Level of Computer Usage and Literacy in Computer in Computer – Based Technology Tools in the 21st Centuries Social Studies Teachers and Students

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Abstract— This study determined the frequency of utilization and the level of literacy of computer-based technology in teaching and learning of Social Studies teachers and students of selected High Schools of Zone II, Division of Zambales. The instrument was based from the questionnaires developed by Fontelera (2013). Based on the findings, the researcher concluded that the Social Studies teacher-respondent is female, in her early adulthood, quite new in the teaching profession and identified that projector was the most commonly used gadget while the student – respondent is male, adolescent, and identified projector as the most commonly used gadget at school. In the light of the foregoing findings and conclusions of the study, it is recommended to take opportunities to improve and enhance skills and knowledge of Microsoft Word, explore Microsoft Excel with the supervisor of expert to further skill and seek guidance and direction from expert in the utilization of Microsoft PowerPoint, orient teachers on the importance of maintain an active Internet Application keep and sustain correspondence by sending documents through e-mail; and uploading a document; be guided by expert in Projector; establish linkage to IT expert and IT College that can provided computer- and web-based technology trainings; request funding to local government and non-government organizations to be utilized for the school's Faculty Computer-Based Technology training and acquisition of ICT tools, license applications and maintenance.

Key Words - Computer Usage, Literacy, Computer- Based Technology, 21st Centuries and Teaching and Learning Process

1 Introduction

The processes of integrating technology into classroom work has emerged as a significant focus of study in educational research. Interest in this trend has been motivated by the growing number of technology projects implemented in schools. Many countries recognize the increasing role of technology in children's lives. They emphasize the development of technology-integrated curricula that are developmentally appropriate for young children and that help to bridge young children's digital experiences at home and in school [1]. Because of the rapid development of technologies, they have changed children's lives and ways of learning, particularly in the past ten years [2]. Researchers have urged a rethinking of the roles of technology in young children's development and consequently the development of learning theories and curricula that meet the needs of contemporary children [3].

Today, information and communications technologies (ICTs) infiltrate classrooms around the world at an exceedingly rapid pace. As society and technology change, so does literacy. Because technology has increased the intensity and complexity of literate environments, the 21st century demands that literate person possess a wide range of abilities and competencies. The term 21st century skills, literacy is generally used to refer to certain core competencies such as collaboration, digital literacy, critical thinking, and problem – solving that advocates believe schools need to teach to help students thrive in today's world. [4] Possessing a competence means that one not only possesses the component resources, but is also able to mobilize such resources properly and to orchestrate them, at an appropriate time, in a complex situation. The application of ICT in the school subjects is to make learners learn better and teacher to teach well, it is not a hindrance to teacher–student (pupils) relationship was observed [5]. It rather ensures transactional instructional communication where the teacher manages the human materials, time and space to make sure that instructional events.

The use of information and communication technology as a tool for enhancing students' learning, teachers' instruction, and as catalyst for improving access to quality education in formal and non-formal settings has become a necessity. This research was conducted to recognize the importance of new technologies improving the content of Social Studies lessons. Hence, teachers and students' level of competence and literacy in the use of web-based technology is vital. The researcher believed that any teacher who has the interest of his students at heart is bound to think of the ways and means he will employ to make his teaching and learning process effective and interesting to the students. Teaching at any level requires that the students be exposed to some form of stimulation such as the use of instructional resources and the most advanced materials for teaching s particular discipline.

It is envisaged that educators will see utilization of technology in education as a major teaching and learning device across all educational institution. With its power of interactivity, multimedia and communication, the computer and web based technology proves an excellent tool for Social Studies education.

2 METHODOLOGY

2.1Research Design

This study employed a descriptive research method with the survey questionnaire as the research instrument. The term descriptive research [6] includes the collection of data to test the hypothesis and to answer the questions concerning the present status of the study. [7] Descriptive method is a study that can obtain facts about existing conditions or detect significant relationship between current phenomena. [8] It also provides essential knowledge for the measurement of all types of measureable research. This method is describing what is involved, the description of recording, analysis and interpretation of condition that exist.

The present research study described the frequency of utilization of computer-based technology and the level of literacies in computer-based technology of Social Studies Teachers and students. The study included proper analyses, interpretation, comparisons of data and identification of trends.

