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ICT TRAINING, TEACHERS' PERFORMANCE, AND TEACHERS' PRODUCTIVITY TOOLS USE IN INSTRUCTION

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Abstract

This research aimed to determine teachers' productivity tools utilization in instruction, ICT training and performance of elementary teachers. Further, it determined the significant influence of teachers' productivity tools utilization in instruction and ICT training towards teachers' performance. The survey questionnaire was validated and tested with Cronbach reliability. Further, Exploratory factor analysis was used to determine its construct validity. The results revealed that teacher's productivity tools utilization in instruction had a significant influence to the teaching performance of teachers. Further, ICT training of teachers had a significant influence to their teaching performance.

It is concluded that almost all teachers are expert in using Microsoft documents but they have difficulty in practicing Microsoft excel. In addition, the ICT trainings that teachers have attended showed relevance, appropriateness, and had met the set objectives. And teachers were able to set best examples on how to properly utilize soft wares and technologies in delivering teaching instructions. Moreover, it is concluded that in every increase in the level of teachers' productivity tools utilization in instruction, there is a corresponding increase in the level of teaching performance. Also, in every increase in the level of ICT training of teachers, there is a corresponding increase in the level of teaching performance.

Keywords: Teachers Productivity Tools, ICT Training, Teaching performance.

1. INTRODUCTION

Utilization of technologies in the present situation has become a pivotal engine for daily life and economic activity. Additionally, curricular changes, reorientation, teacher education and investments in school and infrastructure are ongoing, including focused on modern computers, ICT gadgets, and educational materials for every public school. In a documentation entitled Using Technology Productivity Tools in Teaching (Morrison, 2012) issued at the University of Northern California in The Technology Source Archives, the incorporation of technological productivity tools in teaching outturn to significant development of learners' communication skills in oral and written.

The objective of intensifying the utilization of applied science and connecting the electronic gap are some of the essential aim of the Philippine conditions. Millions have been spent to ensure that the public schools will receive technology facilities and equipment in order to enhance both teachers and learners' skills in using productivity tools (Rodrigo, 2015). Nevertheless, despite government enthusiasm and attempts to get the educational system to the advanced technological era, the development of ICT skills for teachers is not as simple and simple as it looks, and there are surely broader and broader conditions for progress in technology at school (Hsu, 2010).

Further studies have assessed the displayed skills of teachers in using the productivity tools (Kvavik & Caruso 2015; Haywood, Johnson, Smith, Willis & Levine, 2011). It characteristically assesses the technological competencies necessary for teachers in bridging the significant difference in the present writings by focusing on teachers' extent of expertise basically with the use of software tools, such as: text editing, slide shows, and creating spreadsheets. Teachers are the direct means of conveying knowledge and information to the student. This study is important since the achievement of the goal of the Philippine education system depends on modernizing basic education. Confronted by new and creative techniques, some teachers can find it unpleasant to lose control of established teaching procedures and strategies. On the other hand, it may provide others awareness and confidence, especially in quality education via creative education, who are inclined to open their thoughts and hearts to respond to the requirements of the innovative instruction (Mangesi, 2010).

The utilization of ICT in instruction is a significant and practical approach to provide learners with education in order to help them build the ability they need to operate in the world (Kosoko & Tella, 2010).

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2. STATEMENT OF THE PROBLEM

The study aimed to determine the teachers' productivity tools utilization in instruction, ICT training and teachers' performance and its effect on their performance.

Specifically, this study addressed the following research questions:

1. What is the level of teachers' productivity tools utilization in instruction?
2. What is the level of ICT training of teachers?
3. What is the level of teachers' performance?
4. Does the level of teachers' productivity tools utilization in instruction significantly influence teachers' performance?
5. Does the level of ICT training of teachers significantly influence the level of teachers' performance?

3. THEORETICAL FRAMEWORK

This study is supported on the model named Concerns Based Adoption Model (CBAM), which was established by the Austin Teacher Education Research & Development Centre, Texas, in the 1970s (Hall & Hord, 1987), which was based on fundamental study conducted by Fuller (1969) on phases of concern undergone by educators in relation to its improvement. Since its inception, but not to our knowledge, the CBAM model has extensively used and verified in education academically and psychatics of education. However, this framework has a great deal to give people in almost all fields researching development technology, because it is important to understand and handle the process of changes in embracing innovations if the goals of projects are to be able to be successfully achieved.

