SOCIO-DEMOGRAPHIC PROFILE, ATTITUDE TOWARD ICT, COMPUTER SELF-EFFICACY AND LEVEL OF ICT COMPETENCY OF ELEMENTARY GRADES TEACHERS

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ABSTRACT

The purpose of this study is to assess the socio-demographic profile, attitude toward ICT, computer self-efficacy, and level of ICT competency of elementary grades teachers of Leyte Division, Philippines. These variables were examined to find its relationship with respondents' level of ICT competency. A total of 644 elementary grades teachers participated in this study. Descriptive correlational method using surveys, open-ended questions, and one-on-one interviews with selected teachers and ICT coordinators was employed. Purposive sampling was utilized to identify the sample schools from the list of DepEd Computerization Program (DCP) recipient schools.

Findings revealed that age, teaching experience, and ICT training in computer schools are socio-demographic variables consistent to have significant relationship with attitude toward ICT, computer self-efficacy and level of ICT competency. Correspondingly, other findings showed that teachers have favorable attitude toward ICT and possess high level of computer self-efficacy. On the other hand, teachers are at the basic level of ICT competency based on the National ICT Competency Standard for Teachers (NICS-Teachers).

 In sum, ICT receives wider acceptance among elementary teachers in Leyte. It is recommended that ICT related trainings be designed to address the incompetency of teachers to help them acquire relevant ICT skills in teaching and move to the next higher ICT competency level.

Keywords: *Socio-demographics, Attitude toward ICT, Computer Self-Efficacy, ICT Competency, Elementary Teachers, Teacher Professional Development*
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1. Introduction

Over the past years, the development of new technologies has been unstoppable as people continue to discover new technologies, advancing and improving through research and development. Together with technological explosion, knowledge explosion has increased exponentially from the time the World Wide Web was created. The internet made communication, collaboration and learning even faster, cheaper and convenient. While, younger people are the top consumers of these technologies, the potential of using ICT for educational purposes was viewed as a great opportunity by educators. Falk and Carlson (1992) agree that such technologies are not a threat, but rather, they present a good opportunity for teaching and learning. In the Philippines, the Department of Education (DepEd) believes to the premise that technology is a powerful tool for learning. The pedagogical benefits of technology in schools was well documented in the study of UP Statistical Research Center as reflected in students' scores during National Achievement Test especially in Science. Other benefits of technology use in schools include the decrease of drop-out rate and increase in enrolment and completion rates.

To sustain these pedagogical benefits of technology, the department implements the DepEd Computerization Program (DCP). This million peso investment envisions to address the ICT infrastructure backlog of both elementary and secondary schools throughout the country and improve teachers' competencies to teach effectively. However, many challenges and setbacks are faced by the department along with the implementation of the program. Soriano (2009) exposes that the current situation of ICT in the country remains a large task. Some areas that need more focus by the department is student-computer and teacher-computer ratio, the lack of infrastructure, connectivity and access to technologies, computer literacy is not a requirement for teacher certification or licensure, and in-service training are generally limited to basic computer literacy. Soriano (2009) explains there is a need for more training on integrating ICT into the curriculum. While these challenges mentioned are being addressed by the DepEd Computerization Program (DCP), a feedback mechanism needs to be created to evaluate the impact of the program to education.

Thus, this study serves as training needs assessment and ongoing feedback mechanism research to inform decision and policy makers whether the DepEd computerization Program (DCP) is indeed contributing to the department's mission of providing equitable access to quality education for all Filipinos. Thus it is worth to know what interventions and programs can be done to improve the DepEd Computerization Program through the output of this research.

2. Theoretical Rationale

The theoretical underpinning of this study was anchored under the self-efficacy theory. Self-efficacy is defined by Bandura (1986) as peoples' beliefs about their capabilities to exercise control over the events that affect their lives and their beliefs in their capabilities to mobilize the motivation, cognition resources, and courses of action needed to exercise control over task demands. Bandura listed four sources of information on which efficacy expectations are based upon; namely, performance accomplishments; vicarious (observational) experiences; verbal persuasions and emotional arousal (physiological and psychological states). Compeau and Higgins (1995) extended Banduras' self-efficacy theory to the use of computers. They call this as computer self-efficacy theory. It was defined as "a judgment of one's capability to use a computer" (p. 192). Situating Bandura's self-efficacy theory (1977) and Compeau & Higgins' (1995) computer self-efficacy theory in this study, performance accomplishments refer to the authentic ICT experiences of teachers. This includes experiences related to teaching as they utilize ICT resources. It may include experiences using the computer to prepare a lesson, monitoring and recording students' performance, using online resources and the like. Vicarious (observational) experiences refer to observations of other teachers and peers using ICT in teaching. The demonstration of a colleague on how to use the

internet to search online resources or observing a peer delivering a lesson using an interactive whiteboard and other technologies are examples of vicarious experiences. Verbal persuasions refer to the feedback a teacher receives from peers, principal, parents and students with regards to his/her use of ICT technologies in teaching. Physiological and psychological states refer to the physical (health condition) and emotional states (fear, anxiety, openness to learn ICT, and etc.) of the teacher.

