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ICT Application Knowledge of Center of Excellence Graduates Towards the Covid-19 Pandemic

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ABSTRACT

While COVID-19 pandemic creates a great impact on the global economy, it also force all the educational institutes across all countries, including Philippines to shut down. But learning and sharing of knowledge must not be compromised so eventually, the great significance of technology has taken into consideration. Online learning is not new but this pandemic situation makes it a substitute of the face to face learning. With the arising demand of competence in ICT and the goal to make learning more convenient, interesting and globally-competent, this led the researchers to conduct a study on the knowledge on ICT applications among teachers graduated from a center of excellence institution. This study determined if teachers are familiar or even use applications and the functions it has. These applications are commonly used for teaching and commonly found on Microsoft Software. The respondents are limited to only teachers who acquired 10 (ten) years and above teaching experience who may either be a teacher of any position, teaching inclusive in private and/ or public elementary, secondary, tertiary schools education but graduated from a center of excellence institution in Ilocos Norte. The study made use of the descriptive survey form of research in which data gathered was tabulated and analyzed to answer the problems of the study. The result shows that graduates from the center of excellence institution who are ten (10) years in service are least knowledgeable in application on Data Bases and most knowledgeable in Word Processing, this is due to the fast changing flow of technology and the course offerings before are no longer in use as of today. This will give an impact that center of excellent institutions should continuously serve the teachers in the field so that they will be updated with the latest trends in the teaching technology.

INTRODUCTION

While COVID-19 pandemic creates a great impact on the global economy, it also force all the educational institutes like schools, colleges and universities across all countries, including Philippines to shut down. But learning and sharing of knowledge must not be compromised. Eventually, educational institutes and other organizations have found alternative ways and taking in the great significance of technology for a continuous teaching and learning. Slowly students, teachers, and administrators were able to adapt in the new educational setting. Online learning is not new but this pandemic situation makes it substitute of the face to face learning. Thus, online programs is not an option but is a necessary.

The vast change of time brought a lot of breakthroughs. In medicine, infrastructures, to people themselves, it has been evident that we vary far from our primitive times. Living in this generation became more work-easy compared to the handier and manual in labor work force before. Communication was nearly inaccessible, calls and letters overseas takes unbearable days to reach message. Diseases remain uncured and now we all have the means. For once there were humankind who lived in a world of limited information, in here we live its abundance. Technology was the major breakthrough, thus as time changes, it continued to flourish. Technology as means to alleviate quality output, to heighten accuracy of production and ease tremendous work load. Technology,

its development and widespread use has branched out its influence to a lot of fields. Apparently, technology aids education. As a proof, countries see Information and Communication Technology (ICT) as potential tools for change and innovation in education and is used widespread almost in all schools also taken up as a subject by students.

We do not know what education in the future will look like. Nevertheless, it is possible to outline scenarios and to formulate expectations. From previously conducted scenario-studies, politics appear to have deduced a sort of idealized image of future education in which ICT is integrated completely. An image in which, for example, ICT is used for communication between students and teachers, in which internet, laptops and simulations are being used and (consequently) in which a variety of learning environments are possible. Teacher-centered and whole-class instruction is no longer the dominant teaching method. Other essential points are the booms in the field of ICT and the large availability of information. As a result, there will be less time for passing on information in education (Jager et al., 1999).

On a study conducted by Ghavifekr et.al, 2015, on Teaching and Learning with ICT Tools: Issues and Challenges from Teachers' Perceptions it suggests that the key issues and challenges found to be significant in using ICT tools by teachers were: limited accessibility and network connection, limited technical support, lack

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of effective training, limited time and lack of teachers' competency.

All teachers are obliged to use ICTs in teaching and learning in the networked, knowledge-based society regardless of their geographical location, age, gender and socio-economic background. The nature of the 21st century learners demands that teachers integrate ICTs into pedagogic activities in order to prepare them for 21st century citizenry and the future workforce. The behavioristic, constructivist and connectivist learning theories and the network society theoretical framework provide space for embedding ICTs for teaching and learning. A thorough study of the three paradigms revealed that no learning theory is better than the others in terms of including ICTs for teaching and learning. The reviewed literature endorses the use of ICTs in education by various nations of the world to the benefit of both teachers and learners. The effective and creative implementation of ICTs creates better opportunities for teaching which are deemed important in this new era. In spite of the positive side associated with ICT integration in teaching and learning, literature documents conditions that hinder full utilization of ICTs by teachers.