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2.2 Respondents and Location

The respondents of the study were the Social Studies Teachers and students of National Secondary Schools at Zone II, Division of Zambales. A total population of forty-three (43) teachers and two hundred fifty-two (252) students or a total of two hundred ninety-five (295) respondents.

The study was conducted at Public National High Schools of Zone 2, DepEd, Division of Zambales which include Amungan National High School of Brgy. Amungan, Iba with 8 teachers and 39 students; Botolan National High School of Brgy. Batonlapoc, Botolan with 11 teachers and 61 students; Jesus F. Magsaysay High School of Brgy. Bangantalinga, Iba with 4 teachers and 34 students; Zambales National High School of Iba with 13 teachers and 88 students; and Rofulo Landa National High School with 7 teachers and 30 students.

National High Schools in Zone 2 in which the study was conducted are located in Botolan District and Iba District. Botolan National High School, Brgy. Batonlapoc is part of Botolan District. Iba District include Zambales National High School, Iba; Amungan National High School, Brgy. Amungan; and Jesus F. Magsaysay High School, Brgy. Bangantalinga. Palauig District include Rofulo Landa National High School in Brgy Salaza, Palauig.

2.3 Instruments

The main instrument which was used in gathering the data for the study was a survey questionnaire. Questionnaires provide a convenient way of gathering information from a target population. In this research study, the questionnaire is researcher-made. The items and indicators of the instrument were based from the questionnaires developed by Fontelera [9], Computer Literacy Levels [10], Use of ICT in Teaching in Secondary Schools and [11] ICT Competencies among Students in Teacher Preparation Programmes.

First part of the questionnaire focused on determining the profile of the teacher and student respondents of Zone 2, DepEd Division of Zambales. The second part ascertained the level of utilization of web-based technology in three aspects such as Computer Application Software, Internet Application and Projector. This part had a total of 50 items. Teachers and students were asked to answer on a Likert scale ranging from 5 (Always) to 1 (Never). The last part determined the level of computer literacies in web-based technology. This part used a Likert scale ranging from 5 (Excellent) to 1 (Poor).

To further ensure the validity and reliability of the research instrument, it was subject for pilot testing. The pilot test was conducted among the Social Studies Teachers of Cabangan National High School, Sta Rita, Cabangan, Zambales.

2.3 Data Collection

The first step which was undertaken by the researcher in data gathering was seeking the permission and approval from the Schools Division Superintendent, Dr. Zenia G. Mostoles through letters signed by the researcher to administer the survey questionnaire to the teacher and students - respondents in Public Secondary Schools, Zone 2, Division of Zambales.

After securing the endorsement letter, the researcher also sought the permission and assistance from the Principals of Zone 2 to administer the survey questionnaire. The researcher personally administered the instrument to the teachers and students on the second week of November, 2017 and retrieved after a week. The objectives of the study were explained to the respondents and their responses were treated confidential.

3 RESULTS AND DISCUSSIONS

Table 1 shows the summary on the perception of the teacher and student -respondents on the Frequency of Utilization of the Computer-Based Technology.

For the result on the teacher-respondents, Microsoft Word gained an overall weighted mean (OWM) of 4.48. The computed grand mean of the utilization of the Computer-Based Technology was 4.28 with descriptive equivalent of Always.

For the result on the student-respondents, Internet Application gained an overall weighted mean (OWM) of 3.67. The computed grand mean of the utilization of the Computer-Based Technology was 3.44 with descriptive equivalent of Often.

The finding is consistent with the result on the level of literacy of teachers in Microsoft Word indicating that teachers are excellent in typing and editing text and saving a document/file. Moreover, present result supports [10] report that

the teacher-participants from time to time use word processing to prepare tools and techniques for students' evaluation; build question banks, prepare tests, evaluate scripts (answer-sheets); Yusuf & Balogun [12] report that 50 percent are fully are regular and confident user of Microsoft Word applications/operations open a new document in word and save it, and use simple editing (e.g. bold, italics, centering, font size, etc.); and they can and always print to various networked printers [13].

