

Kindergarten Teachers' Competence In ICT: Basis For Enhancement Program Development

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Abstract

The main purpose of the study was to determine the kindergarten teachers' competence in ICT: basis for enhancement program development.

Participants of the study includes 30 kindergarten teachers of East 1, 2 and 3 districts of Butuan City Division. The survey questionnaires made were validated by ICT coordinators who were experts on computer skills.

The results of the study revealed that majority of the teachers teaching Kindergarten are females (96.70%) which belong to the age range of 25-54 years old (93.30%). Moreover, participants are all permanent-regular teachers (100%), wherein the majority have Teacher I position (56.70) and a length of service ranging from 1 to 5 years (50%) in service. Also, it is evident that there is a moderately high to high level of manifestation of the ICT skills demonstrated by the teachers

It is recommended to have an enhancement program in a form of series of seminar-workshops, contests and IMs development workshops to improve their ICT skills in terms of photoshop, publisher and moviemaker applications.

Index Terms- ICT Skills, Kindergarten Teachers' Competence.

I. INTRODUCTION

Over the past years, technology is of great help in transforming societies and improve the quality of daily life. The usage of technology has come up to the general philosophy among educators and the general public that it should play a more integral role in students' education to maximize its advantages (Lazar, 2015; Blazer, 2008; Culp et al., 2005; Johnson, 2000).

Educational technology does not only describe computer applications. Educational technology is a term that technically can mean anything from a pen to laptops and interactive web technologies and applications (Wordu and Ogolo, 2020; Andrade, 2012). It involves other equipment and applications, such as videoconferencing and video chat, digital and smart television, electronic whiteboards, digital cameras, tablets, laptops and the like (Blazer, 2008; Jackson, 2008; McCampbell, 2002; Marshall, 2002). Technology used in the classrooms has contributed to students' overall development not just as a person but as a part of a society as a whole. Learning principles transcend specific technologies. However, when used to its maximum potential, technology can be the best aid in accelerating, amplifying, and expanding the impact of the principles of learning (Mcfarland et.al, 2017). With the widespread of online resources and references, technology can help improve the teaching and learning environment. Teachers can choose among the variety of educational apps or trusted online resources to further enhance and improve the traditional ways of teaching and to keep students more engaged in every learning experiences. Technology as well can help teachers save a lot time by making their work easy and fast. Thus, giving them ample time to work with students who are struggling.

By integrating technology in the classroom, both teachers and students can develop 21st century skills essential for lifelong learning. Moreover, students can gain the skills necessary to become successful in the future. Because students of today are considered as digital natives, they wanted to have collaboration and interactive learning delivery in the classroom.

For the past years, teachers are struggling to provide quality education to students with the aid of technology. Thus, teachers especially those who are assigned in far flung areas are still using the traditional technology (like visual aids and the like) just to arrest the interest of students and aid instruction. In the Philippines it is observed that most of the public schools do not have enough computers and internet connectivity especially in public elementary schools. There is a so called "technology gap" or the gap between new technology and a country that has yet to acquire that technology. On the other hand, because of the lack or insufficient technology found mostly in our schools, it is as well observed that majority of the teachers, especially those who are teaching in Kindergarten have difficulty as well in coping with the new technology to be used and applied to their respective classrooms. Moreover, as per observation utilization of ICT among Kindergarten teachers are rarely observed which will lead to possible problems in learning the 21st century skills which are the main focus of the K-12 Education Curriculum.

Knowing all these problems observed in the competence of both the teachers and the schools to provide the latest and most efficient technology to the learners- who are the center of the educative process, attracts the interests of the proponents to conduct a thorough study on this matter and to provide possible program which will help prevent the so called “technology gap” in the Philippine Educational System.

II. IDENTIFY, RESEARCH AND COLLECT IDEA

Research Design and Methods

This study used the descriptive method of research because it seeks to determine Kindergarten teachers’ competence in ICT: Basis for enhancement program.

The respondents of this study were the Kindergarten teachers of the 22 elementary schools of East Butuan Districts 1,2 and 3. It has a population of 30 Kindergarten teachers. All the Kindergarten teachers in each school served as the respondents of the study.

