date.The central matter therefore of ICT in teaching in order to ensure quality in our educational system is to make students familiar with the use of ICT since all jobs in the future will be dependent on it and it must be used in teaching in order to improve the quality and effectiveness of teaching*(wikieducator retrieved from http:/wikieducator.org)*

According to WayanVota(n.d.), sustainability is the ability of an educational ecosystem to maintain scholastic process, functions, diversity and productivity into the future. Further, monetary aspect is not the only thing that matters with sustainability but actually creating community ownership to the point of local customization in implementation and self-propagating growth and expansion.

If we develop and apply ICT badly, it could add to the world's problems, could devour energy and accelerate climate change, worsen inequality for those who do not have access and increase pollution and resource use by encouraging more frenetic consumerism. If applied well, the reward is enormous. It could help enhance creativity and innovation to solve our problems, build our community, give more people access to goods and services, and use precious resources much more efficiently (Madden &Weibrod2008).

According to Martinez-Frias(2003) Information and Communication Technology is an umbrella term which is currently used to refer to a wide range of services using the telephone, fax and the Internet. ICT revolution is radically affecting the way we share information about development issues, governments, non-government organizations, businesses, institutions and individuals where it is made a part of our day to day lives and organizational processes. With its use, the two essential commodities of time and distance (which in business) is termed as efficiency and cost which bring about monetary savings in an organization, in business and in the government.

The United Nation context emphasizes that it will provide a truly global dimension to the large number of local and regional efforts to bridge the digital divide, encourage digital opportunity and place it at the service of development for all.In the past, it is believed that a nation's wealth depends upon a country's natural resources, its labour force and its accumulated capital but an added notion is that, at present ICT is considered as an enormous potential especially in developing countries for furthering sustainable development.

ICT would bring about economic growth and development in the sense that new markets, new products and new services are being created which bring with them new sources of revenue. Moreover,they have the capacity to increase productivity that is, to create more cost effective output with the same or less input.The value of information and knowledge in developing countries is an important aspect of future growth potential and wealth generation which is closely tied with its use.

It is closely related with productivity in the sense that with itsapplication it is possible to substitute new production arrangements for old ones which allow labour to be redeployed and reduces the total number of hours required to produce a particular product or service.With these views, the digital divide will be bridged which bring about economic growth and development, and accelerate productivity and gain. Hence, there would be no doubt that it is a must to be embraced by developing countries despite its enormous cost.

This research was focused in assessing the capability of ICT Education in Bicol University Polangui Campus, Polangui,Albay, Philippines during the first semester of SY 2010-2011.This study is an outgrowth of a previous research by Riñon (2007) entitled "Teacher's Readiness For and Their Attitude Toward New Literary". Results of this

previous study revealed that the teachers of the same school were not ready to integrate ICT in their instruction and that they have fear and anxieties to use technology specifically, the Internet.The present study aimed to assess the capability of ICT Education on the assumption that capability is a prime factor to its sustainability.Specifically it aimed to determine the profile of ICT facilities, the teacher's readiness to integrateit in instruction in terms of training, use of the computer or the Internet, the school's budgetary allocation, related researchers, non-government and government support and the level of capability.

2. Methods

The Descriptive-Survey Method of Research was employed and two instruments were used in gathering the data where Instrument 1 was a questionnaire on the capability of the facilities, Instrument 2, a questionnaire to determine the teacher's readiness to integrate it in instruction in terms of their training, use of ICT facilities and their skills competence likewise an interview with the Dean was made to get information regarding the sources of budgetary allocation.To gather the data of the study related researches, documentary analysis of the research files in the Research Office was made. There were 88 respondents who were randomly selected from a total population of 123 faculty of the school. Findings and recommendations of this research is delimited to the school and its faculty only which is the subject of this study.

3. Results and Discussion

An assessment of the facilities were data provided by the ICT Coordinator which revealed that the institution is equipped with three(3) lecture rooms, three(3) laboratory rooms, seventy(70) computer units in the computer laboratory, eighteen(18) computer units in the internet laboratory, four(4) LCD projectors, one(1) digital camera, two(2) video cameras, four(4) computer units in the library and three(3) in the research office. These figures connotes that BUPC has for its start sufficient facilities in contrast with the statement of an education official who said that there is really nothing going on as regards ICT education.