Bandura's self-efficacy theory suggested that through the application of performance accomplishments, vicarious (observational) experiences, verbal persuasion, and physiological and psychological states, teachers' self-efficacy can be enhanced. In effect, it can change their attitude toward ICT and eventually their teaching practices. Various researches studied self-efficacy in various fields. In these studies, self-efficacy has been an effective indicator of personal beliefs in implementing change. Leung (2004) observed that highly self-efficacious teachers have engaged in personal motivation and commitment to specific teaching practices with great willingness.

3. Literature Review

In a research conducted by DeLoughry (1993) on computer anxiety, computer experience is a variable most often mentioned as having the clearest relationship to computer anxiety. Prior positive experience coupled with lower anxiety may lead to more experience. While, a bad prior experience with computers may adversely affect attitude and lead to higher computer anxiety and avoidance to use computers. Elsaadani (2013) found that age is a significant factor when considering attitude toward ICT of teaching staff members in Egyptian HEIs. In the Philippines, studies conducted by The Asian Institute of Journalism and Communication to UNICEF (2003) focused on the Internet access and utilization habits and practices of Filipino children and youth. The highlights of the report show that more women are now online than men in the Philippines. While, majority of internet users in the country are young people. Schools and internet cafes remain the most popular access point especially among women. The analysis conducted by Alampay (2006) showed that age, level of education, availability of infrastructure, and income were the critical barriers of ICT access in the country. The limited number of ICT infrastructure is one of the gaps that the DepEd Computerization Program would like to address. In terms of attitude, Yuksel & Kavanoz (2011) investigated teachers' attitude toward technology and its relationship to academic background and gender. They found a close link between attitude, usage and intention to use ICT for educational purposes. This relationship is significant in making future predictions on the implementation of technology into second language classroom practices. Meanwhile, Durndell and Haag (2002) studied computer self- efficacy, computer anxiety, attitudes toward the Internet and reported experience with the internet by gender. Results of the study showed no significant correlations between higher computer self-efficacy, lower computer anxiety, more positive attitude towards the internet, and longer reported use of the internet. Males tend to report greater computer self-efficacy, lower computer anxiety, more positive attitudes towards the internet, and longer reported use of the Internet than females. The findings tend to support the literature on attitudes and anxiety towards computers. The study applies to the gender dimension in the literature. In a study of conducted by Tasir, Abour, & Harun, (2012) revealed that Malaysian teachers had high levels of ICT competence and confidence level in using ICT. They also have high level of satisfaction towards ICT training programs. Hence, they concluded that attention should be given to teachers' satisfaction in designing an ICT training program since it will raise the level of ICT competency and confidence. In effect, this will increase the probability of teachers' integrating ICT in class. Tasir, et.al (2012) study seems to contradict in the Philippine context, where teachers reported to have limited ICT competency. To assess ICT infrastructures in schools, Rodrigo (2001) evaluated the status of ICT resources in Metro Manila schools. The study found that a few primary schools and

many secondary schools said they espoused emerging or transformative uses of ICTs. Ironically, Metro Manila students' access to computer, peripherals and Internet was poor despite the schools sampled belong to an urban community. Software used in schools was generally limited to productivity tools and ICTs were primarily used to teach computer literacy and programming. Again, private schools were better equipped than public schools yet ICT usage was similarly limited. A similar study conducted by Marcial (2011) investigated the level of prioritization and degree of implementation of information technology (IT) infrastructure in higher education institutions (HEIs) in the Philippines. It was concluded that the degree of implementation was moderately implemented and showed no or little action had been taken to increase the degree of IT implementation. Tinio (2002) likewise argue that teachers in the Philippines need additional guidance in optimizing available ICT resources. In the study, all respondents indicated the need for more information on how to use ICT to support the curriculum. Tinio (2002) recommended an increase on the investment of ICT's hardware, educational software and Internet connectivity to realize the curricular usefulness of technology in education, and conducting a comprehensive assessment of the ICT environment at the school, division, regional, and national levels. From these studies, it can be noticed that most studies conducted in the Philippine context are focused on ICT infrastructure and little is known regarding teachers' attitude toward ICT, computer self-efficacy and ICT competency. Thus this study was conducted to fill this gap in the literature.

