

Teachers' Competence in Handling ICT-Based Instructions: Basis for an Intervention Plan

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Abstract:

This study aimed to determine teachers' competence in handling ICT based instructions at Bacolod City National High School for the School Year 2020 – 2021 as basis for an intervention plan. The variables used in this study included age, sex, highest educational attainment and length of service. To measure the level of teacher's competence, these areas were considered: Online Learning Resources, Word Processing and Spreadsheet, and Multi-Media Platforms. The result of the study showed that the level of teachers' competence in handling ICT-Based Instructions in the following areas was as follows: it was high in online learning resources; it was high in the area of word processing and spreadsheets, and it was high in multi-media platforms. Among the three (3) areas, teachers were highly competent in utilizing various social media platforms and the least competent in utilizing online resources. When grouped according to the aforementioned variables, the study showed that the teachers are strongly and highly competent in utilizing various social media platforms and less highly competent in utilizing online resources.

Keywords: Teachers' Competence, ICT-based instruction, Online learning resources, Word Processing and Spreadsheet, and Multi-media Platform

Introduction:

Nature of the Problem

Information and Communication Technologies (ICTs) are unquestionably important in education. The integration of ICTs in general, and teacher education in particular, is urgently required. In verity, various authorities and experts have well demonstrated the immense benefits of ICT in education as well as allied fields (Ghavifekr, 2016).

The pace of the technological revolution and the emergence of a knowledge society changed the traditional role of the teacher. In the framework of this educational landscape, the role of the teacher is that of acting as a guide and instrument to assure a comprehensive learning process via the modern age technologies and managing the student's learning process by the new instructional models set in newly created virtual environments. The teacher will have to develop competencies related to the learning contexts that changes in teaching and learning paradigms require (Husain, 2015).

Teachers' competency is defined from a different perspective in the 21st century. Competencies are the skills and knowledge that enable a teacher to be successful. The transformational power of an effective teacher is something many of us have experienced. There is a new framework for the competency of teachers in these present times that positively affects learners' education. First is the ICT Competencies, which refers to teachers' knowledge and technical training on how to use and maintain ICT Equipment and software, and these involve skills in operating modern technologies such as computers and the internet. The second one is the Pedagogical ICT Competencies which relates

to the instructional practices and knowledge of the curriculum and requires that they develop applications within their disciplines (The Wing Institute, 2019).

Bacolod City National High School is one of the compliant schools in the Division of Bacolod City where ICT-based instructions are fully implemented. The researcher, being a secondary school educator at the said school, has realized that some of his co-teachers are still struggling with the utilization of basic ICT applications needed for productivity and teaching. These observations motivated the researcher to conduct this study. It is their desire to establish the level of teachers' competence in handling ICT-based instructions and correlate the same to the ability of learners to perform.

Current State of Knowledge

One study aimed to assess the level of ICT competencies of public-school teachers at San Jose Central Elementary School, Division of Tacloban City, Philippines. A descriptive survey method was used, which involved a questionnaire, interviews, and observations. The findings revealed that the majority of teachers have just rudimentary knowledge of ICT and need to improve. More teacher training is required to integrate ICT into teaching and other relevant tasks assigned to them in order to improve the quality of education at the said primary public school (Caluza et al., 2017).

In line with this, Zhao (2011) performed qualitative research to learn about the viewpoints and experiences of 17 social studies instructors after they were trained in technology integration. Teachers' attitudes regarding technological integration were found to be diverse, according to the study. These beliefs impacted their employment of technology in the classroom. The majority of instructors were eager to use technology, had favorable experiences with technology integration training, improved their use of technology in the classroom, and employed technology with greater inventiveness (Segundo & Salazar, 2016).

