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Teachers' Information and Communication Technology Competencies: The Basis for a Competency-based Training Plan

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ABSTRACT

Information and Communication Technology (ICT) in education pertains to using information and communication technology to support, enhance, and optimize information delivery. The study sought to ascertain the ICT competencies of elementary teachers in District 2 of the SDO Malolos City. The study employed a descriptive-quantitative method. The standardized questionnaire was adopted from the National ICT Competency Standards for Teachers (NICS), which covered the four domains of the ICT framework in education. Data were analyzed using the mean Kruskal-Wallis Test and the Mann-Whitney U test to determine significant differences between teacher respondents' profile and their level of National ICT Competency Standards. Results showed that teachers have a high level of competencies in Technology Operations and Concepts, Social and Ethical, and Pedagogical Domains, but an average level in the Professional domain. Likewise, a significant difference was not established in their gender, age, educational attainment, position, number of ICT-related training, and years of using ICT in teaching but found in teachers' length of service. The findings suggest that teachers must increase their level of competence in the Professional Domain to become more proficient and effective in carrying out their duties and responsibilities. This can be accomplished through seminar workshops on professional growth and development, research, innovation, and collaboration. To maximize their ICT skills, a competency-based training program should be provided in District 2 of SDO City of Malolos schools.

INTRODUCTION

The COVID-19 pandemic has disrupted the educational setting, which paved the way for the country to shift from face-to-face learning to alternative learning modalities. To sustain and provide quality education despite the ongoing pandemic crisis, the new normal education was implemented after planning and piloting different learning modalities. Both teachers and students were forced to adapt to the new way of accessing the body of knowledge as they relied heavily on online resources. In the context of ICT integration in the new normal education, online learning is the name of the game where teachers and learners meet virtually with the use of video-conferencing applications. Online learning platforms were implemented as part of the plan outlining how schools will be able to achieve their purpose of providing every student with a quality education (Tria, 2020).

The Department of Education emphasized that this does not necessarily imply that teachers and students will attend schools and learn in classrooms, and it devised various modalities to ensure that online learning is a viable option among all others in this new learning environment (DepEd, 2020). Teachers received training in online instruction, blended learning, and distance learning, among other things, in just new instructional formats (Toquero, 2020). Teachers' pedagogical and technological competencies should be reinforced and strengthened. In this transition to the new normal, from the four corners of the classroom to the borders of virtual reality, every learning institution must investigate how successful online learning is in providing students with quality education and outcomes-based education (Basilaia & Kvavadze, 2020).

To conform to the standard of fast-facing trends in the educational system, teachers must be equipped with modern pedagogical and technological skills. Concerning this matter, teachers are under pressure as they need to integrate technology into a classroom setup; many challenges are faced as they try to utilize the advantages and disadvantages of using ICT as their platform in teaching learners (Rana, 2017). The benefits of using ICT have been proven by the studies conducted by (Bai *et al.*, 2019; Hoyles, 2018; Rana *et al.*, 2018); their studies contributed to how technology is essential in education if it is used effectively and appropriately.

LITERATURE REVIEW

Most of the teachers' limited use of ICT resources in their teaching activities aligned with the findings of Rana (2018) that most teachers, who belong to the old generation group and are less familiar with web technologies, are struggling to use new technologies in their teaching activities where their students are already familiar with the technologies, particularly in urban areas. Teachers were revealed to possess low computer skills and knowledge about software and hardware. This is supported by the results of the study of Caluza *et al.* (2017), revealing that most of the public-school teachers they have assessed have basic knowledge of ICT and require improvement. Also, there is no technical support staff to maintain the functionality and usability of computers, and teachers were given very little training due to their (teachers)

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hectic schedules. According to (Kubota *et al.* 2018), the Philippine Department of Education provides teacher training courses to high school teachers and principals (school heads) several times a year to promote ICT literacy, but these are only present in 'big' cities such as Manila and Cebu. More training must be provided to the teachers for the effective integration of ICT in teaching and other related tasks assigned to the teaching force to uplift and enhance the quality of education in schools (Caluza *et al.*, 2017).