The study used a validated questionnaire for each of the variables as the basis for acquiring the necessary data to make the study successful. The variables will be the Kindergarten teachers’ profile character (age, gender, educational attainment, specialization, length of service, teaching position, and trainings attended related to Kindergarten), the level of manifestation of teachers’ knowledge and skills (MS word, excel/spreadsheets, publisher, powerpoint presentation, photoshop, moviemaker, and internet surfing).

Validity and Reliability of the Research Instrument

The research instrument was validated by two experts in the field.

Data Gathering Procedure

Prior to the floating of questionnaires, permission was asked from the Schools Division Superintendent of Butuan City Division, to the District Supervisor of East Butuan Districts, and to the School Heads of the said schools. During the floating stage, the respondents were undergone an orientation on the scope and nature of the study for them to fully understand the focus of the study. After the orientation, the respondents were asked to answer each question honestly. After the floating stage, Focus Group Discussion (FGD) was facilitated to validate responses to the questionnaire.

III. WRITE DOWN YOUR STUDIES AND FINDINGS

This section discusses the results of the data collected from the participants, the kindergarten teachers. The data were processed with corresponding interpretation.

Problem 1. What is the demographic profile of kindergarten teachers in terms of: age, gender, educational attainment, specialization, length of service as kindergarten teacher, employment status, teaching position, trainings attended related to kindergarten?

Table 1. Age and gender of kindergarten teachers in East Butuan District

	Frequency	Percentage
Age		
24 years old and below	2	6.70
25 to 54 years old	28	93.30
Gender		
Female	29	96.70
Male	1	3.30

Table 1 presents the demographic profile of kindergarten teachers in terms of age and gender. The frequency results show that majority of the respondents are in 25 to 54 years old (93.3%) and the rest are 24 years and below (6.7%). As described also in the table above, evidence shows that female teachers (96.7%) are most engaged in teaching kindergarten than males (3.3%).

	Frequency	Percentage
Length of Service		
Less than 1 year	2	6.70
1 to 5 years	15	50.0
6 to 10 years	13	43.30
Employment Status		
Permanent	30	100.00
Teaching Position		
Teacher 1	17	56.70
Teacher 2	10	33.30
Teacher 3	3	10.00

Table 2. Service record of Kindergarten Teachers in East Butuan District

Table 2 shows the length of service of all kindergarten teachers. Frequency shows that half of the kindergarten teachers have 1 to 5 years length of service (50%), around 43.3 percent of teachers have 6 to 10 years length of service, and the rest has less than one year (6.70%). Furthermore, all teachers are permanent (100%) and majority are teacher 1 (56.7%), teacher 2 (33.3%), and teacher 3 (10%).

Table 3. Educational background of kindergarten teachers in East Butuan District

	Frequency	Percentage
Educational Attainment		
College	5	16.70
With earned Master’s Degree Unit	23	76.70
Master’s Graduate	2	6.70
Specialization		
General Education	29	96.70
ECCD	1	3.30

Table 3 shows the educational background of kindergarten teachers wherein majority are Master’s Degree unit earner (76.6%), college graduate (16.7%), and Master’s graduate (6.7%). Besides, the table also shows that most teachers have specialization in General Education (96.7%) while the rest have ECCD specialization (3.3%). Since handling kindergarten gives priority to teachers with ECCD units, however, the lack of teachers with ECCD specialization allows many General Education teachers to take over the position.

Table 4. In-service trainings attended by Kindergarten Teachers in East Butuan District

	Frequency	Percentage
No. of Trainings Attended		
More than 2 trainings	30	100.00
Scope of Training Attended		
School-Based	30	100.00
District-Based	30	100.00
Division-Based	25	83.30
Regional-Based	10	33.30

The table above shows that all of the kindergarten teachers attended more than two trainings. Specifically, 100 percent of the kindergarten teachers attended both school and district-based trainings, 83.3 percent attended division-based trainings, and 33.3 percent attended regional-based trainings. In this case, kindergarten teachers are properly handled by the authority to take various trainings in different bases for personal and professional growth. However, only few reached the regional-based training and none for the national.

Problem 2. What is the level of manifestations of kindergarten teachers’ knowledge and skills in terms of: Basic Command, MS word, excel/ spreadsheets, publisher, powerpoint presentation, photoshop, moviemaker, and internet surfing?