Supporting this perspective, the use of information and communication technologies (ICTs) in education is divided into three categories: ICTs as study objects, ICTs as support tools, and ICTs as catalysts for change. Rodrigo (2015) conducted research to determine and assess the state of ICT resources in Metro Manila schools. Specifically, the researcher wanted to know what goals educators had for using ICTs, whether schools had the necessary ICT facilities to achieve these goals, whether actual usage was consistent with these goals, and whether there were any differences in responses between public and private schools. The researcher discovered that schools, a few primary schools, and many secondary schools championed emergent or transformative uses of ICTs using a mail-in questionnaire and follow-up interviews. However, Metro Manila students' access to computers, peripherals, and the Internet was poor. Software selections were also generally limited to productivity tools. As such, ICTs were primarily used to teach computer literacy and programming. Private schools were better equipped than public schools, but ICT usage was similarly limited (Rodrigo, 2015).

Given these findings, Suzara (2018), with her investigative report on the access of eLRMDS. LRMDS Coordinators are familiar with LRMDS concerns because they manage LRMDS at the school level. Interviews were done with the 17 LRMDS Coordinators from Baguio City National High School (NHS) and its annexes in Fort del Pilar and Hillside, Bakakeng NHS, Dominican-Mirador NHS, Dona Aurora NHS, Guisad NHS, Irisan NHS, Joaquin Smith NHS, Lindawan NHS, Magsaysay NHS, Mil-an NHS, Pines City NHS, Quezon Hill NHS, Roxas NHS, San Vicente NHS, and Sto. Tomas NHS. When asked about the problems encountered in producing content, the majority of them answered time and access to the portal.

Theoretical Underpinnings

This study was anchored on the Theory of Competence by E. F. Zeer (2000). According to the said theory, there is no single, universally agreed definition of a person; hence no depiction of that person can be complete. It is vital to mention the concept of a specialist's personality in this regard, as well as integral attributes such as professional competence.

Higher professional education, according to Zeer (2000), addresses entire complex tasks aimed at training trained specialists. One of these responsibilities is the development of the personality of a competent specialist capable of carrying out activities at a high professional level in a variety of fields of social practice. Understanding the concept of "competence" is crucial to our success. For current schooling and psychology, the task of uniting all parts of this multifaceted phenomenon in a single concept remains crucial (Khujomov & Tangriyev, 2019).

Zeer explained that the risk factors affecting hindering professional development and competencies include: Changes caused by, and associated with, aging; Long-term psychological stress caused by poor working conditions; Crisis of professional development; Monotony of work, resulting in boredom, loss of interest in work, low productivity, getting easily irritated, reduction in mental capacity and cognitive activity, short attention span, and constant fatigue syndrome; Professional fatigue - a temporary reduction in one's physical and cognitive productivity as a result of

exhaustion of one's internal resources and of the mismatch in the systems guiding activities and professional deformation.

Zeer also emphasized that "Professional development is as much losing as acquiring, and becoming a professional in some line of work is not only about improving, but also about losing some qualities." Professional failure thus can be viewed as complete or partial non-compliance with special requirements for cognitive capacities and personality traits to perform specific professional activities. (There is an understanding of professional degradation as a backward movement – de-adaptation, the decline in professional development, loss of required professional qualities and skills); and second, "Throughout their professional careers from the choice of a profession to decision to leave it people of many occupations are going through stages of professional destruction (destruction as in disturbance of the normal structure of something).

This concept perfectly works for this study as it deems necessary to establish teachers' competence in utilizing ICT-based instructions.

Objectives of the Study

This study aimed to determine the level of teachers' competence in handling ICT-based instructions at Bacolod City National High School during the School Year 2020-2021 as basis for an intervention plan. Specifically, the study sought answers to the following questions: what is the profile of the respondents in terms of the following age, sex, highest educational attainment, and length of service; what is the level of teachers' competence in handling ICT-Based Instructions in the areas: Online Learning Resources, Word Processing and Spreadsheet, and Multi-media platforms; is there a significant difference in the level of teachers' competence in handling ICT-Based Instructions when grouped and compared according to the aforementioned variables; and based on the findings of the study, what intervention plan can be proposed?

Research Methodology:

This section presents the research design, data gathering procedure, other instrumentation, and statistical tools. It also discusses the parameters, especially the statistical tools, the respondents, and the study's locality.

Research Design

This study employed a descriptive research design. Descriptive research design fits this study as it seeks to describe the level of teachers' competence in handling ICT-based instructions at Bacolod City National High School during the School Year 2020–2021 as the basis for an intervention plan.