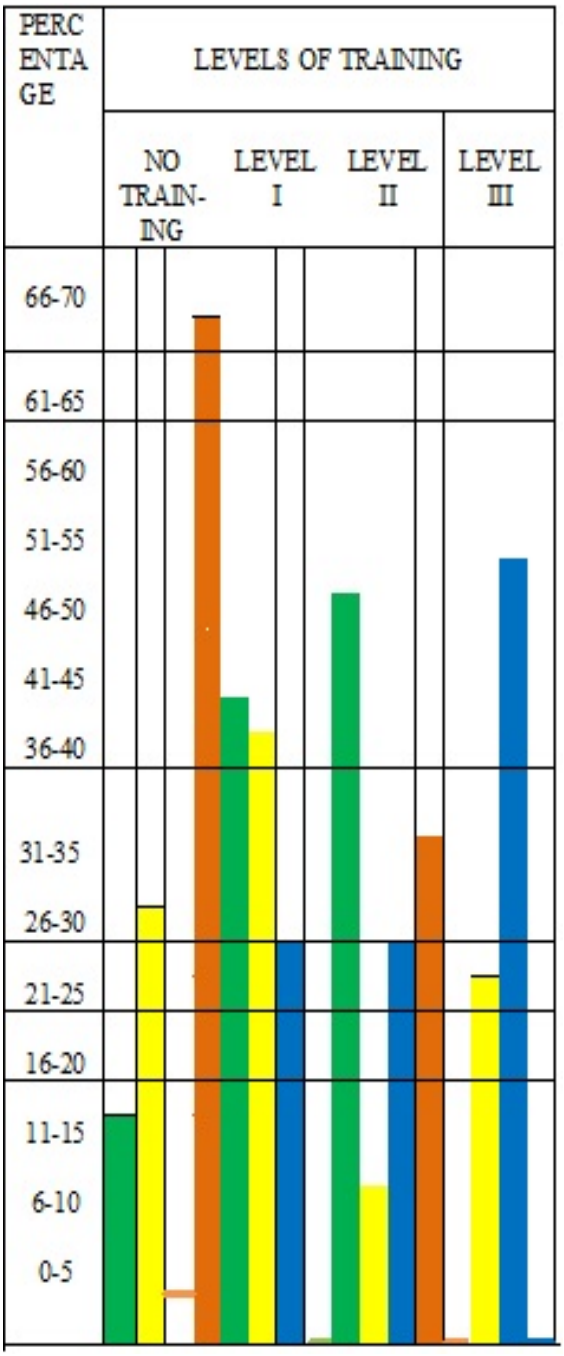

Figure 1. Teachers' Readiness in ICTLiteracy According to Levels ofTraining (by department)

The levels of training of the faculty is reflected in Figure 1. It is observable that the faculty in

Computer and Engineering Department has the highest percentage in Level 3 training. This result is an affirmation that teachers in this department are truly literates. Fifty percent (50%) of the faculty have finished the course and/or Degree holders in computer education with advanced skills and trainings. In Level 2 trainings, faculty in the Education Department registers forty six percent (46%) among the other departments. These are the teachers who obtained the basic training with additional short-term trainings/seminars. These group of teachers are literates the fact that they have both the basic and additional trainings.

In Level 1, forty percent (40%) of the faculty from the education department have undergone basic training. The biggest number of faculty who don't have any training are those belonging to the Nursing and Health Sciences Department. These implies that teachers must be literate in the new technology because students learn best in a classroom where the teacher themselves are experts (Snow, W. Burns,R. and Griffin,F. 1998)

The facilities like the computer/ laptop, LCD projector, video & digital camera and the public address system are very necessary in instruction to enhance teaching and learning. Figure 2 shows that the computer/laptop, LCD projector and OHP are used only sometimes while the video camera, the public address system and the digital camera are not used with 66%,53% and 50 % each respectively.

This implies that we cannot expect a very high quality learning from our students because according to an article on Computing in Education, Vienna, Austria, (February 22-24,2010) without using the computers and access to the net our students cannot bridge the digital divide and it will be hard to transform education and suit the needs of networked societies.