When it is true that ICT aids teaching and learning, it will be difficult to achieve it ideally when the teachers we expect to have it implemented, can't or are not capable of using ICT in class.

The Philippine government has shown its serious commitment to ICT in education. Its initiatives to apply ICT in teaching and learning were aligned to the Millennium Development Goals and the Education For All movements. As one of the evidences, as of December year 2016, Department of Education delivered a total of 53,785 DCP packages have been delivered—46,440 of which were delivered to elementary school recipients and 7,345 to secondary school recipients. Deped Computerization Program (DCP) raises the Information Communication Technology (ICT) literacy of learners, teachers, and school heads by integrating ICT in the school system, and by providing computer laboratory packages to secondary schools and e-Classroom to elementary schools nationwide through this program. Under the DCP, schools receive information technology (IT) equipment such as host personal computers, terminals, laptops, projectors, uninterruptible power supplies, automatic voltage regulators (AVR), and other network accessories. Training on simple trouble shooting is also given to the beneficiaries.

As such, we cannot deny the fact that even though all supplies and equipment are given, not all students especially teachers know how to use such. In the study of Dickerson, L., & Pritchard, W (1981), found that only 39% of the 3, 800 teachers surveyed agreed that their own teacher training had adequately prepared them to use computers in instruction. This goes to show that not all teachers are knowledgeable with computers. Knowledge to ICT always has indicating factors, and in a school, teachers are classified in age brackets and their years of

teaching experience. It is observed especially in a public school setting that not all students could use a unit of a computer in the ICT room, as well as teachers still stick to their traditional approach of using manila papers and series of lecture and discussion method which is far away from the goal of the department.

With the arising demand of competence in ICT and the goal to make learning more convenient, interesting and globally-competent, this led the researchers to conduct a study on the knowledge on ICT applications among teachers. This study is believed to determine if teachers who graduated from center of excellence institution are familiar or even use applications and the functions it has. These applications are commonly used for teaching and commonly found on Microsoft Software. This study aimed to determine the knowledge on ICT applications among teachers who graduated from Center of Excellence institution.

This study aimed to determine the knowledge on ICT applications among teachers who graduated from center of excellence institution. Specifically, this study sought answers to the following questions:

1. What is the profile of the respondents in terms of the teaching position?

2. What function do teachers find most and least difficult on the following applications:
   a. word processing;
   b. internet;
   c. file navigation;
   d. e-mail;
   e. presentations;
   f. spreadsheets; and
   g. data bases?

3. What is the ICT application teachers are least and most knowledgeable of?

METHODOLOGY

The study made use of the descriptive survey form of research data used gathered, tabulated and analyzed to answer the problems of the study. According to Anyog 2009, the descriptive method of research is good in gathering evidence related to current or present conditions concerning the nature of a group of persons, number of objects, or a class of events.

The researchers made use of the purposive random sampling. Respondents with 10 years and more teaching experience were selected randomly from different locations regardless of gender and age in which the respondents use ICT for classroom. Thirty two (32) respondents- (14 Child Development Teachers, 14 Teacher III, 3 Master Teacher I and 1 Instructor III) where participants of the study.

This study used the checklist questionnaire as data gathering instrument adopted from Teacher ICT Skills: Evaluation of the Information and Communication Technology Knowledge and Skill Levels of Western Australian Government School Teacher (https://drive.google.com/open?id=1RrZ1ags_WMa5faGWVs8kMz5J8WaypZUI).

The questionnaire is divided into seven categories and each category has different functions where one can perform.

Frequency count and percentage were used to describe the respondents of the study and the breakdown of respondent's knowledge on a function per application, knowledge of respondents per ICT application, mean was used to determine the over-all knowledge of respondents per application. Obtained by summation of percentage divided by, mode was used to identify the ICT application teachers' over-all least and most knowledgeable ICT application.