As mentioned, the primary essential to innovation and growth in education are instructors; their ability to modify change will define if innovations were successful. Without active engagement leading to transformation, teacher overall opinions of successful instruction stay anchored in student education, from elementary school until become a practice teacher (Tunks & Weller, 2009).

The CBAM model allows the study to focus particularly on the most important participants in the process of change: instructors (Donovan, Hartley & Struder, 2007). This promotes a helpful foundation for the development of programmes and training of teachers and as well as for promoting policy reforms (Hollingshead, 2009). Recently, Hall and Hord (2005) have further and more completely argued in favor of continuous support for teachers in change and CBAM promotes three general requirements for teachers undergoing change: comprehending of the issues and participants extent of use, prompt response to these issues and as the applications progress and providing constent and continuous support. They stated that instructors who do not receive follow-up assistance are unlikely to adopt changes whereas innovation implementation increases significantly when sustained.

In addition, numerous questions about the method of training are recognized in the literature, such as: the location of instruction, beginning points and the abilities taught (Strudler, Mckinney, & Jones, 1999). Moreover, instructors are anticipated to build competencies from ICT formation in classrooms, training should guarantee that these abilities are directly related to their application in real learning contexts. Both Granger et al. (2002) and Browne and Ritchie (1991) highlighted that isolated learning skills might have minimal influence on class practice whether courses in training contribute to the shifting of abilities into lesson classes.

4. CONCEPTUAL FRAMEWORK

This study presents a framework comprised of the independent and dependent variables. Independent variables were to determine the level of teachers' productivity tools utilization in instruction (Shpak, 2019). The second independent variable is ICT training. The ICT training of teachers should promote the integration of the new active methods (Nousiainen, Kangas, Rikala, Vesisenaho, 2018). The dependent variable was the teachers' performance. Davies (2009) suggested that instructors will utilize ICT to prepare and teach.

The study conceptualized the direct influence of the teachers' productivity tools utilization in instruction and ICT training on teachers' performance.

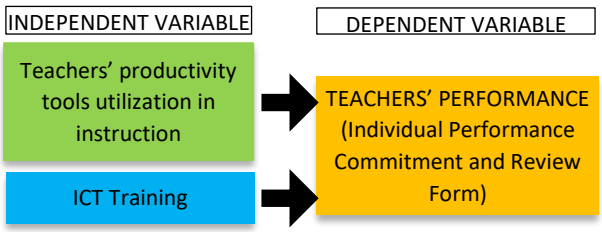

Figure 1 Conceptual framework of the study entitled: "Teachers' Productivity Tools Utilization in Instruction, ICT Training and Teachers' Performance"

5. METHODS

Research Design

The researcher used a descriptive-correlational research design (Dulock, 1993). It was descriptive as it seeks to define teachers' productivity tools utilization in instruction; ICT training; descriptively, the degree of teachers' performance among public elementary teachers. Also, correlative as it seeks to find out the influence of teachers' productivity tools utilization in instruction and ICT training on teachers' performance.

Data Gathering Methods

The researcher observed the following procedures in the gathering of the data. An in-depth reading of the literature was done to create a self-made questionnaire. After which, the researcher did data mining and saved numerous pieces of literature that are crucial in the present study. The researcher asked for the adviser's assistance to make the statements appropriate before the panel of experts will validate the tool. To embrace the experts' suggestions, alteration was done and the final questionnaire was pilot tested and was subjected to exploratory factor analysis to establish its construct validity. To established reliability, Cronbach Alpha test was used and obtained a result of 0.951.

6. PARTICIPANTS OF THE STUDY

The researcher wanted to cope up 110 elementary teachers in the fourteen (14) elementary schools of Magpet West

District for the school year 2020-2021. But due to the pandemic, only 83 elementary teachers were taken as samples because of the new work arrangements made in compliance to COVID-19 protocols. Only half of the population of the teachers were present during the conduct of the study.