4. Methodology

4.1 Sample and data collection method

This study used both quantitative and qualitative research methodologies. The respondents of this study were elementary grades teachers handling Kindergarten to Grade VI classes and ICT coordinators of the DepEd Computerization Program (DCP) recipient schools in Leyte Division. A total of 644 elementary grades teachers were purposively selected from the master list of the DepEd Computerization Program (DCP) batch 6, 7, 14 and 16. Only schools with multimedia or ICT facilities and DCP recipient schools were included in the survey and interviews. A survey questionnaire was used to gather data and evidence of teachers' socio-demographic profile, attitude toward ICT, computer self- efficacy and level of ICT competency. Meanwhile, the qualitative aspect of the study was conducted through open-ended questions and semi-structured one-on-one interviews with ICT coordinators. There were seventeen (17) participants who volunteered to take part in the interview to get a comprehensive information from the teachers. Participants were selected based on their availability and accessibility to answer the survey and participate in the interview. Particularly, ICT coordinators were asked about their ICT related experiences and opinions; interest to attend ICT related trainings in the future; the topics they wish to be included on the said trainings; some recommendations to improve the DepEd Computerization program, along with allowing the emergence and discussion of any other issues concerned with the research. The interview was moderately structured including some general pre-planned (based on the research questions and responses of participants to questionnaire), and some emerging questions (emerged from the interviewees' responses). All efforts had been done to take care of all ethical issues related to the data collection process as well as during all other steps of the research. The qualitative data provided the overall description of teachers' socio-demographic-profile, attitude toward ICT, computer self-efficacy, and perceived level of ICT competency. Interview data was analyzed through content analysis of responses for triangulation and were used to supplement the quantitative data collected.

4.2 Instrumentation

This study utilized the following instruments: The Socio-Demographic Profile Survey designed by the researchers. The Attitude toward ICT Survey adopted from (Sanchez, Marcos, Gonzalez, & Guanlin (2012). The Cronbach alpha level of this instrument is reliable at α =0. 89. Computer Self-Efficacy Scale (CSES) developed by (Torkzadeh & Koufterous, 1994; Murphy, Coover, & Owen, 1989). The reported Cronbach alpha coefficient of the CSES based on existing literature was 0.96 (Durndell and Haag, 2002). The National ICT Competency Standard (NICS) for Teachers Survey developed by the Commission on Information and Communications Technology (CICT) was patterned after existing standards in different countries such as ISTE-NETS (International Society for Technology in Education- National Educational Technology Standard) and McREL (Mid-continent Research for Education and Learning). Permission from the authors was sought before the administration of the survey instruments. Except for the socio-demographic profile of respondents and the semi-structured interview items, all of the questionnaires were standardized.

5. Findings & Discussion

In this study, the first finding revealed that most of the teachers belong to age range between 31-50 years old. There are more female elementary grades teachers than males. Majority of the teachers are holding a Teacher 1 position. Most teachers have pursued graduate studies by obtaining a masters' degree or some units in the graduate school. This is mainly because they aim to be promoted to the next higher level of teaching or administrative positions. The number of years of teaching experience indicates that most teacher respondents have been in the service for quiet sometime.   A large majority of teachers are regular/ permanent teachers (96.6%), while only 13 (2.0%) are substitute teachers. Teachers who reported to have undergone ICT related experiences as part of their teacher preparation program is very low. Similarly, only 20.5%, or one fifth have undergone ICT related trainings as part of in-service trainings conducted by the Department of Education. Moreover, slightly less than one fifth (17.5%) of the teachers have enrolled in computer schools to learn ICT. These figures in relation to teachers' ICT related training experiences indicate that only very few teachers have had the opportunity to attend ICT related trainings which can explain why teachers are incompetent in terms of ICT competency. Teachers have very limited training experiences in ICT. In an interview, when asked if they have attended any ICT trainings, two of the teachers expressed their disappointment about the limited in-service trainings provided by the department.