Descriptive research is a type of research that examines a person's current situation and is commonly utilized in education, nutrition, epidemiology, and behavioral sciences. Its worth is based on the idea that issues can be solved and practices improved by observation, analysis, and description. The survey, which comprises questionnaires, personal interviews, phone surveys, and normative surveys, is the most used descriptive research approach (Kowalczyk, 2018).

This research design is appropriate in determining the teachers' competence in handling ICT-based instructions. This research design fits the purpose of the present study as it entails observation, analysis, and mainly description of factors. The use of survey questionnaires also qualifies this study as a descriptive research design.

Study Respondents

The study involved 125 public school teachers from a population of 185, selected through stratified random sampling. Stratified random sampling, according to Etikan and Bala (2017), is a probability sampling method where the population is divided into distinct subgroups or "strata" based on a shared characteristic (e.g., age, gender, income level), and then random samples are taken from each stratum. This technique ensures that each subgroup is adequately represented in the sample, improving the precision and generalizability of the results.

Instrument

This study utilized a self-made questionnaire divided into two parts: Part 1 collected respondents' profiles (age, sex, highest educational attainment, and length of service), while Part 2 assessed the level of teachers' competence in handling ICT-based instructions with 30 items across three areas. Responses were gathered, recorded, and analyzed using a five-point Likert scale, with ratings ranging from 5 (always) to 1 (almost never).

Data Gathering and Procedure

After administering the validity and reliability, upon approval of the school head, the questionnaires were administered to target respondents. The questionnaires were gathered, recorded, and analyzed. The data gathered from the responses of the respondents were tallied and tabulated using the appropriate statistical tools. The encoded data was computer processed using the SPSS.

Data Analysis and Statistical Treatment

Objectives 1 and 2 employed a descriptive analytical scheme, using the frequency count and percentage as a statistical tool to assess the profile of respondents, and mean to assess the level of teachers' competence in handling ICT-based instructions across the three areas. Objective 3 utilized a comparative analytical scheme, applying the Mann-Whitney U test to determine significant differences in the level of teachers' competence in handling ICT-based instructions when grouped and compared according to the aforementioned variables.

Ethical Consideration

By guaranteeing the confidentiality of the respondents' answers and upholding their anonymity during the whole research process, the study made a concerted effort to reduce the possibility of harm to its target respondents in accordance with Republic Act 10173, also known as the Data Privacy Act of 2012. The researcher also requested their free and informed consent up front.

Results and Discussion:

This section presents, analyzes, and interprets the data gathered to carry out the pre-determined objectives of this study.

Profile of Respondents

Table 1. Profile of the Respondents

Variable	Category	Frequency	Percentage
Age	Younger (Below 44 years old)	59	47.2
	Older (44 years old and above)	66	52.8
	Total	125	100.0
Sex	Male	39	31.2
	Female	86	68.8
	Total	125	100.0
Highest Educational Attainment	Lower (Bachelor's degree)	79	63.2
	Higher (MA and PhD)	46	36.8
	Total	125	100.0
Length of Service	Shorter (Below 16 years)	62	49.6
	Longer (16 years and above)	63	50.4
	Total	125	100.0

Table 1 shows the profile of the respondents in terms of the following variables. In terms of age, there are 59 or 47.20% younger respondents (below 44 years old) and 66 or 52.80% older respondents (44 years old and above). In terms of sex, there are 39 or 31.20% male respondents and 86 or 68.80% female respondents. In terms of highest educational attainment, there are 79 or 63.20% lower educational attainment respondents (Bachelors' Degree) and 46 or 36.80% higher educational attainment (MA and PhD). Regarding the length of service, 62 or 49.60% belonged to shorter tenure in service respondents (below 16 years), and 63 or 50.40% belonged to longer tenure in service (16 years and above).

This implies that majority of the respondents belong to the older category. As to their gender, majority of the respondents are female. As to their highest educational attainment, majority of the respondents have no post-graduate studies. Concerning their tenure in service, the number of tenured and less tenured respondents statistically tied with less than a percent in favor of the tenured ones.