Tomaro (2018) emphasized that teachers were also revealed to lack computer knowledge and skills for instructional purposes and lacked the motivation to teach computer-related topics as mentioned 'it was not mandated to use computers in classrooms. Even before, we lacked technological equipment to support ICT integration, which explains why teachers still conduct the traditional teaching method. This issue about the situation of most teachers in the Philippines contributes to the absence of exposure to technology.

A study conducted by Maimun *et al.* (2017) enumerated more specific factors that facilitate or hinder teachers from integrating technology in instructional implementation. These factors cover teacher skills, school infrastructure, budg*et al*location, teacher confidence, quality technical support, workload, access to technology, teacher practices, structure of education systems, nature of curriculum, and peer support system.

The successful implementation of digital technology into the curriculum relies heavily on the teachers' readiness Whether teachers like to learn a lot about the use of technology or not, preparations must be done to ensure effective and efficient instruction. ICT stimulates collaborative and autonomous learning, ensures achievement and motivation, and helps speed up the acquisition of higher-order thinking skills and social competencies. Even though problems are most likely to be encountered, there is still a way to lessen the concerns about using technology as part of learning instruction. The scarcity of ICT resources, such as the limited number of computers and the unavailability of Internet services, hinder the effective integration of ICT (Dela Rosa, 2016) and can be solved in different ways.

The higher levels of culture for professional development among teachers at school would increase students' digital competence levels (Hatlevik *et al.*, 2015).

The developing capability of teachers to use technology through training would serve as a platform for them to maximize the appropriate use of technology in the classroom. Teachers' belief and institutional perception of the role of technology in education is also considered factors for their differences in using technology in the classroom. Makki *et al*, (2018) regarded this as a barrier or computer anxiety, attitude, and computer feature comfort. Also, they have identified the third level order barrier which they called participation in a training session as another factor for the differences between teachers in using technology. The limited ICT skills of teachers classified as still in the infant stage may be attributed to the lack of training on its proper use (Omariba, 2015). These challenges that teachers encounter must be addressed properly, and this will be done with the help of the school's stakeholders.

Research Questions

This study aimed to assess the level of Information and Communication Technology (ICT) Competencies of Public-School Elementary Teachers in District 2, Division of Malolos City from SY: 2021-2022. Specifically, the study seeks an answer to the following questions:

1. How may the teachers' profiles be described in terms of the following?
   1.1 gender
   1.2 age
   1.3 length of service
   1.4 position
   1.4 number of seminars/training attended related to ICT
   1.5 years of using ICT in teaching
2. What is the level of ICT competencies of teachers based on the following domains of the National ICT Competency Standard for Teachers?
   2.1 Technology Operations and Concept
   2.2 Social and Ethical
   2.3 Pedagogical
   2.4 Professional
3. Is there a significant difference in the level of ICT competencies of teachers and their profiles?
4. Based on the competency level of the teachers, what competency-based training plan can be developed?

RESEARCH METHODOLOGY

Type of Research

The descriptive research method was used in the study to evaluate the teachers' level of ICT competency and its relationship to their identified demographic profiles. It is quantitative in nature as it aimed to collect quantifiable information for statistical analysis of the population sample.

Respondents

The respondents of the study were the elementary teachers of District 2 under the Schools Division of the City of Malolos, who worked and handled the students under the modality of distance learning during the school year of 2021-2022.

