

Competency in Computer Systems Servicing of Teachers in one Town in Northern Luzon: A Needs Assessment and Analysis

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Abstract - The Department of Education embrace technology as the kto12 implementation arrived. The agency also devised a computerization program for all public schools as part of the program. The purpose of this needs assessment is in order to determine the level of competency of primary and secondary school teachers in Lingayen, Pangasinan as a basis for an extension program. Advanced training in installing computer systems and networks, diagnose and troubleshoot computer system, configure computer systems and networks and maintain computer systems and networks which are the four core competency of TESDA's NC2 Computer Systems Servicing Course will be an extension program if there is a need for training. Based on the result of the study, the majority of the ICT coordinator of the primary and secondary schools are competent and expert in the field of Computer Systems Servicing, because high school ICT coordinators are the holder of National Certificate Level 2 in the field of computer systems servicing. Initially this study is a basis of a proposed training program, but due to the positive result, this paper also investigate the contribution of TESDA in the Department of Education. It is concluded that teachers holding computer laboratory are able to sustain the need if the problems arise. It is recommended that no training needed for the teachers.

Keywords – computer systems servicing

INTRODUCTION

Due to Kto12 Implementation, the national government devised a DepEd computerization program for primary and secondary public schools [3]. In line with this, teachers must not only know how to operate a computer for their class instructions but also they need to have enough knowledge and skills in computer systems servicing. In this way, the program will be maximized. And if a problem arises in the computer part, the teacher can attend to it immediately without calling the help of a third-party computer technician. Needs assessment is necessary in order to determine the level of competency of the teachers. A proposed training in installing computer systems and networks, diagnose and troubleshoot computer system, configure computer systems and networks and maintain computer systems and networks which are the four core competency of TESDA's NC2 Computer Systems Servicing

Course [1] will be an extension program if there is a need for training because a sustainable laboratory has an impact in teaching and learning [4],[5].

Most of the non-ICT teachers do not have knowledge in computer systems servicing, and there is a need to be appropriately managed, maximized its utilization, lessen its downtime, and able to fulfill the government thrust in providing maximized student access to Information and Communications Technology resources. In some areas of Luzon, there are Computer and Internet Literacy Project in Public High Schools that is proven as a useful project to help the teachers improved there knowledge in educational technology [6].

Statement of the Problem

This study will answer the following problems (1) What is the level of Competency of the Teachers in terms of (a) Install computer

systems and networks (b) Diagnose and troubleshoot computer systems (c) Configure computer systems and networks (d) Maintain computer systems and networks (2) What are the computer problems encountered by the teachers? (3) What training do the teachers need-based on the competency assessment? (4) The impact of TESDA National Certificate in Philippine Educational System.

The significance of the Study

The significance of this study will be the basis for an extension program. The expected outcomes of the proposed extension program if proven that there is a need is to produce a skilled DepEd teacher who is capable of managing the computer laboratory efficiently, and TESDA NC2 Computer Systems Servicing certified professional. The Specific outcomes of the proposed extension program if proven there is a need is to enable the participant to (1) Install computer systems and networks; (2) Diagnose and troubleshoot computer system; (3) Configure computer systems and networks; (4) Maintain computer systems and networks; (5) Pass the Computer Systems Servicing Pre-Assessment; (6) Passed the Computer Systems Servicing NC II Certification.

METHODOLOGY

In conducting this study, a survey questionnaire was used. A number of teachers was gathered from the SDO 1. All computer laboratory or ICT Coordinator in Elementary and Junior High Schools among the schools in Lingayen, Pangasinan was the respondents. There are 33 elementary schools and 6 high schools in the whole town. Not all are included in the respondents because some elementary schools don't have ICT coordinator due to the absence of the computer laboratory. A total of 29 respondents participated in the study. Participants are requested to complete the survey within 1 day period from the date of the issuance, in some cases, the interview will be used as a data gathering methods.

The analysis is one way of getting the information's organized. After the entire survey questionnaire have been collected, the researcher uses a spreadsheet to analyze the data. This includes the scaling system and ranking the competency [2] outcomes in order to determine the needed requirements, which is used by the researcher as a technique to monitor the respondent's interpretation.

Table 1. Scale and Equivalent Used

Scale	Equivalent	Mean Scale
1	Fundamental Awareness (basic knowledge)	1.00 – 1.50
2	Novice (limited experience)	1.51 – 2.50
3	Intermediate (practical application)	2.51 – 3.50
4	Advanced (applied theory)	3.51 – 4.50
5	Expert (recognized authority)	4.51 – 5.00

The competencies were adopted from the Training Regulation of Computer Systems Servicing, which will be used as a questionnaire to determine the level of competency of the respondents.

RESULTS

The respondents include 29 ICT Coordinators in both elementary and secondary

schools of Lingayen Pangasinan from a total of 39 elementary and secondary schools. Only 29 out of 39 teachers participated in the study due to some schools has no ICT laboratory. Profiling was not included in the result of the study to maintain the confidentiality of the respondents.