Table 1 Distribution of the respondent of the study

SCHOOLS	Teachers
Alibayon Elementary School	3
Apostol Memorial Central Elementary School (AMCES)	6
Bagumbayan Elementary School	7
Basak Elementary School	18
Cebu Mailo Elementary School	2
Del Pilar Elementary School	8
Juan Enghog Elementary School	2
Inac Elementary School	8
Mahongkog Elementary School	2
Noa Elementary School	10
Noa Annex	1
Sibug Elementary School	4
Temporan Elementary School	8
Temporan Annex	4
Total	83

Statistical Tools and Data Analysis

The gathered data were tabulated, analyzed and interpreted using the mean that was introduced by (Gaus,1809), the standard deviation that was founded by (Pearson, 1893) and simple linear regression (Galton, 1911)was also used in interpreting the data.

Ethical Considerations

In collecting the data of this study, the researcher come after the accurate procedures. Through this, the entire conduct of the research was organized and systematic. The researcher prepared a letter asking permission to conduct the study. This was noted by her adviser and the Dean of the Graduate School of Cotabato Foundation College of Science and Technology. Once signed, this was transmitted to the Office of the Schools Division Superintendent for his approval. The approved letter was reproduced and each district supervisor and school head was provided with a copy of the letter. The researcher prepared a schedule of visit per school. The timetable was set depending on the respondents' availability since there is no face-to-face schooling this time due to the CoViD-19 pandemic. At the same time, the prepared questionnaires were then conducted and gathered after it was answered by the respondents.

7. RESULTS AND FINDINGS

Quantitative Strand

This section dealt with the result of the quantitative data gathered through the survey questionnaires.

Summary of Results and Discussions

Research Problem No. 1

To sum up, the level of teacher's productivity tools utilization in instruction obtained an over-all mean of 4.47 interpreted as highly utilized by the teachers. All indicators were described as highly utilized too.

Table 2 Level of Teacher's Productivity Tools Utilization in Instruction

Indicators	Mean	SD	*Descr.*
Preparing lesson plans using MS Word	4.72	0.50	*Highly Utilized*
Creating and saving test and exam papers in MS Word	4.72	0.50	*Highly Utilized*
Using MS Word in encoding class attendance monthly or annually	4.54	0.70	*Highly Utilized*
Saving a record of worksheet of each students' profile	4.67	0.52	*Highly Utilized*
Encoding and saving annual reports in MS Word	4.69	0.52	*Highly Utilized*
Recording and monitoring students' performance by uploading the marks in spreadsheet	4.41	0.77	*Highly Utilized*
Comparing students' performance using MS Excel	4.47	0.70	*Highly Utilized*
Using MS Excel in solving complicated mathematical problems	4.45	0.77	*Highly Utilized*
Inputting equation of the line and drawing the graph without manual calculations	4.04	0.98	*Utilized*
Plotting and analyzing graphs in MS Excel	4.19	0.93	*Utilized*
Creating and presenting dynamic slide shows	4.41	0.80	*Highly Utilized*
Inserting clip art or animation on the monitor screen computer	4.51	0.61	*Highly Utilized*
Incorporating sound, music file, and video file	4.42	0.65	*Highly Utilized*
Using narration and relevant images in MS Powerpoint	4.35	0.71	*Highly Utilized*
Using interesting multimedia presentation in slide presentation	4.49	0.70	*Highly Utilized*
Over-all Mean and SD	4.47	0.49	*Highly Utilized*

Level	Range	Description
5	4.21 – 5.00	Highly Utilized
4	3.41 – 4.20	Utilized
3	2.61 – 3.40	Moderately Utilized
2	1.81 – 2.60	Slightly Utilized
1	1.00 – 1.80	Very Slightly Utilized

Research Problem No. 2

Table 3 Level of ICT Training of Teachers

Indicators	Mean	SD	Description
The objectives of the training were met	4.61	0.54	Very High
The presenters were engaging	4.46	0.50	Very High
The presentation materials were relevant	4.57	0.52	Very High
The content of the course was organized and easy to follow and understand	4.57	0.50	Very High
The trainers were well prepared and able to answer any questions	4.44	0.55	Very High
The course duration was appropriate	4.48	0.57	Very High
The pace content of the course was appropriate to the attendee's competence	4.45	0.57	Very High
The demonstrations were helpful and relevant	4.54	0.53	Very High
The venue was appropriate for the event	4.49	0.61	Very High
The meeting room, facilities and resources were adequate and comfortable.	4.54	0.55	Very High
Over-all Mean and SD	4.52	0.41	Very High

Level	Range	Description
5	4.21 – 5.00	Very High
4	3.41 – 4.20	High
3	2.61 – 3.40	Average
2	1.81 – 2.60	Low
1	1.00 – 1.80	Very Low

To summarize, the general weighted mean of the level of ICT Training of teachers is 4.52 interpreted as very high.