RESULTS AND DISCUSSION

Most respondents are knowledgeable on creating a new document, print, and opening a new document having a percentage of 97% or 1 out of 32 respondents is not knowledgeable among the three functions said. While using mail merge got the lowest frequency with only 15 out of 32 saying they don't know how to merge mails or incorporate letters through a data base in a word document.
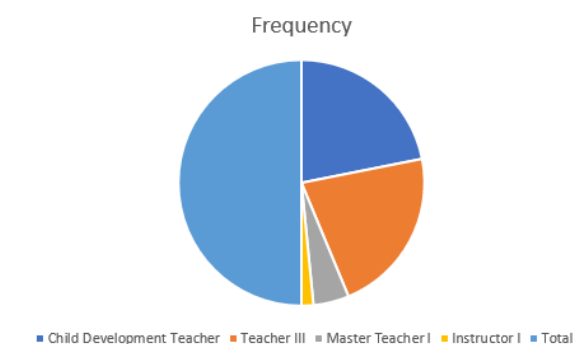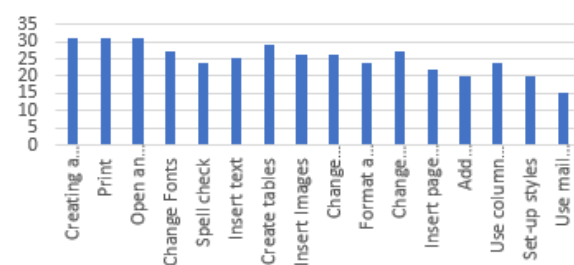

Figure 1: Profile of the Respondents

Figure 2: Knowledge of Teachers on ICT Application specifically in Word Processing.
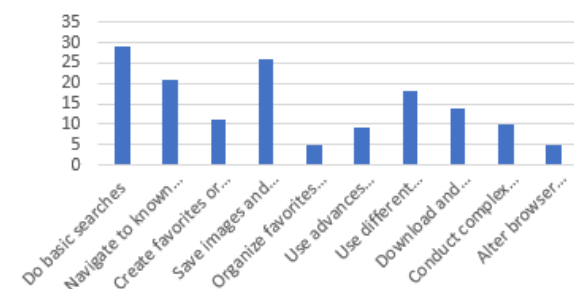

Figure 3: Knowledge of Teachers on ICT Application specifically in using Internet.

91% of the respondents are capable of doing basic searches in the internet. Saving images and text came the second function they know in the internet with 81% respondent said they are knowledgeable. Respondents are least knowledgeable in altering browser preferences and organizing favorites and bookmarks with only five respondents who said they know how 31 out of 32
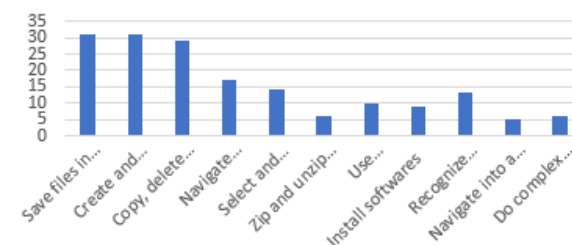

Figure 4: Knowledge of Teachers on ICT Application specifically on File Navigation.

respondents are knowledgeable in saving files and in creating and naming of new folders having the most knowledgeable function on file navigation. While 27 respondents said that they do not know how to navigate into a network. 28 respondents also said that they are knowledgeable in doing complex searches for files and in zipping and unzipping of files.
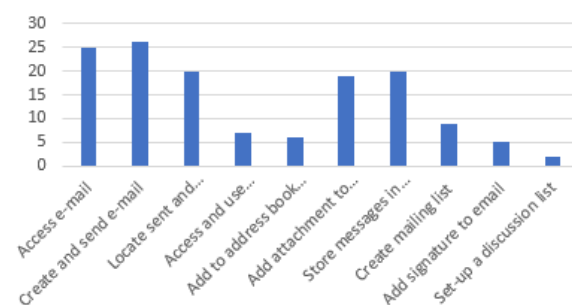

Figure 5: Knowledge of Teachers on ICT Application specifically on E-mailing.