Competency Level of Teachers

Table 2. Summary of Competency

Competencies	Outcomes	1	%	2	%	3	%	4	%	5	%	AWM
Install and configure computer systems	Assemble computer hardware	0	0.0%	1	3.4%	3	10.3%	6	20.7%	19	65.5%	4.48
	Install operating system and drivers for peripherals/ devices.	0	0.0%	5	17.2%	3	10.3%	4	13.8%	17	58.6%	4.14
	Install the computer application software	0	0.0%	0	0.0%	4	13.8%	2	6.9%	23	79.3%	4.66
	Conduct testing and documentation	0	0.0%	0	0.0%	3	10.3%	5	17.2%	21	72.4%	4.62
Set-up computer networks	Install network cables	0	0.0%	0	0.0%	4	13.8%	10	34.5%	15	51.7%	4.38
	Set network configuration	0	0.0%	0	0.0%	1	3.4%	9	31.0%	19	65.5%	4.62
	Set router/Wi-Fi/ wireless access point/repeater configuration	0	0.0%	3	10.3%	5	17.2%	9	31.0%	12	41.4%	4.03
	Inspect and test the configured computer networks	0	0.0%	1	3.4%	5	17.2%	9	31.0%	14	48.3%	4.24
Set-up Computer Servers	Set-up user access	0	0.0%	3	10.3%	3	10.3%	9	31.0%	14	48.3%	4.17
	Configure network services	0	0.0%	3	10.3%	2	6.9%	8	27.6%	16	55.2%	4.28
	Perform testing, documentation and pre-deployment practices	0	0.0%	2	6.9%	5	17.2%	4	13.8%	18	62.1%	4.31
Maintain and repair computer systems and networks	Plan and prepare for maintenance and repair	0	0.0%	2	6.9%	4	13.8%	6	20.7%	17	58.6%	4.31
	Maintain computer systems and networks	1	3.4%	4	13.8%	2	6.9%	7	24.1%	15	51.7%	4.07
	Diagnose faults of computer systems	2	6.9%	5	17.2%	3	10.3%	5	17.2%	14	48.3%	3.83
	Rectify/correct defects in computer systems	1	3.4%	5	17.2%	4	13.8%	3	10.3%	16	55.2%	3.97
	Inspect and test the computer systems and networks	1	3.4%	1	3.4%	5	17.2%	9	31.0%	13	44.8%	4.10

Based on the result of the study, most of the respondents are highly competent in Computer Systems Servicing, because most of the high school teachers who handle the laboratory have passed the National Certificate

in Computer Hardware Servicing and Computer Systems Servicing. Most of the respondents are experts in Conducting testing and documentation, Setting network configuration and most of all, Installation of the computer application software.

Table 3. Top 5 Least Competencies

Outcomes	AWM	Equivalent	Rank
Diagnose faults of computer systems	3.83	Advanced	1
Rectify/correct defects in computer systems	3.97	Advanced	2
Set router/Wi-Fi/ wireless access point/repeater configuration	4.03	Advanced	3
Maintain computer systems and networks	4.07	Advanced	4
Inspect and test the computer systems and networks	4.10	Advanced	5
Install operating system and drivers for peripherals/ devices.	4.14	Advanced	6
Set-up user access	4.17	Advanced	7
Inspect and test the configured computer networks	4.24	Advanced	8
Configure network services	4.28	Advanced	9
Perform testing, documentation and pre-deployment practices	4.31	Advanced	10
Plan and prepare for maintenance and repair	4.31	Advanced	11
Install network cables	4.38	Advanced	12
Assemble computer hardware	4.48	Advanced	13
Conduct testing and documentation	4.62	Expert	14
Set network configuration	4.62	Expert	15
Install the computer application software	4.66	Expert	16

Based on the result of the survey, the 5 least competent are Diagnose faults of computer systems, Rectify/correct defects in computer systems, Set router/Wi-Fi/ wireless access point/repeater configuration, Maintain computer systems and networks and Inspect and test the computer systems and networks. Thought it is not a significant problem because the respondents still considered an Expert in the competency outcomes.

Most common problems encountered

Majority of the respondents encountered a problem in software maintenance, such as virus and other software problems due to sneakernet, or a process of transferring files using a transmission media such as flash drives. Another concern of the respondents is the connectivity issue that causes a delay in productivity.

Initially, the purpose of this study is to determine the needs of the teachers as a basis for a training and extension program of the Pangasinan State University. While, within the result of the study, training is not necessary.

CONCLUSION AND RECOMMENDATION

It is concluded that majority of the respondents are highly competent and expert in the field of managing computer systems problems. While there are five identified as a least competent area, teachers are still considered having Advanced knowledge in such competencies. It is concluded that training is not needed. While the outcome of this study is positive, it is recommended that it should be conducted in other areas of Pangasinan, where the result can be widened and to determine if there is a need to conduct training in another town.

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