The students assessed they often utilized saving a document/file, correcting a spelling and grammar and typing and editing text in Social Studies classroom. Further, there have been many instances that the students are given opportunities to work on their tasks and other requirements in Social Studies in which the abovementioned Microsoft features and applications are often utilized/applied by the respondents. Moreover, the result can be attributed on finding in Table 1 regarding level of literacy of students in Microsoft Word, indicating that they do well in typing and editing text and saving a document/file, hence frequently utilized. The frequency of Microsoft Word use of European students on computers in school varies widely and that this is, naturally, related to the amount of computers in the school [14]. Yusuf & Balogun's [12] student-respondents frequently can save a document in various file formats including HTML and I can save text and images from web pages.

Table 1: Summary on the Perception of the Respondents on the Frequency of Utilization of the Computer-Based Technology

	Computer-Based Technology	TEACHER			STUDENT		
		WM	DE	Rank	WM	DE	Rank
1.	**Microsoft Word**	4.48	Always	1	3.51	Often	2
2.	**Microsoft Excel**	4.19	Often	4	3.24	Sometimes	4.5
3.	**Microsoft PowerPoint**	4.30	Always	2.5	3.46	Often	3
4.	**Internet Application**	4.30	Always	2.5	3.67	Often	1
5.	**Projector**	4.13	Often	5	3.31	Sometimes	4.5
	Grand Mean	4.28	**Always**		**3.44**	**Often**	

Table 2 shows the summary of perception of the teacher and student -respondents on the Level of Computer Literacies of the Computer-Based Technology.

For the result on the teacher-respondents, Microsoft Word gained an overall weighted mean (OWM) of 4.46 (Excellent, rank 1). The computed grand mean of the Level of Computer Literacies on Computer-Based Technology was 4.31 with descriptive equivalent of Excellent.

For the result on the student-respondents, Internet Application gained an overall weighted mean (OWM) of 3.75 (Very Good, rank 1). The computed grand mean of the Level of Computer Literacies on Computer-Based Technology was 3.5 with descriptive equivalent of Very Good.

The Social Studies teachers assessed they always utilized the saving of back-up copy of worksheet feature of Microsoft Excel. This result signifies that the teachers always practice saving their excel files most especially files that contain pertinent information/records of their students (e.g., quarter grades, demographic profile, attendance record, etc.) and also their own personal files/records.

Moreover, the teachers also perceived always utilizing the Microsoft Excel features of inserting a blank cell/row/column and creating/inserting a new worksheet. This result can be attributed from the finding in Table 11 (Teachers' Perception of Level of Literacy) indicating that they are outstanding primarily in creating and inserting a new worksheet and inserting a blank cell, row and column. Hence, these features are always utilized. Moreover, the teacher participants use Microsoft Excel to store standardized test results, grades, and monitor student progress [15]; record keeping, students' attendance, assignments, grades, profiles [15]; and the use spreadsheet package very well and to spreadsheet to make predictions [12].

This result signifies that there are many instances of its usage in facilitating AP lessons. The result can be due to their perception (Table 2) that they are very good in creating and inserting a new worksheet, hence often utilized. Further, the participants use computer applications like spreadsheets, worksheets, charts and publisher software for preparation of report/assignment/presentation [15]. Students are very critical, notably in features the research would hope to be utilized more, such as spreadsheets or use of the internet to look up information[10].

Table 2: Summary of Perception of the Respondents on the Level of Computer Literacies of the Computer-Based Technology

Computer-Based Technology	TEACHER			STUDENT		
	OWM	DE	Rank	OWM	DE	Rank
1. Microsoft Word	4.46	Excellent	1	3.60	Very Good	2
2. Microsoft Excel	4.22	Excellent	4	3.33	Good	4.5
3. Microsoft PowerPoint	4.45	Excellent	2	3.53	Very Good	3
4. Internet Application	4.36	Excellent	3	3.75	Very Good	1
5. Projector	4.08	Very Good	5	3.33	Good	4.5
Grand Mean	**4.31**	**Excellent**		**3.5**	**Very Good**	

Table 3 shows the Analysis of Variance result on the frequency of utilization of computer-based technology such as Microsoft word, Microsoft excel, Microsoft PowerPoint, Internet Application, and Projector when grouped according to Profile Variables.