Instruments

The researcher adopted a standardized instrument as the main data gathering tool for this study. The instrument consists of two parts; the first part is composed of the profile of the teachers and the second part is focused on the ICT Competency assessment. The standardized questionnaire was adopted from the National ICT Competency Standards for Teachers (NICS), and it is composed of 76 statements along with five levels of competence: Very Great Extent (4.51-5.00), Great Extent

(3.51-4.50), Moderate Extent (2.51-3.50), Some Extent (1.51-2.50) and Not at all (1.00-1.50). The tool is published online, and it is downloadable in PDF format. The higher the score, the higher the level of teachers' ICT skills while lower scores meant a lower level of teachers' ICT skills. The tool is used to provide performance indicators to evaluate the level of knowledge and competence of teachers to apply ICT in the educational setting. The questionnaire was divided into four (4) domains which are technology operations and concept, social and ethical, pedagogical, and professional. The scale was perfect for the study as it was found with excellent content validity, and it is widely used by educators to assess the ICT skills of teachers across the world.

The standardized tool has 5 levels of proficiency to assess the ICT skills of teachers.

Levels of Competency	Verbal Interpretation
4.51-5.00	Very Great Extent
3.51-4.50	Great Extent
2.51-3.50	Moderate Extent
1.51-2.50	Some Extent
1.00-1.50	Not at all

Data Analysis

The data collected were tabulated and processed using Statistical Packages with the assistance of a licensed statistician. The data obtained from the results of the survey method was analyzed by utilizing both descriptive and inferential data analysis procedures. The following steps were followed.

1. The survey questionnaire used was composed of 76 statements along with five levels of competence.

2. Descriptive and inferential analysis was applied to the obtained data. To analyze and interpret the data gathered, the following statistical measures will be used:

Rating Scale	Range	Descriptive Evaluation
5	4.50-5.49	Very Great Extent
4	3.50-4.49	Great Extent
3	2.50-3.49	Moderate Extent
2	1.50-2.49	Some Extent
1	1.00-1.49	Not at all

3. To decide on the most appropriate statistical treatment, a test of the normality of data was performed. Since the data were not normally distributed, Kruskal-Wallis Test and Mann-Whitney U test were used to determine the significant differences between the profile of the teacher-respondents and their level of National ICT Competency Standards.

RESULTS AND DISCUSSION

Demographic Profile of the Respondents

Table 1 shows the frequency and percent distribution of the respondents in terms of school. This study found that more than 50% of the teacher respondents belong

Table 1: Frequency and Percent Distribution of the Respondents in terms of School

School	Frequency	Percent
School A	6	9.1
School B	14	21.2
School C	7	10.6
School D	21	31.8
School E	18	27.3
Total	**66**	**100.0**

to School D and School E with respective percentages of 31.8 and 27.3% of the total sample size. Next, School B got 10.6% of the total number of respondents while School A obtained 9.1%. Finally, School C only has 10.6%.

Table 2: Frequency and Percent Distribution of the Respondentsin terms of Sex

Sex	Frequency	Percent
Male	7	10.6
Female	59	89.4
Total	**66**	**100.0**

Based on the results presented in Table 2, most of the respondents were female teachers with 89.4% of the total number while male teacher respondents only made up 10.6% of the sample size. Utilizing Raosoft sample size calculation using the following standards: The margin of error of 5% and confidence level of 95%. A Raosoft sample calculator is software that primarily calculates or generates the sample size of a research or survey. This online calculator offers sample size confidence interval calculation to minimize these frustrations encountered during research. This software considers the margin of error, the confidence level, and response distribution. It also offers to show viz-a-viz what the margin of error.

Table 3 provides for the frequency and percent distribution of the respondents in terms of age. The largest age group was 46 to 50 years old teachers which made up 19.7% of the total respondents. It was closely followed by age groups 26 to 30 years old, 36 to 40 years old, and 51 to 55 years old age groups all with 15.2%. They were succeeded

Table 3: Frequency and Percent Distribution of the Respondents in terms of Age

Age	Frequency	Percent
Below 25 years old	3	4.5
26 to 30 years old	10	15.2
31 to 35 years old	8	12.1
36 to 40 years old	10	15.2
41 to 45 years old	7	10.6
46 to 50 years old	13	19.7
51 to 55 years old	10	15.2
55 years old and above	5	7.6
Total	**66**	**100.0**

by 31 to 35 years old, 41 to 45 years old, 55 years old and above, and below 25 years old age groups with respective percentages of 12.1%, 10.6%, 7.6%, and 4.5%.