Table 5. Level of manifestation of the ICT Skills in terms of Basic Computer Command.

Indicators	Mean	Verbal Description	Interpretation
1. I know how to turn on the use of a laptop/ desktop computer.	4.9	STRONGLY AGREE	High
2. I am capable of changing the brightness of the computer screen.	4.53	STRONGLY AGREE	High
3. I know how to change the background of my laptop/ desktop computer.	4.4	AGREE	High
4. I know how to delete files that I don't need anymore.	4.73	STRONGLY AGREE	High
5. I know how to arrange the icons on the computer screen.	4.53	STRONGLY AGREE	High
Overall Weighted Mean	4.6	STRONGLY AGREE	High

1-1.80 = Very low; 1.81-2.60 = Low; 2.61-3.40 = Moderate; 3.41-4.20 = Moderately High; 4.21 – 5 = High

Table 5 presents the level of manifestation of Kindergarten Teachers in ICT skills in terms of Basic Computer Command. The result shows that only indicator 3 which has a mean of 4.4 is under the verbal description Agree while the rest indicators are Strongly Agree having means 4.9, 4.53, 4.73, and 4.53 respectively. Moreover, the overall weighted mean for table 5 is 4.6 which is Strongly Agree and interpreted as High.

Table 6. Level of manifestation of the ICT skills in terms of MS Word.

Indicators	Mean	Verbal Description	Interpretation
1. I know how to locate the MS Word application in my laptop/desktop.	4.93	STRONGLY AGREE	High
2. I know how to encode information and reports using the Ms Word application.	4.87	STRONGLY AGREE	High
3. I know how to save my work in Ms Word.	4.87	STRONGLY AGREE	High
4. I am capable of inserting tables using MS Word.	4.63	STRONGLY AGREE	High
5. I know how to use word art in this application.	4.37	AGREE	High
Overall Weighted Mean	4.7	STRONGLY AGREE	High

1-1.80 = Very low; 1.81-2.60 = Low; 2.61-3.40 = Moderate; 3.41-4.20 = Moderately High; 4.21 – 5 = High

Table 6 presents the level of manifestation of Kindergarten Teachers in ICT skills in terms of Microsoft Word. The result shows that 4 indicators are describe as Strongly Agree and interpreted as High with means 4.93, 4.87, 4.87, and 4.63 respectively. Moreover, the overall weighted mean for table 2 is 4.7 which is Strongly Agree and this implies that kindergarten teachers know the basic skill in using MS Word.

Table 7. Level of manifestation of the ICT skills in terms of Excel/ Spread sheets

Indicators	Mean	Verbal Description	Interpretation
1. I know how to locate the Excel/Spread sheet application on my laptop/ desktop.	4.8	STRONGLY AGREE	High
2. I know how to add information and reports using Excel/ Spread sheet application.	4.4	STRONGLY AGREE	High
3. I know how to save my work in Excel/Spread sheet.	4.6	STRONGLY AGREE	High
4. I know how to add formulas using excel/ spread sheet.	3.03	NEITHER AGREE/DISAGREE	Moderate
5. I know how to use the basic excel/ spread sheet commands.	3.27	NEITHER AGREE/DISAGREE	Moderate
Overall Weighted Mean	4.2	STRONGLY AGREE	Moderately High

1-1.80 = Very low; 1.81-2.60 = Low; 2.61-3.40 = Moderate; 3.41-4.20 = Moderately High; 4.21 – 5 = High

Table 7 presents the level of manifestation of Kindergarten Teachers in ICT skills in terms of Microsoft Excel. The result states that indicator 4 and 5 shows least level of manifestation that describes as Neither Agree/Diagree which has a means of 3.03 and 3.27 respectively. This implies that teachers are unsure on how to add formulas and use basic spreadsheet commands. However, the overall weighted mean is 4.2 and is described as Agree with Moderately High Interpretation.

Table 8. Level of manifestation of the ICT skills in terms of Publisher.