Level of Teachers' Competence in Handling ICT-Based Instructions

Table 2. Level of Teachers' Competence in Handling ICT-Based Instructions in the Area of Online Learning Resources

Online Learning Resources

Items	Mean	Interpretation
As a teacher, I...		
1. have ready access for module resources.	4.25	High level
2. can manage online library access.	3.87	High level
3. can download teaching-learning resources from eBook Libraries.	3.85	High level
4. access e-LRMDS as it is not affected by internet traffic.	3.80	High level
5. direct learners to access DepEd's learning resource portal.	3.97	High level
6. encourage learners and fellow educators to make use of the DepEd website and LRMDS.	4.13	High level
7. update my teaching materials through DepEd LR Portal.	4.10	High level
8. I am utilizing an email account for faster communication.	4.19	High level
9. use Zoom and/or Messenger for Group or one-on-one video calls.	4.20	High level
10. utilize Google forms in giving assessments.	3.90	High level
Overall mean	4.03	High level

Table 2 shows the level of teachers' competence in handling ICT-based instructions in the area of online learning resources. The overall mean score is 4.03, interpreted as "high level". Item No. 1, which states "have ready access for module resources" got the highest mean score of 4.25, interpreted as "high level". In contrast, Item No. 4, which states "accessing e-LRMDS as it is not affected by internet traffic," got the lowest mean score of 3.80, interpreted as "high level".

The table reveals that teachers' competence in handling ICT-based online learning instructions is high. The results also show that teachers' competence in online learning is strong in having access to module resources. This could be because a larger percentage of today's teachers are tech-savvy and are competent in accessing websites. However, the teachers are challenged in accessing DepEd's online learning resources website due to poor internet traffic. While it is true that e-LRMDS access gets better at some point, there is a need to ensure that every teacher has easy access to it. This is particularly needed if the learning modality employed is blended or online learning. At some point, teachers might need additional trainings on how to source out additional websites as an alternative for the hard-to-access e-LRMDS.

This study confirms the result of Information and Computer System or ICS (2017) that to become a confident user of ICT in the classroom, teachers need to take part in ongoing training. Teachers should understand the benefits of digital literacy. The digital skills that teachers need have long moved on from just using word processing and spreadsheets software. Digital skills that 21st Century teachers should have included cloud storage and sharing solutions, social media, web editing, image editing, presentation software, and general multimedia. Some are heralding the 'flipped classroom' model as the future of 21st Century learning. Video plays a fundamental role in this (Information and Computer System or ICS, 2017).

Table 3. Level of Teachers' Competence in Handling ICT-Based Instructions in the Area of Word Processing and Spreadsheet

Word Processing and Spreadsheet Items	Mean	Interpretation
As a teacher, I...		
1. use Microsoft Word for communications.	4.29	High level
2. teach learners how to create documents, particularly with reporting using Microsoft word.	4.10	High level
3. know how to use basic Microsoft Word command such as in editing, copy and pasting of text, cut and font manipulations.	4.38	High level
4. employ Microsoft Excel in creating simple reports and spreadsheets.	4.23	High level
5. utilize the self-help formulas within Microsoft Excel.	4.10	High level
6. make use of Microsoft Excel in preparing class records, particularly in filing learners' grades.	4.23	High level
7. make use of short video clips to improve my own understanding of the subject matter.	4.02	High level
8. know how to download and save video clips needed for my class.	4.08	High level
9. am knowledgeable in composing and editing video clips.	4.13	High level
10. share my knowledge on how to employ video clips with my fellow teachers.	4.05	High level
Overall mean	4.16	High level

Table 3 shows the level of teachers' competence in handling ICT-based instructions in word processing and spreadsheet. The overall mean score is 4.16, interpreted as "high level". Item No. 1, which states "use Microsoft Word for communications" got the highest mean score of 4.29, interpreted as "high level", while Item No. 7, which states "make use of short video clips to improve my understanding of the subject matter" got the lowest mean score of 4.02, interpreted as "high level".

The table reveals that teachers' competence in word processing and spreadsheet is high. This could be attributed to the fact that many teachers have been trained through years on how to use word and excel applications. The result of the study further showed that teachers' ability to use Microsoft applications for communication purposes is their stronger side. At the same time, their weaker point is their limited ability to use video tutorials to improve their usage and skills.