It can be seen in Table 4 that 69.7% of the respondents have MA units already while 22.7% of teachers surveyed finished a bachelor's degree. Teachers who have finished a master's degree got 7.6%.

Table 4: Frequency and Percent Distribution of the Respondent in terms of Highest Educational Attainment

Highest Educational Attainment	Frequency	Percent
Bachelor's Degree	15	22.7
with MA units	46	69.7
Master's Degree	5	7.6
Total	**66**	**100.0**

Table 5: Frequency and Percent Distribution of the Respondents in terms of Length of Service

Length of Service	Frequency	Percent
1 to 5 years	19	28.8
6 to 10 years	11	16.7
11 to 15 years	15	22.7
16 to 20 years	6	9.1
20 years and above	15	22.7
Total	**66**	**100.0**

Based on the table above, most of the respondents belong to groups of teachers who were in service for one to five years (28.8%), 11 to 15 years (22.7%), or 20 years and above (22.7%). It was followed by teachers who were in the service for six to 10 years with 16.7% of the total number. Meanwhile, those who are serving for 16 to 20 years belong to the smallest group with 9.1% of the total number of respondents.

Table 6: Frequency and Percent Distribution of the Respondents in terms of Position

Position	Frequency	Percent
Teacher I	28	42.4
Teacher II	9	13.6
Teacher III	21	31.8
Master Teacher I	5	7.6
Master Teacher II	3	4.5
Total	**66**	**100.0**

It can be seen from this table that 42.4% of the respondents were holding a Teacher I position which was followed by Teacher III with 31.8%. Respondents who are holding Teacher II, Master Teacher I, and Master Teacher II got 13.6%, 7.6%, and 4.5% respectively.

Table 7 shows the frequency and percent distribution of the respondents according to the number of seminars attended related to ICT. According to the results, 71.2% of the respondents attended one to three seminars related to ICT. Meanwhile, 19.7% attended four to six seminars and 9.1% attended more than seven seminars related to ICT. This table shows that the majority of the respondents have one to five years of using ICT in teaching (56.1%) while 30.3% of them have been using ICT in teaching for six to 10 years already. Meanwhile. 13.6% of the respondents were teaching using ICT for more than 11 years.

Table 7: Frequency and Percent Distribution of the Respondents in terms of the Number of Seminars Attended Related to ICT

Number of Seminars Attended Related to ICT	Frequency	Percent
1 to 3	47	71.2
4 to 6	13	19.7
7 and above	6	9.1
Total	**66**	**100.0**

Table 8: Frequency and Percent Distribution of the Respondents in terms of the Number of Years of Using ICT in Teaching

Number of Years of Using ICT in Teaching	Frequency	Percent
1 to 5 years	37	56.1
6 to 10 years	20	30.3
11 years and above	9	13.6
Total	**66**	**100.0**

Respondents' Assessment of their Level of ICT Competencies

Table 9 shows the summary of teachers' level of ICT competency based on the four domains of NICS for Teachers.

Teachers rated themselves as having a "great extent" level in terms of Technology Operations and concepts, Social and Ethical, and Pedagogical. However, teachers have assessed their competency level in the Professional domain as "moderate extent".

Table 9: Summary of Respondent's Level of ICT Competencies based on the Four Domains of National ICT Competency Standards for Teachers

National ICT Competency Standards for Teachers	Overall Weighted Mean	Remarks
Domain 1: Technology, Operations, and Concept	3.77	Great Extent
Domain 2: Social and Ethical	3.71	Great Extent
Domain 3: Pedagogical	3.60	Great Extent
Domain 4: Professional	3.34	Moderate Extent

Table 10 displays the significant differences between the level of ICT competencies of teachers and their profile in terms of sex using the Mann-Whitney U Test for

Table 10: Mann-Whitney U Test: Significant Differences between Respondents' Level of ICT Competencies and their Demographic Profile in terms of Sex