On e-mailing, respondents' most knowledgeable skill is creating and sending e-mail with 26 as frequency followed by accessing e-mail account as 78% of the respondents say know how to. The least skill they know was setting up a discussion list with 30 of the respondents said they don't know how.
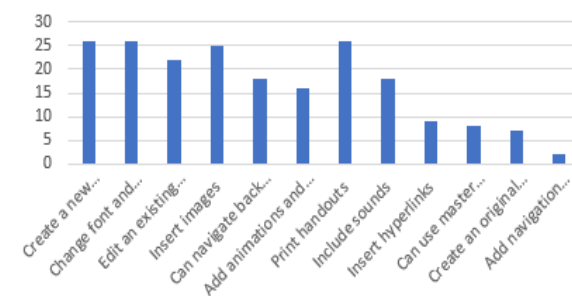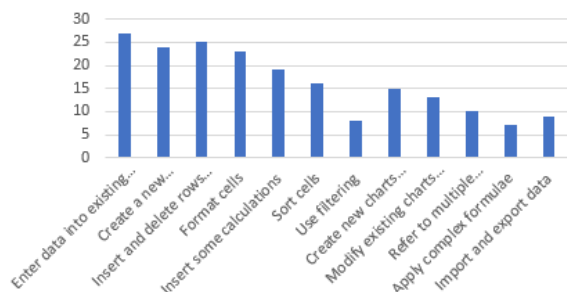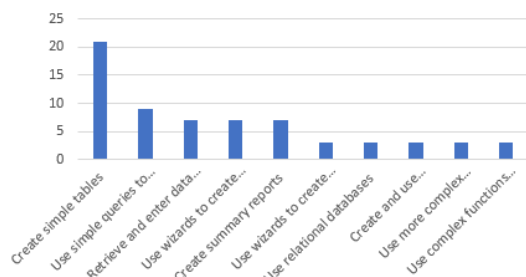

Figure 6: Knowledge of Teachers on ICT Application on Making a Presentation.

Majority of the respondents at 26 out of 32 has knowledge on creating a new slide, changing font and layout and printing handouts. Adding navigation button had the least frequency with only 2 followed by creating original master with only 7 respondents knowledgeable about it and using master slide function with only 25% of the respondents who has knowledge on it.

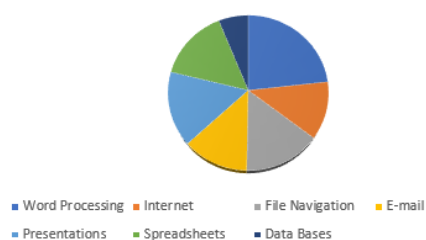**Figure 7:** Knowledge of Teachers on ICT Application on Spreadsheet

Most of the respondents know how to enter data on an existing spreadsheet as 27 respondents have confirmed. Applying complex formulae (with 25 respondents), using data filter (24 respondents) and importing and exporting of data were the skills/functions the respondents are non-knowledgeable of.

Figure 8: Knowledge of Teachers on ICT Application on Databases.

21 out of 32 respondents affirmed to know about creating simple tables for database. While using wizards to create forms, sub-forms or portals, using relational databases, creating and using parameter queries were the least to be known by the respondents having 9% or 3 out of 32 in frequency.

It shows on the chart that respondents are most knowledgeable on word processing as it accumulated 79% mean percentage. This implies that respondents are able to perform the functions of the application and know

Figure 9: Summary of the Knowledge of the Respondents on ICT Application.

how it is manipulated. While data bases show the least knowledgeable application is on Data Bases with only 21% mean percentage. This has obtained lowest because as implied, it isn't much necessary on teaching or rather complicate to manipulate. It showed similarity on the same study undertaken by West Australia Government that Word Processing has the highest usage rate of 98% while also same as the least used is on databases with usage rate of 30%.

CONCLUSION

The result shows that graduates from the Center of Excellence who are ten (10) years in service are least knowledgeable in application on Data Bases and most knowledgeable in Word Processing, this is due to the fast changing flow of technology and the course offerings before are no longer in use as of today. In relation to this result, these technologies require technical knowledge hence, the higher the level of knowledge on ICT, the higher its level of use in education.

Moreover, teachers were unable to utilize and maximize the opportunities of ICT resources. It also shows that they are comfortable with the traditional way of teaching methods and materials therefore are not ready with the required ICT competencies in the new normal.

RECOMMENDATIONS

This study will give an impact that the Center of Excellence institutions should continuously serve the teachers in the field so that they will be updated with the latest trends in the teaching technology. Therefore, teachers especially for those with more teaching experience in the field need to be identified and provided with specially designed training programs, in various forms of ICT trainings and workshops. This will meet their specific needs and help them develop technological and pedagogical knowledge to equip and enable them navigate these software in their teaching with ease.

Furthermore, suggestions for further research are highly encouraged. Research activities that could examine the impact of other possible variables such as teachers' actual experiences, attitudes and cultural effect in ICT.

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