> *"I have limited trainings in ICT. I only learned through personal exploration and discovery. It is really an advantage if one has own material (laptop) because he/she can explore about it with no hesitations. The only training I attended was the LRMDS trainings since I was sent as the ICT coordinator of our school".*

Meanwhile, the overall attitude toward ICT of teachers is favorable with a mean score of 3.05. This over all mean score indicates that teachers have favorable attitude toward ICT. They are willing and ready to undergo ICT related trainings. They believe through ICT their teaching practice will improve; even the least motivated learners will increase students' motivation and academic performance; ICT are tools that present day schools must be ready to accept; and through ICT, teachers' motivation and satisfaction will also increase. This further indicates that ICT receives wider acceptance among elementary grades teachers. This finding show that despite of limited ICT related training experiences, teachers possess favorable attitude toward ICT. This supports the findings of Tezci (2009) and Cajilig (2009) that teachers' attitude toward computers are generally positive.

> *"I am positive toward ICT because I want to know more about ICT and be equipped with the new technologies that will help me become more effective and efficient in my teaching. Learning ICT is part of my personal growth and development."*

Table 1. Attitude toward ICT of Elementary Grades Teachers in Leyte Division

Items	Mean	Interpretation
1. The use of informational technology at school is unstoppable.	3.2	Favorable
2. The integration of computing resources in the classroom encourages the improvement of the teaching learning process .	3.4	Favorable
3. Students learn more easily when using ICT.	3.3	Favorable
4. Reading abilities are improved by the use of computing resources.	3.1	Favorable
5. As a teacher, the use of new technologies is still difficult for me.	2.7	Favorable
6. Working with ICT in the classroom is something that overwhelms me.	3.1	Favorable
7. Students are usually better prepared than I in the use of computing resources.	2.4	Moderately Favorable
8. Computers, Interactive Digital Whiteboards and projectors are really necessary in my classroom.	3.3	Favorable
9.I am willing to receive training in the use of any computing resource to work in my classroom .	3.6	Highly Favorable
10. I would use internet in my classroom very often.	2.5	Favorable
11. I am willing to collaborate in school educational programs about ICT.	3.3	Favorable
12. I would collaborate in other schools educational programs if they focus on the use of internet.	3.0	Favorable
13. Using internet helps me in developing my syllabus.	3.1	Favorable
14. I usually find teaching resources for my classes on the internet.	2.8	Favorable
15. The teaching methodology is enhanced by the use of computing resources.	3.0	Favorable
16. New technologies help me to obtain more resources to evaluate students' performance.	3.1	Favorable
17. ICT provides me access to new sources of information for my teaching subject.	3.3	Favorable
18. ICT makes the attention to diversity in my classroom easy.	3.1	Favorable
19. ICT helps me in the treatment of students with special educational needs.	3.0	Favorable
20. New technologies help me to improve the academic performance of my students.	3.2	Favorable
21. Students are more motivated when using computing resources in the classroom.	3.3	Favorable
22. Unmotivated students with traditional methodology improve their learning by using computers in the classroom.	3.2	Favorable
23. The use of ICT increases my motivation as a teacher.	3.3	Favorable
24. The use of ICT increases my satisfaction as a teacher.	3.2	Favorable
25. In spite of the existing limitations, I think I have a positive attitude towards the integration of computing resources in the teaching-learning process.	3.3	Favorable
Overall Attitude toward ICT	3.05	Favorable

The overall computer self-efficacy of elementary grades teachers is 2.87 which can be interpreted as "high" level of computer self-efficacy. When asked about her computer self-efficacy, a teacher answered.

"I think I am confident in using computers because I use computers in making my instructional materials, important paper works and other tasks and activities related to my work as a teacher."

This finding reveals that teachers have high level of computer self-efficacy. This high level of computer self-efficacy can be attributed to teachers' favorable attitude toward ICT. It can be inferred that this high level of computer self-efficacy indicates that elementary grades teacher have strong confidence that they can perform ICT related tasks. They are optimistic that they can be successful in integrating ICT in their teaching practice. This high confidence can be used to help advance the level of ICT competency of teachers through researched-based trainings. Studies conducted about computer self-efficacy showed that the higher level of computer self- efficacy correspond to increased performance in computer courses and a greater achievement of computer competency (Karsten and Roth, 1998a; 1998b; Langford and Reeves, 1998; and Wallace, 1999).