Cleaves (2015) supported the result of this study. He further indicated that with the advent of technological advancements plus the need for distance learning, teachers must be able to utilize all resources within their means to improve teaching and learning experiences, in this case, by being able to operate Word and Excel as productivity applications highly.

Table 4. Level of Teachers' Competence in Handling ICT-Based Instructions in the Area of Multi-Media Platforms

Multi-Media Platforms Items	Mean	Interpretation
As a teacher, I...		
1. make use of available multimedia platforms to reach and educate my learners.	4.42	High level
2. use Instant Messaging like FB Messenger to create a group chatroom for my class to commonly meet.	4.60	Very high level
3. create a closed Facebook page for my learners to utilize to have a space to socialize.	4.41	High level
4. utilize instant messaging to post important school announcements	4.46	High level
5. initiate virtual networking via google room to keep co-teachers in the same loop.	4.20	High level
6. create a virtual "dropbox" for the safety submission of learners' assessments.	4.06	High level
7. loop our class virtual rooms – FB messenger, Instagram, and Snapchat for easier dispatch of important communication.	4.12	High level
8. make use of the free platforms online to learn how to efficiently deliver lesson content.	4.30	High level
9. encourage co-teachers to utilize the free social media platforms to communicate and connect with their learners.	4.34	High level
10. help the school in establishing collaboration with stakeholders by posting photos of accomplished on social media.	4.27	High level
Overall mean	4.32	High level

Table 4 shows the level of teachers' competence in handling ICT-based instructions in the area of multimedia platforms. The overall mean score is 4.32, interpreted as "high level". Item No. 2, which states "use Instant Messaging like FB Messenger to create a group chatroom for my class to commonly meet," got the highest mean score of 4.60, interpreted as "very high level", while Item No. 6, which states "created a virtual "dropbox" for the safety submission of learners' assessments" got the lowest mean score of 4.06, interpreted as "high level".

The table reveals that teachers' competence in using multimedia platforms is at a high level. It was revealed that most teachers strongly use FB messenger to utilize closed and managed chatrooms for their learners. However, the result showed that teachers are low in utilizing other platforms like the Dropbox app to submit learners' assessments and other test results. This is a handy app and safe application for those learners who are on online learning.

Information and Computer System or ICS (2017) opined that there are many reasons why online programs have become a popular form of distance learning in higher education today. The online environment offers unprecedented opportunities for people who would otherwise have limited access to education, as well as a new paradigm for educators in which dynamic courses of the highest quality can be developed.

Comparative Analyses

Table 5. The difference in the Level of Teachers' Competence in Handling ICT-Based Instructions in the Area of Online Learning Resources and When they are Grouped and Compared According to Variables

Online Learning Resources							
Variables	Categories	N	Mean Rank	Mann Whitney U - test	Sig. Level	P-value	Interpretation
Age	Younger	59	66.85	1720.00	0.05	0.260	Not Significant
	Older	66	59.56				

Sex	Male	39	71.29	1353.50	0.084	Not Significant
	Female	86	59.24			
Highest Educational Attainment	Lower	79	65.57	1614.00	0.297	Not Significant
	Higher	46	58.59			
Length of Service	Shorter	62	65.56	1794.00	0.431	Not Significant
	Longer	63	60.48			

Table 5 shows the difference in the level of teachers' competence in handling ICT-based instructions in the area of online learning resources and when they are grouped and compared according to variables. When grouped according to age, the computed Mann-Whitney U test is 1720.00, and the p -value is 0.260. It is higher than 0.05, interpreted as "not significant". When grouped according to sex, the computed Mann-Whitney U test is 1353.50, and the p -value is 0.084, it is higher than the 0.05, interpreted as "not significant". When grouped according to highest educational attainment, the computed Mann-Whitney U test is 1614.00, and the p -value is 0.297. It is higher than the 0.05, interpreted as "not significant". When grouped according to the length of service, the computed Mann-Whitney U test is 1794.00, and the p -value is 0.431. It is higher than 0.05, interpreted as "not significant".