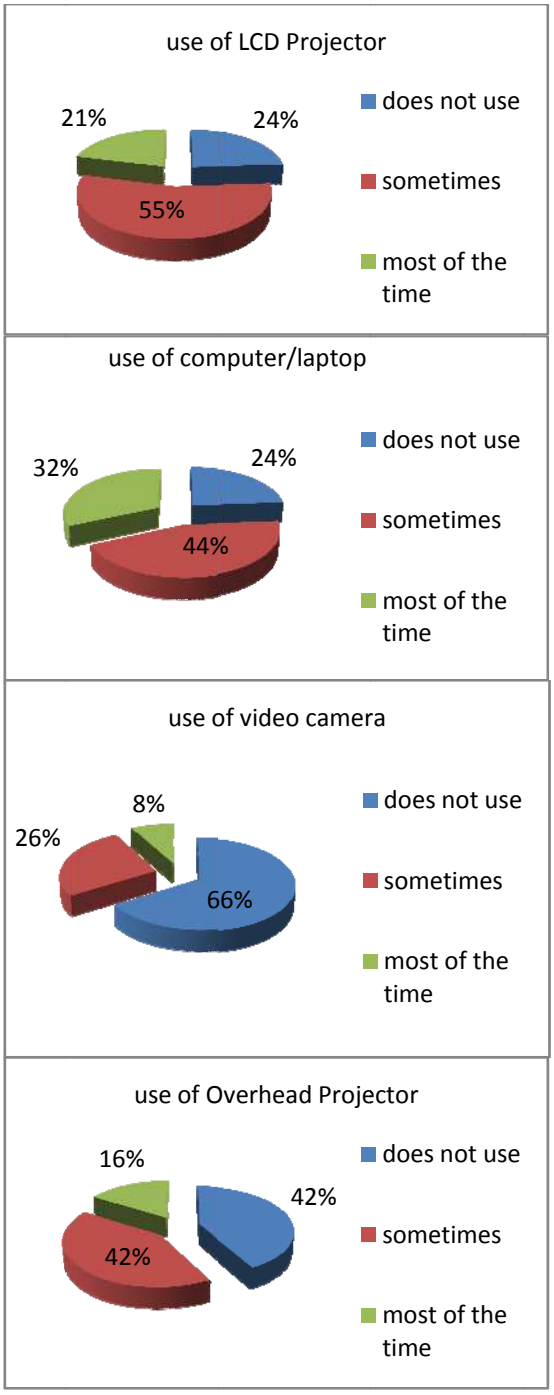

Figure 2. Teachers' Readiness in Terms of Use of ICT Facilities

An interview with the Budget Officer was conducted regarding the yearly release of budget for facilities needed. Accordingly, all requests for facilities are submitted to the Bids and Awards Committee (BAC) and are

approved if necessary. The dean informed the researchers that no budget comes from non-government agencies rather its funding is totally dependent upon the institution's budget. In sustainability, the monetary aspect is not what that matters alone but it's the totality of the process, functions, and productivity of ICT Education in the future as emphasized by (Madden &Weibrod2008).

The Research and Development Center of the institution has records on file of undergraduate theses which are ICT-related studies. Some are web-based systems or programs and others are computerized or automated programs. It was noted that out of forty-four (44) related studies, twenty three (23) are for office use, nine (9) for instructional use and twelve (12) are for office use outside of the college like the Engineering, Local Government Unit (LGU) and Philippine National Police (PNP) offices in Polangui, Albay. From this documentary analysis it shows that ICT-related researches if well implemented and used could help boost its capability and sustainability in the institution.

Table 1. Level of Capability of ICT Facilities in ICT Education

ICT Facilities	Weighted Mean (x)	Descriptive Interpretation	Rank
The college has standard size of ICT laboratory.	4.5	Highly Capable	2.5
It has sufficient number of computers.	3.9	Capable	4
Provides sufficient number of ICT lecture rooms	3.2	Moderately Capable	5
ICT rooms and laboratory are well-ventilated (air-conditioned)	4.6	Highly Capable	1
It has sufficient furniture and fixtures.	4.5	Highly Capable	2.5
Average Weighted Mean	4.1	Moderately Capable	

Table 1 reveals the results of the assessment on facilities. The fourth variable whether the ICT rooms and laboratory are well-ventilated (air-conditioned) makes it highly capable with a weighted mean of 4.5 and ranked first among other variables. Other indicators like the standard size of laboratory rooms and availability of furniture and fixtures have a weighted mean of 4.6 and 4.5 respectively which makes it highly capable. Although the provision of sufficient rooms ranks last is still moderately capable with a weighted mean of 3.9. Generally, the facilities is capable to offer ICT Education hence, it calls for the administration to further improve the facilities to fully deliver quality services that would result to quality teaching and learning. This result is not very surprising the fact that Palmer J.(1993) said that the cost of ICT equipment is very expensive and the lack of space limit most

Filipino public school students to computer education. She added that computer education is generally available only at Filipino private schools like the Jesuit-operated school at Ateneo University de Manila, Philippines.

Table 2. Level of Capability of the FacultyCompliment in ICT Education

Faculty Compliment	Weighted Mean	Descriptive Interpretation	Rank
Teaching staff is educationally qualified.	4.2	Capable	3
Faculty have their field of specialization.	5.0	Highly Capable	1
Teachers' posses expertise in information technology	3.9	Capable	5
Always observe best practices along computer technology	4.0	Capable	4
Always exercise professiona-lism in the delivery of services.	4.5	Highly Capable	2
Average Weighted Mean	4.3	Highly Capable	

The assessment regarding the faculty compliment is shown in Table 2. Topping the rank was the second indicator which states that "faculty has their own field of specialization in their respective assignments". It has a weighted mean of 5.0. Following the rank is that "faculty always exercise professionalism in the delivery of services" with a weighted mean of 4.5 and interpreted as highly capable. A weighted mean of 4.2, 4.0 and 3.9 was the rating in favor of the first, fourth and third indicators which says that "the teachings are licensed and educationally qualified","observe best practices along computer technology" and "possess expertise in information technology". Generally, the faculty compliment has an average weighted mean of 4.3 which means that they are highly capable to integrate ICT in their instruction.

As Noble(1995)&Hunka(1971) said the success of ICT education will largely depend upon competent teachers who are even more preferable than the most advanced technology.

Conclusions

The findings revealed in this study showed in general that the college under study is on the step toward capability of ICT Education and that all variables such as facilities, teachers' readiness, budgetary allocation, related researches are positively contributory to sustain ICT Education in the future. Thus, if it is sustained,the institution has high hopes to produce better informed citizenry, and advance the country's economic and social development.

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