Differences between Respondents' Level of ICT Competencies and their Demographic Profile in terms of Sex	Mann-Whitney Test (U – Value)	p-value	Decision	Remarks
Technology, Operations, and Concept	174.00	0.498	Accept Ho	Not Significant
Social and Ethical	186.00	0.669	Accept Ho	Not Significant
Pedagogical	149.00	0.230	Accept Ho	Not Significant
Professional	163.00	0.363	Accept Ho	Not Significant

data not normally distributed. This study found there were no significant differences between the sex of the teacher and technology operations and concepts (U=174, p=0.498), social and ethical aspects (U=186, p=0.669), pedagogical aspect (U=149, p=0.230), and professional aspect (U=163, p=0.363). All p-values generated were greater than the significance level of 0.05, therefore the null hypothesis is accepted and that significant differences were not established. This means that the level of ICT competencies among teacher respondents in all aspects was statistically the same even if they were grouped according to sex.

Table 11 provides the results of the significant differences between the level of ICT competencies of teachers and their profile in terms of age using the Kruskal-Wallis Test for data not normally distributed. This study observed

Table 11: Kruskal-Wallis H Test: Significant Differences between Respondents' Level of ICT Competencies and their Demographic Profile in terms of Age

Differences between Respondents' Level of ICT Competencies and their Demographic Profile in terms of Age	Kruskal-Wallis Test (H – Value)	p-value	Decision	Remarks
Technology, Operations, and Concept	19.268	0.007	Reject Ho	Significant
Social and Ethical	12.321	0.090	Accept Ho	Not Significant
Pedagogical	13.718	0.056	Accept Ho	Not Significant
Professional	10.125	0.182	Accept Ho	Not Significant

that there was a significant difference between the age of the teacher and technology and operations and concept (H= 19.268, p=0.007). The p-values generated were less than the significance level of 0.05, therefore the null hypothesis is rejected and that significant differences were established. This also denotes that there is a difference in the level of ICT competencies among teachers in terms of technology operations and concepts when they were grouped according to age. However, the results were different for social and ethical aspects (H=12.321, p=0.090), pedagogical aspects (H=13.718, p=0.056), and professional aspects (H=10.125, p=0.182). This means that there are no differences in the level of teachers' ICT competencies in these aspects even if they were grouped according to their age.

Table 12 represents the significant differences between

Table 12: Kruskal-Wallis H Test: Significant Differences between Respondents' Level of ICT Competencies and their Demographic Profile in terms of Highest Educational Attainment

Differences between Respondents' Level of ICT Competencies and their Demographic Profile in terms of Highest Educational Attainment	Kruskal-Wallis Test (H – Value)	p-value	Decision	Remarks
Technology, Operations, and Concept	0.387	0.824	Accept Ho	Not Significant
Social and Ethical	0.204	0.903	Accept Ho	Not Significant
Pedagogical	0.695	0.707	Accept Ho	Not Significant
Professional	1.759	0.415	Accept Ho	Not Significant

the level of ICT competencies of teachers and their profile in terms of highest educational attainment using the Kruskal-Wallis H Test for data not normally distributed. This study revealed that there were no significant differences between the educational attainment of the teacher and technology operations and concepts (H=0.387, p=0.824), social and ethical aspects (H=0.204, p=0.903), pedagogical aspect (H=0.695, p=0.707) and professional aspect (H=1.759, p=0.415). All p-values generated were greater than the significance level of 0.05, therefore the null hypothesis is accepted and that significant differences were not established. This means that the level of ICT competencies among teacher respondents in all aspects was statistically the same even if they were grouped according to highest educational attainment.