Thus, the hypothesis that states "there is no significant difference in the level of teachers' competence in handling ICT-based instructions in the area of online learning resources and when they are grouped and compared according to age, sex, highest educational attainment and length of service" was, therefore, "accepted". This implies that the respondents, regardless of their age, sex, highest educational attainment, and length of service, share the same high opinion about teachers' competence. As indicated by the results, all the respondents have high regard for their abilities to utilize online resources despite some issues. Furthermore, the results of the study indicated that the teachers are fully capable of online sources utilization.

The findings conform to the results of Simin et al. (2015). In this digital era, ICT use in the classroom is important for giving students opportunities to learn and apply the required 21st-century skills. Hence studying the issues and challenges related to ICT use in teaching and learning can assist teachers in overcoming the obstacles and becoming successful technology users.

The result of this study conformed to the study of Simin et al. (2015). He said that overall, the key issues and challenges found to be significant in using ICT tools by teachers were: limited accessibility and network connection, limited technical support, lack of effective training on how to surf the internet using several search engines, the ability of upload and download files, limited time and lack of teachers' competency. Moreover, the independent t-test shows that the use of ICT tools by male teachers in the classroom is higher than female teachers. It is hoped that the outcome of this research provides proper information and recommendation to those responsible for integrating new technologies into the school teaching and learning process.

Table 6. The difference in the Level of Teachers' Competence in Handling ICT-Based Instructions in the Area of Word Processing and Spreadsheet and When they are Grouped and Compared According to Variables

Word Processing and Spreadsheet							
Variables	Categories	N	Mean Rank	Mann Whitney U - test	Sig. Level	<i>p</i> -value	Interpretation
Age	Younger	59	66.64	1732.50	0.287	Not Significant	
	Older	66	59.75				
Sex	Male	39	67.08	1518.00	0.395	Not Significant	
	Female	86	61.15				
		Lower	79	66.63	1530.50	0.141	Not Significant

Highest Educational Attainment	Higher	46	56.77			
Length of Service	Shorter	62	67.30	1686.50	0.187	Not Significant
	Longer	63	58.77			

Table 6 shows the difference in the level of teachers' competence in handling ICT-based instructions in the area of word processing and spreadsheet and when they are grouped and compared according to variables. When grouped according to age, the computed Mann-Whitney U test is 1732.50, and the p -value is 0.287. It is higher than the 0.05, interpreted as "not significant". When grouped according to sex, the computed Mann-Whitney U test is 1518.00, and the p -value is 0.395. It is higher than the 0.05, interpreted as "not significant". When grouped according to highest educational attainment, the computed Mann-Whitney U test is 1530.50, and the p -value is 0.141, which is higher than the 0.05, interpreted as "not significant". When grouped according to the length of service, the computed Mann-Whitney U test is 1686.50, and the p -value is 0.187. It is higher than 0.05, interpreted as "not significant".

Thus, the hypothesis that states "there is no significant difference in the level of teachers' competence in handling ICT-based instructions in the area of word processing and spreadsheet and when they are grouped and compared according to age, sex, highest educational attainment and length of service" was, therefore "accepted". This implies that the opinion of the respondents, regardless of their age, sex, highest educational attainment, and length of service, are practically the same. The respondents share the same high regard for their skills and capabilities in utilizing productivity applications which are specifically referred to as productivity applications.

Relative to the present one, a study aimed to assess the level of ICT competencies of public-school teachers at San Jose Central Elementary School, Division of Tacloban City, Philippines, was conducted. A descriptive survey method was used, which involved a questionnaire, interviews, and observations. Sixty-two (62) teachers served as respondents. Results showed that most of the teachers have basic knowledge of ICT and need improvement. More training is hereby needed for the teachers to integrate ICT in teaching and other related tasks assigned to them to uplift and enhance the quality of education of the said elementary public school (Caluza et al., 2017).