Indicators	Mean	Verbal Description	Interpretation
1. I know how to locate the publisher application in my laptop/desktop.	4.7	STRONGLY AGREE	High
2. I know how to add/ encode information using publisher application.	3.97	AGREE	Moderately High
3. I know how to save my work using publisher.	3.97	AGREE	Moderately High
4. I know how to add pictures and other decorations to my work using publisher application.	3.83	AGREE	Moderately High
5. I know how to use the basic commands in publisher application.	4.09	AGREE	Moderately High
Overall Weighted Mean	4.11	AGREE	Moderately High

1-1.80 = Very low; 1.81-2.60 = Low; 2.61-3.40 = Moderate; 3.41-4.20 = Moderately High; 4.21 – 5 = High

Table 8 presents the level of manifestation of Kindergarten Teachers in ICT skills in terms of Microsft Publisher. The result shows that only indicator 1 is describe as Strongly Agree with a mean of 4.7 and interpreted as High. However, the rest indicators are described as Agree. The overall weighted mean is 4.1 which is describe as Agree and interpreted as Moderately High.

Table 9. Level of manifestation of the ICT skills in terms of Powerpoint.

Indicators	Mean	Verbal Description	Interpretation
1. I know how to locate the power point presentation application in my laptop/desktop.	4.93	STRONGLY AGREE	High
2. I know how to add/ encode information using power point presentation.	4.8	STRONGLY AGREE	High
3. I know how to add pictures and other decorations to my presentation in power point application.	4.6	STRONGLY AGREE	High
4. I know how to save my work in this application.	4.83	STRONGLY AGREE	High
5. I know how to add background music and other animation in this application.	3.93	AGREE	Moderately High
Overall Weighted Mean	4.61	STRONGLY AGREE	High

1-1.80 = Very low; 1.81-2.60 = Low; 2.61-3.40 = Moderate; 3.41-4.20 = Moderately High; 4.21 – 5 = High

Table 9 presents the level of manifestation of Kindergarten Teachers in ICT skills in terms of Microsoft PowerPoint. The result shows that only indicator 5 is describe as Agree with a mean of 3.93 and interpreted as Moderately High. However, the rest indicators are described as Strongly Agree. The overall weighted mean is 4.61 which is Strongly Agree.

Table 10. Level of manifestation of the ICT skills in terms of Photoshop.

Indicators	Mean	Verbal Description	Interpretation
1. I know how to locate Photoshop application on my laptop/ desktop computer.	3.27	NEITHER AGREE/DISAGREE	Moderate
2. I know how to use the basic commands in this application.	2.5	NEITHER AGREE/DISAGREE	Moderate
3. I know how to add pictures using this application.	2.53	NEITHER AGREE/DISAGREE	Moderate
4. I know how to layout tarpaulin using this application.	2.27	DISAGREE	Low
5. I know how to save my work using Photoshop application.	2.5	NEITHER AGREE/DISAGREE	Moderate
Overall Weighted Mean	2.61	NEITHER AGREE/DISAGREE	Moderate

1-1.80 = Very low; 1.81-2.60 = Low; 2.61-3.40 = Moderate; 3.41-4.20 = Moderately High; 4.21 – 5 = High

Table 10 presents the level of manifestation of Kindergarten Teachers in ICT skills in terms of Photoshop. The result states that all indicators have low means such as 3.27, 2.5, 2.53, 2.27, and 2.5 respectively which implies that kindergarten teachers are least knowledgeable in terms of photoshopping. The overall weighted mean of table 10 is 2.61 which describes as Neither Agree/Disagree and interpreted as Moderate.

Table 11. Level of manifestation of the ICT skills in terms of Moviemaker.

Indicators	Mean	Verbal Description	Interpretation
1. I know how to locate Movie maker application on my laptop/desktop.	3.9	AGREE	Moderate
2. I know how to insert video clips and pictures using this application.	3	NEITHER AGREE/DISAGREE	Moderate
3. I know how to cut and connect different pictures and video clips using this application.	2.93	NEITHER AGREE/DISAGREE	Moderate
4. I know how to add animations to my work using this application.	2.77	NEITHER AGREE/DISAGREE	Moderate
5. I know how to save my work using this application.	3.03	NEITHER AGREE/DISAGREE	Moderate
Overall Weighted Mean	3.12	Agree	Moderate

1-1.80 = Very low; 1.81-2.60 = Low; 2.61-3.40 = Moderate; 3.41-4.20 = Moderately High; 4.21 – 5 = High

Table 11 presents the level of manifestation of Kindergarten Teachers in ICT skills in terms of moviemaking. The result states that 4 indicators show a means of 3, 2.93, 2.77, and 3.03 respectively and describe as Neither Agree/Disagree. This implies that most of the kindergarten teacher do not know how to use moviemaker. The overall weighted mean 3.12 which describes as Agree and interpreted as Moderate.