Results revealed that whether the teachers vary as regard to sex, position, and length of service, there exist similarity of perception on the frequency of utilization of Computer-Application Software-Microsoft Word when used to facilitate lessons in Social Studies. However, the significant value for age (0.05) was equal to (0.05) alpha level of significance. Therefore, the null hypothesis is rejected. There is highly significant difference of perception on the frequency of utilization of Microsoft Word by the Social Studies teachers when attributed to age. The teachers who belong to different age groups manifest differences of perception and knowledge on the frequency of utilization of Microsoft Word in Social Studies instruction. The increased familiarity with Microsoft Applications like Word by teachers to turn their interest in the pedagogical use of technology (rather than its operational issues) was significantly associated to teacher's age [15]. On other hand, the usage competence of computers and its applications significantly differ among teachers who also differ as to age, experiences and orientations and change processes do not occur rapidly and were not easily achieved [16].

For the result on Internet Application, the significant values for age (0.34) was higher than (0.05) alpha level of significance. Therefore, there is no significant difference on the perception on the frequency of utilization of Internet Application when attributed to profiles age. Results revealed that whether the teachers belong to different age brackets there exist similarity of perception on the frequency of utilization of Internet Application when used to facilitate lessons in Social Studies. However, the significant value for length of service (0.00), sex (0.04), position (0.01) and were lower than (0.01) and (0.05) alpha level of significance. Therefore, there is highly significant difference of perception on the frequency of utilization of Internet Application by the Social Studies teachers when attributed to length of service and a significant difference of perception as to sex and position. Results revealed that the teachers who vary as regard to length of service, sex and academic position, there exist difference of perceptions on the frequency of utilization of Internet Application when used to facilitate lessons in Social Studies. Teachers differ in their age and gender, both of which are essential factors behind Internet Application use [17]. It has found that the systematic improvement of the necessary competences in ICT like usage of Internet Application and other computer software was found to have statistical significant difference as to teachers' position at school and the rendered service [18]. On the other hand, the need to facilitate the direct use of ICT in students' learning activities within the classroom situation vary significantly when attributed to educators' sex, other designation at school and educational qualification [12].

On the other hand, the results on Microsoft Excel, Microsoft PowerPoint, and Projector were all not significant difference when attributed to age, sex, position, and length of service profile. Results revealed that whether the teachers vary as regard to profile variables, there exist similarity of perception on the frequency of utilization of Projector when used to facilitate lessons in Social Studies.

On the student's profile, it revealed that on Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Internet Application, and Projector were all not significant as to sex while there is highly significant difference as to age. Students differ in their beliefs on the impact of technology like internet applications in tier social development [19]; while Yusuf & Balogun [12] found that students age was determined variable on the unlike understanding and inconsistent usage of ICT application like internet usage.

Table 3: Difference on the Frequency of Utilization of Computer – Based Technolog when grouped according to Profile Variables

Source of Variation				Microsoft Word		Microsoft Excel		Microsoft Point		Power-		Internet tion	Applica-	Projector	
			df	F	Sig.	F	Sig.	F	Sig.			F	Sig.	F	Sig.
Teacher	Age	Between Groups	5	2.43	**0.05**	1.14	**0.36**	1.24	**0.31**			1.18	**0.34**	2.11	**0.09**
		Within Groups	37												
		Total	42												
	Sex	Between Groups	1	2.63	**0.11**	0.00	**0.95**	4.67	**0.06**			4.62	**0.04**	0.02	**0.88**
		Within Groups	41												
		Total	42												
	Position	Between Groups	3	0.57	**0.64**	0.99	**0.41**	2.55	**0.07**			4.02	**0.01**	0.85	**0.48**
		Within Groups	39												
		Total	42												
	Length of Service	Between Groups	5	1.58	**0.19**	2.07	**0.09**	2.14	**0.08**			7.61	**0.00**	2.10	**0.09**
		Within Groups	37												
		Total	42												
Student	Age	Between Groups	2	31.02	**0.00**	38.91	**0.00**	26.22	**0.00**			19.67	**0.00**	33.47	**0.00**
		Within Groups	249												
		Total	251												
	Sex	Between Groups	1	0.23	**0.63**	0.03	**0.86**	0.01	**0.93**			1.80	**0.18**	0.04	**0.84**
		Within Groups	250												
		Total	251												

***=Highly significant at the 0.01 alpha level of significance, Ho is rejected.*
**=Significant at 0.05 alpha level of significance, Ho is rejected.*

Table 4 shows the Analysis of Variance result on the level of literacy in computer-based technology such as Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Internet Application and Projector when grouped according to Profile Variables.