Table 2. Computer Self-Efficacy of Elementary Grades Teachers in Leyte Division

Items	Mean	Interpretation
I feel confident		
1. Working on a personal computer	3.1	High
2 .Getting software up and running	2.8	High
3 .Using the user's guide when help is needed	3.0	High
4 .Entering and saving data (numbers and words) into a file	3.1	High
5 .Escaping (exiting) from the program (software)	2.9	High
6 .Calling up a data file to view on the monitor screen	3.0	High
7 .Understanding terms / words relating to computer hardware	2.8	High
8 .Understanding terms / words relating to computer software	2.9	High
9 .Handling a USB correctly	3.1	High
10. Learning to use a variety of programs (software)	2.8	High
11 .Learning advanced skills within a specific program (software)	2.8	High
12 .Making selections from an on screen menu	3.0	High
13 .Using the computer to analyze number data	2.8	High
14 .Using a printer to make " hardcopy" of my work	3.1	High
15. Copying a disc	2.7	High
16 .Copying an individual file	2.9	High
17 .Adding and deleting information from a data file	2.9	High
18 .Moving the cursor around the monitor screen	3.1	High
19 .Writing simple programs for the computer	2.9	High
20 .Using the computer to write a letter or essay	3.0	High
21 .Describing the function of computer hardware (e.g. keyboard, monitor, disc drives, computer processing unit)	2.9	High
22 .Understanding the three (3) stages of data processing : input, processing, output	2.7	High
23 .Getting help for problems in the computer system	2.8	High
24 .Storing software correctly	2.7	High
25 .Explaining why a program (software) will or will not run on a given computer	2.5	High
26 .Using the computer to organize information	2.8	High
27 .Getting rid of files when they are no longer needed	2.8	High

28 .Organizing and managing files	2.9	High
29 .Troubleshooting computer problems	2.4	Low
Overall Computer Self-Efficacy	2.87	High

Scale and Interpretation: 3.6 and above (very high) ; 2.5-3.5 (high)   1.5-2.4 (low) ; 1.4 and below (very low)

Table 3 presents the distribution of ICT competency level of elementary grades teachers in Leyte Division. Out of 644 teachers surveyed, 539 (83.7%) teacher respondents reported to possess the Basic competency level. Only 76 (11.8%) and 14 (2.2%) teacher respondents reported to possess the Proficient and Advanced level of ICT competency, respectively. In general, majority of the teachers are at the Basic ICT competency level.

Table 3. Distribution of ICT Competency Level of Elementary Grades Teachers in Leyte Division

Level of ICT Competency	ƒ	%
Basic	539	83.7
Proficient	76	11.8
Advanced	14	2.2
No response	15	2.3
Total	644	100%

Based on the interviews, majority of the teachers reported "incompetent" in terms of the following ICT competency indicators; ICT (52.8%) ; Pedagogy (54.4%) ; Organization and Administration (54.6%) ; Teacher Professional Development (51.7%) ; Social, Ethical & Human Issues (46.6%) ; Assessment and Evaluation (48.8%). One of the teachers answered.

"I believe I possess the basic level of ICT competency because my knowledge and skills on ICT is not yet sufficient. I still feel that what I have is still not enough though I can teach and know how to use ICT in my teaching."

This study found that majority of teachers belong to the basic competency level. According to the National ICT Competency Standards (NICS), teachers at the basic competency level need to be aware of the uses of ICT for teaching and learning. This further shows that teachers in the division of Leyte need more guidance and direction on how ICT can be utilized and integrated into the current K to12 curriculum. This confirms the finding of Tinio (2002) that teachers need additional guidance in optimizing available ICT resources. All respondents indicated the need for more information on how to use ICT to support the curriculum. This study also reveals that most teachers are incompetent in terms of ICT, Pedagogy, Organization and Administration, Teacher Professional Development, Social, Ethical and Human Issues and Assessment and Evaluation ICT competency indicators. This confirms the findings of an evaluation conducted by Rodrigo (2001) on the status of ICT resources in Metro Manila schools that software used in schools was generally limited to productivity tools and ICTs were primarily used to teach computer literacy and programming. The evident incompetency of teachers in these ICT indicators can be explained since their ICT exposure is only limited to productivity tools and not on educational use of ICT and this was validated in the qualitative aspect of this study. The absence of information on how ICT is actually used for educational purposes affects teachers' use of ICT integration to education due to limited teacher professional development opportunities. Furthermore, Zamani, Reza, Isfahani and Shahbaz (2010) qualitative data argue that if teachers are to use technology efficiently to promote students' learning, then it would be necessary for them to receive professional trainings. These findings indicate that despite of teachers' positive attitude toward ICT and high level of computer self-efficacy, they are incompetent

in terms of various ICT competency indicators. This incompetence can be attributed to the lack of training opportunities provided by the Department of Education.