Table 12. Level of manifestation of the ICT skills in terms of Internet Surfing.

Indicators	Mean	Verbal Description	Interpretation
1. I know how to locate internet browser on my laptop/ desktop.	4.77	STRONGLY AGREE	High
2. I know how to search information using any internet browser found on my laptop/ desktop computer.	4.77	STRONGLY AGREE	High
3. I know how to search informational videos which can be used in my lessons.	4.77	STRONGLY AGREE	High

4. I know how to upload pictures and videos using the internet.	4.17	STRONGLY AGREE	High
5. I know how to download data, pictures and videos the internet.	4.53	STRONGLY AGREE	High
Overall Weighted Mean	4.60	STRONGLY AGREE	High

1-1.80 = Very low; 1.81-2.60 = Low; 2.61-3.40 = Moderate; 3.41-4.20 = Moderately High; 4.21 – 5 = High

Table 12 presents the level of manifestation of Kindergarten Teachers in ICT skills in terms of internet surfing. The result shows that all indicators are describe as Strongly Agree and interpreted as High with means 4.77, 4.77, 4.77, 4.17 and 4.53 respectively. Moreover, the overall weighted mean for table 8 is 4.6 which is Strongly Agree and this implies that kindergarten teachers know how to surf the internet.

Problem 3. Is there a significant relationship between the profile of the kindergarten teachers and level of manifestations of their knowledge and skills in ICT?

Table 14. Correlation between the manifestation of ICT skills and Teaching position, Length of Service and Educational Attainment

Dependent Variable	Independent Variable	Correlation Coefficient ^A	P-value ^B	Remarks ^C
ICT Skills	Teaching Position	.484	.007	Significant Direct weak correlation
	Length of Service	.505	.004	Significant Direct weak correlation
	Educational Attainment	.093	.626	Not Significant

^ASpearman Correlation ^BTested at 0.05 level of significance ^CQualitative interpretation of the absolute value of the correlation coefficient 0.00-0.20 (Very Weak), 0.21-0.40 (Weak), 0.41-0.60 (Moderate), 0.61-0.80 (Strong), and 0.81-1.00 (Very Strong)

Table 14 above presents the correlation among the manifestation of ICT skills and teaching position, length of service and educational attainment. It shows that, teaching position has a significant relationship to the manifestation of ICT skills. This implies that there is a positive linearity among these variables. The higher the teaching position of the Kindergarten teachers are, the more the manifestation of the ICT skills acquired by them. Meanwhile, the length of service is found to have a significant relationship to the manifestation of ICT skills. It is evident that the longer they stay in the teaching profession, the higher their manifestation of their acquired ICT skills. This implication is linked to what Barbara (2006) said that teachers who are in the service for 15 years or more are seeing their work and their classrooms transform as they improve their lessons and teaching using technology. On the other hand, the educational attainment is found to have no significant relationship to the ICT skills of the teachers. This implies further that teachers’ educational attainment doesn’t matter in learning the ICT skills necessary in teaching Kindergarten pupils.

IV. CONCLUSION

Based on the findings of the study, the researchers had come up with these conclusions:

Majority of the Kindergarten teachers are literate in using the different ICT applications used in the teaching-learning process. Thus, improving the learning environment for the pupils to be literate at this early stage of their lives.

Also, it is evident that there is a moderately high to high manifestation of teachers’ ICT skills used in teaching Kindergarten pupils. This implies that the teachers are working an extra mile to learn the necessary skills for the 21st century teachers. Also, with these skills pupils will be exposed at an early age to the global trend when it comes to the necessary skills to be developed by them.

It is also interesting to note that the teachers' profile has a significant relationship with the manifestation of their ICT skills; that is, the longer the teachers' length of service and the higher their teaching position, the higher their ICT skills manifestation. However, not all teachers' profile has significant correlation to the manifestation of their ICT skills which means there's a need to conduct enhancement program to increase the manifestation of the teachers' ICT skills.

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