Table 13: Kruskal-Wallis H Test: Significant Differences between Respondents' Level of ICT Competencies and their Demographic Profile in terms of Length of Service

Differences between Respondents' Level of ICT Competencies and their Demographic Profile in terms of Length of Service	Kruskal-Wallis Test (H – Value)	p-value	Decision	Remarks
Technology, Operations, and Concept	15.471	0.004	Reject Ho	Significant
Social and Ethical	10.344	0.035	Reject Ho	Significant
Pedagogical	12.578	0.014	Reject Ho	Significant
Professional	12.719	0.013	Reject Ho	Significant

Table 13 presents the significant differences between the level of ICT competencies of teachers and their profile in terms of length of service using the Kruskal-Wallis Test for data not normally distributed. This study found that there were significant differences between the length of teacher's service and the level of ICT competencies in terms of technology operations and concepts (H=15.471, p=0.004) social and ethical aspects (H= 10.344 p=0.035) pedagogical aspect (H=12.578, p=0.014) and professional aspect (H=12.719, p=0.013). All p-values generated were less than the significance level of 0.05, thus, the null hypothesis is rejected and that significant differences were established. This also denotes that there are differences in the level of ICT competencies among teachers in all aspects when they were grouped according to their length of service.

Table 14: Kruskal-Wallis H Test: Significant Differences between Respondents' Level of ICT Competencies and their Demographic Profile in terms of Position

Differences between Respondents' Level of ICT Competencies and their Demographic Profile in terms of Position	Kruskal-Wallis Test (H – Value)	p-value	Decision	Remarks
Technology, Operations, and Concept	5.086	0.279	Accept Ho	Not Significant
Social and Ethical	3.588	0.465	Accept Ho	Not Significant
Pedagogical	5.880	0.208	Accept Ho	Not Significant
Professional	7.426	0.115	Accept Ho	Not Significant

Table 14 shows the significant differences between the level of ICT competencies of teachers and their profile in terms of designation or position using the Kruskal-Wallis H Test for data not normally distributed. This study discloses that there were no significant differences between the position of the teacher and their level of ICT competencies in terms of technology operations and concepts (H=5.086, p=0.279), social and ethical aspects (H=3.588, p=0.465), pedagogical aspect (H=5.880, p=0.0.208) and professional aspect (H=7.426, p=0.115). All p-values generated were greater than the significance level of 0.05, thus, the null hypothesis is accepted and that significant differences were not established. This assumes that the level of ICT competencies among teacher respondents was statistically the same in all aspects even if they were grouped according to their positions.

Table 15: Kruskal-Wallis H Test: Significant Differences between Respondents' Level of ICT Competencies and their Demographic Profile in terms of Number of Seminars Attended related to ICT

Differences between Respondents' Level of ICT Competencies and their Demographic Profile in terms of Number of Seminars Attended related to ICT	Kruskal-Wallis Test (H – Value)	p-value	Decision	Remarks
Technology, Operations, and Concept	5.367	0.068	Accept Ho	Not Significant
Social and Ethical	2.976	0.226	Accept Ho	Not Significant
Pedagogical	2.185	0.335	Accept Ho	Not Significant
Professional	0.777	0.678	Accept Ho	Not Significant

Table 15 shows the significant differences between the level of ICT competencies of teachers and their profile in terms of the number of seminars attended related to ICT using Kruskal-Wallis H Test for data not normally distributed. This study unveils that there were no significant differences between the number of seminars attended by the teacher related to ICT and their level of ICT competencies in terms of technology operations and concepts (H=5.367, p=0.068), social and ethical aspects (H=2.976, p=0.226), pedagogical aspect (H=2.185, p=0.335) and professional aspect (H=0.777, p=0.678). All p-values generated were greater than the significance level of 0.05, thus, the null hypothesis is accepted and that significant differences were not established. This indicates that the level of ICT competencies among teacher respondents was statistically the same in all

Table 16: Kruskal-Wallis H Test: Significant Differences between Respondents' Level of ICT Competencies and their Demographic Profile in terms of Number of Years of Using ICT in Teaching

Differences between Respondents' Level of ICT Competencies and their Demographic Profile in terms of Number of Years of Using ICT in Teaching	Kruskal-Wallis Test (H – Value)	p-value	Decision	Remarks
Technology, Operations, and Concept	1.845	0.397	Accept Ho	Not Significant
Social and Ethical	0.502	0.778	Accept Ho	Not Significant
Pedagogical	1.214	0.545	Accept Ho	Not Significant
Professional	0.996	0.608	Accept Ho	Not Significant

aspects regardless of the number of seminars attended related to ICT.