Table 7. Difference in the Level of Teachers' Competence in Handling ICT-Based Instructions in the Area of Multi-Media Platforms and when they are Grouped and Compared According to Variables

Multi-Media Platforms								
Variables		Categories	N	Mean Rank	Mann Whitney U - test	Sig. Level	p-value	Interpretation
Age		Younger	59	69.31	1575.00	0.064	Not Significant	
		Older	66	57.36				
Sex		Male	39	72.37	1311.50	0.050	Significant	
		Female	86	58.75				
Highest Educational Attainment		Lower	79	63.86	1749.00	0.726	Not Significant	
		Higher	46	61.52				
Length of Service		Shorter	62	66.22	1753.50	0.322	Not Significant	
		Longer	63	59.83				

Table 7 shows the difference in the level of teachers' competence in handling ICT-based instructions in the area of multimedia platforms and when they are grouped and compared according to variables. When grouped according to age, the computed Mann-Whitney U test is 1575.00, and the p -value is 0.064. It is higher than the 0.05, interpreted as "not significant". When grouped according to highest educational attainment, the computed Mann-Whitney U test is 1749.00, and the p -value is 0.726. It is higher than 0.05, interpreted as "not significant". When grouped according to the length of service, the computed Mann-Whitney U test is 1753.50 and the p -value is 0.322, higher than the 0.05, interpreted as "not significant".

Thus, the hypothesis that states "there is no significant difference in the level of teachers' competence in handling ICT-based instructions in the area of multimedia platforms and when they are grouped and compared according to age, highest educational attainment and length of service" was, therefore "accepted".

When grouped according to sex, the computed Mann-Whitney U test is 1311.50, and the p -value is 0.050. It is equal to the 0.05 significant level, thus interpreted as "significant". Thus, the hypothesis that states "there is no significant difference in the level of teachers' competence in handling ICT-based instructions in the area of multimedia platforms and when they are grouped and compared according to sex" was, therefore, "rejected".

When grouped according to sex, it was significant. Thus the hypothesis was accepted. This implies that the respondents are the same regardless of their age, highest educational attainment, and length of service. This means that they share the same high opinion and regard for their abilities to utilize multimedia platforms to improve the overall teaching and learning experience.

The result of this study is in agreement with the results of Vivakaran (2018). Social media tools play a vital role in the renovation of conventional teaching and learning practices across the globe. Though primarily developed for online social communication, social media platforms tend to possess suitable tools that can be used for instructional purposes to initiate active learning among students. The research reveals the present diffusion level of social software in the academic sector of Tamil Nadu, a state containing a varied technological landscape due to its internal digital divide and many other infrastructural discrepancies. Additionally, factors that induce and the barriers that affect the pedagogical employment of social media tools by the higher education faculty members have been identified.

The Intervention Plan

Rationale

There is a need to increase the utilization of Information and Communication Technology (ICT) in the educational system to ensure that learners can compete in the employment arena as soon they leave school. The use and integration of ICT-based instruction is a trademark of 21st-century teaching and learning.

Today, we don't have to look much further than our own homes or even rooms to find evidence of ICT in our daily life. We all have them in some form or another, whether it's a computer, plasma TV, or cell phone. People in today's society, as ICT users, all aspire to the same goal: to live a connected existence. As a result, ICT has become a lifestyle choice for a large portion of the population. Furthermore, this lifestyle choice is altering how we communicate, accelerating consumerism, and altering how we interact and receive information.

From an academic standpoint, the utilization of ICT-based learning encourages inclusion; it removes barriers and limitations as learners can travel virtually to any place. For the younger ones, ICT competency speaks of higher-order thinking skills, enhances subject learning, and encourages virtual collaborations.

With ICT utilization, the teachers can enhance collaboration with learners and co-teachers without seeing each other face-to-face. To understand how this works, you must have a laptop, iPad, or computer in the classroom. ICT brings children together in a natural way, allowing them to talk and share their work. As a result, more opportunities for communication open up, leading to language development.

Lastly, we live in a "knowledge economy." In today's economy, the ability to successfully produce and use information is critical. It is a time when information and communication technology (ICT) is prevalent and pervades all sectors of the economy, including health, education, the environment, and manufacturing. The significance of ICT in every economy is just way beyond common expectations.