For the result on Microsoft Word, Microsoft PowerPoint, and Internet Application, both age and sex were not significant difference on the teacher's level of technical know-how of computer application Software-Microsoft Word, Microsoft PowerPoint, and Internet Application. Results revealed that whether the teachers vary as regard to age and sex, there exist similarity of perception on the level of knowledge Microsoft Word, Microsoft PowerPoint, and Internet Application when used to facilitate lessons in Social Studies. However, the significant values for position and length of service were lower than (0.05) alpha level of significance, therefore, there is a significant difference of the level of literacy in the use of Microsoft Word, Microsoft PowerPoint, and Internet Application by the Social Studies teachers when attributed to position and length of service. The teachers who vary as regard to their academic position and length of service manifest differences on the level of knowledge and skills in the use of Microsoft Word, Microsoft PowerPoint, and Internet Application in Social Studies instruction. Al Shaweesh's [20] study revealed that there was a significant difference in favor of those teachers who participated in training courses related to computer science and the extent of teachers' mastery for skills in computer. The teachers' designation and educational qualification were identified as contributing factor of teachers' performance of the common computer tasks like making presentations/slides as instructional materials [21].

For the result on Projector, only the teacher' profile as to age has a significant difference of the level of literacy in the use of Projector by the Social Studies teachers. The teachers who belong to different age groups manifest differences of perception on the level of knowledge and skills in the use of Projector in teaching Social Studies lessons. It was revealed in the study of Rampersad (2011) competence and confidence in using ICT among teachers were attributed to their exposure and experiences in using ICT, hence will bring these array of ICT skills to the classroom.

For the result on Microsoft Excel, all teacher's profile variables revealed that there is no significant difference on the perception on the level of technical know-how of computer application software- Microsoft Excel when attributed to profiles age, sex, position and length of service. Results revealed that the male and female teachers who also vary as regard to age, position and length of service, there exist similarity of perception on the level of knowledge of Microsoft Excel when

used to facilitate lessons in Social Studies.

On the student's profile, it revealed that there is a significant difference on the level of literacy in the use of Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Internet Application, and Projector by the Social Studies students as to age variable. Contrary on the result, the sex variable has no significant difference in all variables on the level of literacy in computer – based technology. Danner & Pessu [22] found a statistical significant difference in the perceived competency among students on excel and word processing according to gender and academic year/level. He also revealed and argued that there was significant difference in the perceived competency among students on presenting Power Point according to academic year and type of computer training, perceiving themselves to be most competent in ICT skills. The student's competence in ICT usage and integration vary significantly when attributed to the enlisted assistance of technically skilled, from teachers, peer tutors and teaching assistants when using technology in the classroom [23].

Table 4: Difference on the Level of Literacy in Computer – Based Technology when Grouped According Profile Variables

Source of Variation				Microsoft Word		Microsoft Excel		Microsoft Point	Power-	Internet tion	Applica-	Projector	
			df	F	Sig.	F	Sig.	F	Sig.	F	Sig.	F	Sig.
Teacher	Age	Between Groups	5	1.00	**0.43**	1.28	**0.29**	1.70	**0.16**	1.21	**0.33**	3.59	**0.01***
		Within Groups	37										
		Total	42										
	Sex	Between Groups	1	1.52	**0.22**	0.02	**0.90**	0.20	**0.66**	0.33	**0.57**	0.24	**0.63**
		Within Groups	41										
		Total	42										
	Position	Between Groups	3	2.94	**0.04***	1.95	**0.14**	4.56	**0.01***	5.02	**0.00***	2.01	**0.13**
		Within Groups	39										
		Total	42										
	Length of Service	Between Groups	5	2.65	**0.04***	2.27	**0.07**	4.04	**0.00***	3.20	**0.02***	1.37	**0.26**
		Within Groups	37										
		Total	42										
Student	Age	Between Groups	2	22.88	**0.00****	39.17	**0.00****	24.13	**0.00****	16.17	**0.00****	36.21	**0.00****
		Within Groups	249										
		Total	251										
	Sex	Between Groups	1	0.16	**0.69**	0.09	**0.76**	1.10	**0.29**	0.17	**0.68**	1.08	**0.30**
		Within Groups	250										
		Total	251										

***=Highly significant at the 0.01 alpha level of significance, Ho is rejected.*

**=Significant at 0.05 alpha level of significance, Ho is rejected.*

Table 5 shows the Pearson r to test the significant relationship between the the Frequency of Utilization and Level of Literacy in Computer-Based Technology among the Two Groups of Respondents