Table 4. Distribution of ICT Competence according to Indicators

Level	ICT		Pedagogy		Organization and Administration	
	f	%	f	%	f	%
Very Incompetent	65	13.7	86	18.4	83	17.8
Incompetent	251	52.8	254	54.4	254	54.6
Competent	140	29.5	114	24.4	116	24.9
Very Competent	19	4.0	13	2.8	12	2.6
Total	475	100%	467	100%	465	100%
Level	Teacher Professional Development		Social, Ethical & Human Issues		Assessment & Evaluation	
	f	%	f	%	f	%
Very Incompetent	66	14.2	77	16.5	80	17.2
Incompetent	241	51.7	217	46.6	227	48.8
Competent	141	30.3	157	33.7	143	30.8
Very Competent	18	3.9	15	3.2	15	3.2
Total	466	100%	466	100%	465	100%

The Pearson product-moment correlation was utilized to find out the interrelationship between attitude toward ICT, computer self-efficacy, and ICT competence. As presented on Table 5, attitude toward ICT is highly correlated with computer self-efficacy at r= 0.47**. This means that there is a positive correlation between attitude toward ICT and computer self- efficacy. This further suggests that the higher the teachers' attitude toward ICT score, the higher is the computer self-efficacy score and vice versa. Likewise, attitude toward ICT and computer self-efficacy is also highly correlated with ICT competence at r = 0.20** and r = 0.30**, respectively. There is a positive correlation between attitude toward ICT and ICT competence. Teachers at the advanced ICT competence level have higher attitude toward ICT mean score; 86.1 (SD=7.92) compared to teachers at the proficient and basic ICT competence level; 79.97 (SD=8.07) and 75.41 (SD=10.8), respectively. This means, the higher the teachers' attitude toward ICT scores, the higher the level of ICT competence and vice versa. In like manner, there is a positive correlation between computer self-efficacy and ICT competence. Teachers at the advanced ICT competence level have higher computer self-efficacy mean score; 107.83 (SD = 8.17) compared to teachers at the proficient and basic ICT competence level; 96.54 (SD = 12.83) and 80.45 (SD = 21.83), respectively. For this reason, the higher the teachers' computer self-efficacy scores, the higher is the ICT competence and vice versa.

Table 5. Correlation between Attitude toward ICT, Computer Self-Efficacy, and ICT Competence

Variables	Attitude Toward ICT	Computer Self-Efficacy	ICT Competence
Attitude Toward ICT	-	0.47**	0.20**
Computer Self-Efficacy		-	0.30**
ICT Competence			-

** Highly Significant

6. Conclusion and Future Recommendation

There is enough evidence to prove that elementary grades teachers possess positive or favorable attitude toward ICT, high level of computer self-efficacy but "incompetent" in various ICT competencies. In the light of this finding, elementary grades teachers are more than willing and ready to undergo teacher professional development training in ICT since they perceive ICT as a tool that will not just make them better teachers, but will also greatly impact students' learning and academic performance. Teachers perceived themselves that they can learn new ICT knowledge and skills as revealed in their high computer self-efficacy. Thus, they just need training opportunities to be offered to them. However, despite of their favorable attitude toward ICT and high computer self-efficacy, their ICT competency is at the basic level and "incompetent" in the various ICT competencies. This denotes that the incompetency of teachers can be attributed to the limited ICT training experiences during pre-service and in-service training. Consequently, this also means that DepEd's ICT-related trainings are limited and schools lack available infrastructure to start with in order fill the ICT needs of elementary teachers. Since the department is already providing ICT infrastructure to schools through the DepEd Computerization Program (DCP), the second most important thing to provide to teachers are relevant, context-based, needs-based and competency-based ICT trainings that stress on the aspects of ICT, pedagogy, organization and administration, teacher professional development, social, ethical and human issues and assessment and evaluation since these are the ICT competencies teachers are evidently incompetent. Thus, the Department of Education should consider training teachers in the use of ICT for educational purposes to maximize available ICT infrastructures such as the DepEd Computerization Program (DCP) eClassrooms. To validate the findings of this study, similar studies may be conducted to secondary, tertiary, pre-service and private school teachers as target population. Future studies may also be conducted to assess ICT training needs of school administrators. It is also interesting to find out the capacity of schools to sustain the use of ICT in teaching and maintain ICT infrastructure using both qualitative and quantitative research methodologies. Thus, this study be used as basis for the design of teacher professional development programs.

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