Objectives

This study sought to establish the importance of ICT-Based instructions. In its pursuit to determine the level of teachers' competence in utilizing ICT-based instructions, the study revolved around three (3) key areas: Online Learning Resources, Online Learning Resources, and Multi-Media Platforms.

The study showed that teachers were highly competent in using the various multimedia platforms to improve the teaching-learning experience but were weaker in utilizing and accessing online learning resources. Due to this finding, this intervention plan is proposed to:

1. Provide resolution to teachers challenges in accessing online learning resources;
2. Create a doable plan to address teachers online and internet access; and
3. Help maintain a high level of teacher competencies in using multimedia, word processing, and spreadsheet applications by providing refresher courses.

PROPOSED INTERVENTION PLAN

Areas of Concern	Findings	Objectives	Strategies	Time Frame	Budgetary Requirement	Persons Involved	Success Indicators
ONLINE LEARNING RESOURCES	Difficulty in accessing due to internet traffic and poor internet connection	To address the need of the teachers to have access to learning resource websites like e-LRMDS, and other DepEd sites.	Pooled Resources. Due to internet connection issues, teachers having problems with their access to online learning resources will be grouped into cell groups composed of 4 to 5 teachers. Each cell group will be allowed access by the school internet facilities, using the school library as a meeting place. Online learning resources will be downloaded and saved to flash drives and distributed to group members in this session. An MT shall facilitate this. The teacher may need to identify those who cannot utilize these applications and provide a one-on-one tutorial depending on teachers' available time.	This activity can be done at least once a month.	MOOE – for the flash drives P2,000.00	Master Teacher Teachers	100% access to online learning resources downloaded to flash drives.
Word Processing and Spreadsheets	The inability of teachers to teach learners how to use Word and Excel Applications to improve their productivity.	To be able to impart the knowledge of using Microsoft word and excel to learners. To teach learners how and where to use these productivity applications.	Teach teachers on how to utilize several available interactive platforms like messenger - - example creating a group chat, classroom, or section FB page, using email, messenger, zoom for instacalls and messaging.	This can be done online based on the needs of the learners and teachers; availability.	None	Teachers Students	100% ability of learners to utilize Word and Excel applications.
Multi-Media Platforms	Some teachers fail to utilize available Multimedia platforms to loop the class for easier dispatch of information.	For teachers to have more accessible ways of informing students and putting the class together in one setting.		Should be done first of the opening of classes	Cellphone Load P300	Teachers Students	100% ability of the teachers to utilize Multimedia platforms to loop the students in one virtual classroom.

Conclusion:

The level of teachers' competence in handling ICT-Based Instructions when grouped and compared according to the variables mentioned earlier were all uniformly "high" in the three (3) areas. Still, the utilization of social media platforms emerged as the highest, or they are more competent to it versus the utilization of online resources, which appeared as the lowest or least competent to it. This could be because teachers are always exposed to social media platforms for social interactions in their everyday daily lives, like, for example, the use of Facebook, Instagram, or Twitter, and the likes of useful applications like Messenger where voice and video calling. On the one hand, the lowest mean scored area, which is online learning resource access, is typically done in schools and with laptops. The likeability of the situation, so to speak, would favor social media access than online learning resource access.

When grouped according to the earlier mentioned variables, teachers' competence in handling ICT-Based Instructions showed that the teachers were highly competent in employing social media platforms to improve teaching-learning experience. They were less skilled in accessing online learning resources. This can be attributed to the fact that it is difficult to access DepEd's learning resource websites like thee-LRMDS due to the net traffic. It is also a reality that some teachers lack a better internet connection to successfully access the website.

There was no significant difference in teachers' competence in handling ICT-Based Instructions when grouped and compared according to the variables mentioned earlier except for the area of social media platforms when grouped according to sex. This means that the teacher-respondents highly think of their abilities and skills in utilizing ICT-based instructions to improve the teaching-learning experiences. However, they are less likely to use online learning resources like thee-LRMDS because many teachers don't have a good internet connection. Some of them may have no available laptop or computer to download the needed materials. On the one hand, the significant difference could be due to the differences in the perception of males and females respondents on the importance of social media platforms in teaching. For this particular study, the male group has a higher regard for Social Media Platforms.

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