Table 16 indicates the significant differences between the level of ICT competencies of teachers and their profile in terms of the number of years of using ICT in teaching using the Kruskal-Wallis H Test for data not normally distributed. This study shows that there were no significant differences between teacher's number of years of using ICT and their level of ICT competencies in terms of technology operations and concepts (H=1.845, p=0.397), social and ethical aspects (H=0.502, p=0.778), pedagogical aspect (H=1.214, p=0.545) and professional aspect (H=0.996, p=0.608). All p-values generated were greater than the significance level of 0.05, thus, the null hypothesis is accepted and that significant differences were not established. This specifies that the level of ICT competencies among teacher respondents was statistically the same in all aspects regardless of the number of years of using ICT in teaching.

CONCLUSION AND RECOMMENDATION

Results of the study revealed that teachers have a high level of ICT competency based on the National ICT Competency Standards for Teachers (NICS) in terms of technology operations and concepts, social and ethical, and pedagogical. However, teachers have an average level of ICT Competency in terms of professional aspects. The variable of the study which are the identified demographics of the teacher-respondents such as sex, position or designation, length of service and number of ICT-related training attended, and several years of using ICT in teaching are both factors that affect the ICT competency of teachers. On the other hand, identified variables such as age and length of service do contribute to teachers' ICT competency. This result is supported by the study of Murithi and Yoo, (2021) which revealed that the effect of age and gender on teacher capacity in ICT and Araiz (2018) has proved that significant relationships were not established concerning their gender, age, educational attainment, length of service and position.

Based on the findings, the focus of the competency-based training plan should be based on indicators in which teachers got a "moderate extent" of competency level of ICT. For Domain 1: Technology Concepts and Operations (Configure computer settings of various software and hardware; Use online and offline help facilities for troubleshooting, maintenance, and update of applications, for Domain 2: Social and Ethical (Differentiate and identify the Copyright, Trademark, Patent of various products; Detect plagiarism in student work), for Domain 3: Pedagogical (Make students use databases, spreadsheets, concept mapping tools and communication tools, etc.; Encourage students to do data analysis, problem solving, decision making and exchange of ideas; Teach students to use various multimedia materials for the reports and class presentations; Use electronic means of administering quizzes and examinations; Analyze assessment data using spreadsheets and statistical applications; Set up online databases or repositories of student works) and for Domain 4: Professional (Review new and existing software for education; Recommend useful and credible web sites to colleague; Conduct research on the use of technology in the classroom; Follow online tutorials or online degree programs; Actively participate in online forums and discussions; Publish (formal /informal) research on the use of ICT in education; Share lesson plans, worksheets, templates and teaching materials through course web sites.

For instance, many governments around the world are adopting the trend of incorporating digital technologies, or ICT, into the curriculum for schools as they begin to realize the value of ICT in education. As it becomes more integrated into more facets of our lives and closes educational gaps as it grows and transforms over time, it will continue to play a significant role in our future education. Teachers, students, and school administrators must work together to integrate technology successfully. Future researchers will be able to evaluate the extent of ICT integration in schools in light of teachers' ICT competency standards. Additional research on the issues that prevent teachers from utilizing and integrating ICT in the classroom can also be carried out.

It is recommended that the Division of the City of Malolos allocate appropriate funds for ICT facilities, tools, and software that can be used to facilitate the teaching and learning process under different learning modalities; a similar study may be conducted to determine if the teachers' ICT competency level will affect the student's performance in various fields of study, and a further study may be conducted to correlate the teachers' ICT competency level with gender, the number of ICT-related

training attended and the number of years of using ICT in teaching and learning process.

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