Based from table 5, the computer generated Pearson-r value between the Frequency of Utilization and Level of Literacy in Computer-Based Technology (Teacher) is 0.824 which denotes high relationship/correlation. The computer generated sig. value of 0.000 which is lower than 0.01 Alpha Level of Significance, therefore, the Null Hypothesis is Rejected, hence, there is highly significant difference on the variables. There is highly significant relationship between the teachers' frequency of usage of Microsoft Word, Excel and PowerPoint, Internet Application and LCD Projector at school to their knowledge and competence to the above mentioned Computer-Based Technology. [15] Teachers' computer competence is a strong determinant of use of computers by teachers. The competence of teachers in computers may be an important factor in determining use of computers [12].

On the same manner, the computer generated Pearson-r value between the Frequency of Utilization and Level of Literacy in Computer-Based Technology (Student) is 0.878 which denotes high relationship/correlation. The computer generated sig value of 0.000 which is lower than 0.01 Alpha Level of Significance, therefore, the Null Hypothesis is Rejected, hence, there is highly significant difference on the variables. There is highly significant relationship between the students' frequency of utilization and level of competency in Computer-Based Technology at school. Results revealed that

the students' frequency of usage of Microsoft Word, Excel and PowerPoint, Internet Application and LCD Projector had direct and highly significant relationship to their knowledge and competence to the above mentioned Computer-Based Technology. Danner & Pessu [11] found a significant relationship in the perceived competency among students according to the type of computer training they are exposed with. Further, with those experiences and formal training perceiving themselves to be most competent in ICT skills.

Table 5: Test of Relationship between the Frequency of Utilization and Level of Literacy in Computer-Based Technology among Respondents' Profile

Correlations			Frequency of Utilization	Level of Literacy	Interpretation/ Decision
Teacher	Frequency of Utilization	Pearson Correlation	1	0.824**	High Relationship/ Correlation Significant
		Sig. (2-tailed)		0.000	
		N	43	43	
	Level of Literacy	Pearson Correlation	0.824**	1	
		Sig. (2-tailed)	0.000		
		N	43	43	
Student	Frequency of Utilization	Pearson Correlation	1	0.878**	High Relationship/ Correlation Significant
		Sig. (2-tailed)		0.000	
		N	252	252	
	Level of Literacy	Pearson Correlation	0.878**	1	
		Sig. (2-tailed)	0.000		
		N	252	252	

***. Correlation is significant at the 0.01 level (2-tailed).*

4 CONCLUSIONS AND RECOMMENDATIONS

Based on the findings, the researcher concluded that: The Social Studies teacher-respondent is typical female, in her early adulthood, Teacher I, quite new in the teaching profession and identified projector as the most commonly used gadget at school. The student-respondent is typical male, in his adolescent stage and identified projector as the most commonly used gadget at school.

The teacher and the student - respondents perceived that Microsoft Word, Microsoft PowerPoint and Internet Application as always utilized Computer-Based Technology at school while Microsoft Excel and Projector were often utilized. There is highly significant relationship between the frequency of utilization and level of competency in Computer-Based Technology at school of teachers and of students.

In the light of the foregoing findings and conclusions of the study, the following recommendations were advanced: Take opportunities and occasions to improve and enhance skills and knowledge of Microsoft Word features. Explore Microsoft Excel with the supervisor of expert to further skill and knowledge. Seek guidance and direction from expert in the utilization of Microsoft PowerPoint. Orient teachers on the importance of maintain an active Internet Application such as e-mail account. Teachers have to be guided by expert in Projector manipulation and operation. Conduct training and workshop aimed to be familiar with the technical aspects of Projector and its operation and upkeep to maximize its usefulness and benefits in classroom instruction. Establish linkage to IT expert group/organization or extension service of an IT College that can provided computer- and web-based technology trainings for public secondary school. Request funding to local government and non-government organizations to be utilized for the school's Faculty Computer-Based Technology training and acquisition of ICT tools, license applications and maintenance. Conduct follow up study that would include a wider scope (e.g., High Schools in other Zones in the Division of Zambales). Conduct a follow up study that would focus on the effect or impact of literacy in computer-based technology to teachers' work performance and students' academic performance.

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