Research Problem No. 3

Table 4 Teachers' Performance

Indicators	Mean	SD	Interpretation
Prepared basic compositions (e.g., letters, reports, spreadsheets and graphics presentation using Word Processing and Excel).	4.55	0.63	Very High
Identified different computer parts, turns the computer on/off, and work on a given task with acceptable speed and accuracy and connects computer peripherals (e.g. printers, modems, multimedia projectors, etc.)	4.58	0.56	Very High
Prepared simple presentation using PowerPoint.	4.53	0.65	Very High
Utilized technologies to: access information to enhance professional productivity, assists in conducting research and communicate through local and global professional networks.	4.53	0.59	Very High
Recommended appropriate and updated technology to enhance productivity and professional practice.	4.51	0.57	Very High
Over-all Mean and SD	4.54	0.51	Very High

Level	Range	Description
5	4.21 – 5.00	Very High
4	3.41 – 4.20	High
3	2.61 – 3.40	Average
2	1.81 – 2.60	Low
1	1.00 – 1.80	Very Low

To summarize, the general weighted mean of teachers' performance is 4.54 interpreted as very high.

Research Problem No. 4

The results show that the level of teacher's productivity tools utilization in instruction significantly influenced the level of teaching performance. Thus, the null hypothesis which states that the level of teacher's productivity tools utilization in instruction does not significantly influence teaching performance is rejected. The result of the study implies that the level of teacher's productivity tools utilization in instruction showed that the teachers were expert in plotting and analyzing graphs in MS Excel; and inputting equation of the line and drawing the graph without manual calculations.

Table 5 Influence of Teacher's Productivity Tools Utilization in Instruction on Teachers

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.579	0.406		3.888	0.000
	prodtools	0.662	0.090	0.632	7.333**	0.000
a. Dependent Variable: teaching perf						

***-significant at 1% level of significance*
R^2- .399; F (1,82) = 53.771; Value =0.00

Result further revealed that the predictive power of the level of teacher's productivity tools utilization in instruction on the teachers' performance is 39.9% based on the R^2 which is .399. This means that there are 60.1% of the variables not included in this regression model. It could also be inferred that in every unit increase in the level of teacher's productivity tools utilization in instruction, there is a corresponding increase in level of teaching performance by .662 unit.

Table 6 Influence of ICT Training for Teachers on Teachers Performance

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.541	0.539		2.858	0.005
	Training	0.664	0.119	0.527	5.584**	0.000
a. Dependent Variable: teaching perf						

***-significant at 1% level of significance*
R^2=.278; F (1,82) = 31.182; P-value = .00

It is shown in the table above that the overall regression model is significant, F (1,82) =31.182, p<.001. It means that the level of ICT training of teachers significantly influences the level of teaching performance. Thus, the null hypothesis which states that the level of ICT training of teachers does not significantly influence teaching performance is rejected. Result further revealed that the predictive power of the level of ICT training on the teachers' performance is 27.8% based on the R2 which is .278. This means there is 72.2% of the variables not included in the regression model. It could also be inferred that in every unit increase in the level of ICT training of teachers, there is a corresponding increase in level of teaching performance by .664 unit.

The result implies that the higher the ICT training for teachers, the higher also is their performance.

8. CONCLUSIONS

Based on the findings of this study, it could be concluded that teachers' productivity tools in instruction is highly utilized, the level of ICT training of teachers and the level of teachers' performance is very high. Further, teachers' productivity tools utilization in instruction significantly influence teachers' performance and the ICT training of teachers also has a significant influence on their performance.

9. RECOMMENDATIONS

After careful consultation on the findings above, it is recommended that:

1. The teachers may maximize the utilization of productivity tools in instruction.
2. The Department/Administration may require teachers to attend training in ICT and productivity tools utilization.
3. Teachers may set best examples on how to properly utilized software's and technologies in delivering teaching instructions.
4. Teachers may maintain to utilize productivity tools in instruction in order to increase their teaching performance.
5. School Administrators may craft relevant, appropriate and attainable ICT trainings for teachers that would help teachers increase their level of teaching performance.

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