Teachers' Utilization and Effectiveness of Information and Communications Technology (ICT) -Based Instruction in Values Education: Their Influence on Learners' Performance

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ABSTRACT

This descriptive correlational study examined teachers' utilization and effectiveness of Information and Communication Technology (ICT)-Based instruction in Values Education and their influence on learners' performance in the Schools Division of Iloilo, Philippines, for the school year 2025-2026. The descriptive research design was used with 284 randomly selected teachers in Values Education from the population of 984. They were classified according to their educational attainment, position, length of service, grade level taught, and congressional district. The independent variables were the utilization and effectiveness of ICT-based instruction in Values Education, while the dependent variable was learners' performance, measured by their average grade in the first and second quarters of the school year. The data-gathering instrument was developed and modified based on the literature and theories and underwent validation and reliability testing. The statistical tools used were frequency, mean, t-test, Analysis of Variance, and multiple regression, with the level of significance set at 0.05. The results revealed that teachers utilized ICT-based instruction to a great extent. They assessed its level of effectiveness as very high. Significant differences were observed in utilization when teachers were classified by position, length of service, grade level taught, and congressional district. Their assessment of its effectiveness also varies when classified by position and congressional district. Finally, the extent of utilization and level of effectiveness of ICT-based instruction in Values Education significantly influence learners' performance

Keywords: ICT-Based Instruction, Values Education, Learners' Performance

INTRODUCTION

Effective ICT utilization within schools requires a multifaceted approach. Studies highlight the importance of teacher training and pedagogical knowledge to effectively utilize technology for instruction (Yuen et.al., 2023). Furthermore, according to Rodrigo (2021), the utilization and integration of information and communication technologies in Philippine classrooms make teaching and learning more engaging and productive by enabling teachers and learners to operate, control, and retrieve data and to promote self-regulated and active learning.

The Department of Education (DepEd) in the Philippines has issued several orders regarding the use of Information and Communication Technology (ICT) in instruction. A key order is DepEd Order No. 28, s. 2009, which provides guidelines for accepting ICT equipment and internet access for classroom and administrative use. This order also includes an advisory on standard minimum specifications for ICT equipment. This order establishes guidelines for accepting donations of ICT equipment and internet access from various institutions. It emphasizes the need for standardized specifications for ICT equipment to ensure compatibility and functionality. The order includes an advisory on standard minimum specifications of ICT equipment, which is updated annually. This advisory serves as a basis for DepEd offices when procuring ICT equipment. The order also specifies the responsibilities of different DepEd units in managing and utilizing the donated equipment.

Furthermore, the Department of Education (DepEd) has also issued several orders and guidelines regarding Values Education. These include DO 41, s. 2003, which emphasizes the integration of values development in all

subject areas and the proper evaluation of its implementation. This order aims to ensure that values education is a regular part of the curriculum and that its implementation is effectively evaluated. It also emphasizes the role of values education teachers in assisting other subject teachers in integrating values.

Additionally, DO 6, s. 1988, the Values Education Program was established within the DECS (now DepEd). More recently, DepEd Order No. 013, s. 2023, which focuses on the National Learning Recovery Program, also highlights the importance of Values, Health, and Peace Education. Thus, with the evolving trends in education, Values Education teachers are expected to utilize ICT in their teaching. The effectiveness of its use may influence learning outcomes (Polit & Beck, 2021). However, according to Limpangog and Caliba (2024), the efficient usage of technology relies on the adoption readiness of teachers, but teachers cannot function effectively since there are barriers that cut this channel. These include, among others, insufficient computers in the classrooms, unstable internet connectivity, a lack of motivation on the part of the teachers and students to use ICT, an absence of expert technical staff, and poor administrative support. These situations are also common in the Schools Division of Iloilo, especially among schools in the far-flung areas.

It is therefore the intention of the researcher, as a Values Education teacher, to conduct this study to find out the utilization and effectiveness of ICT-based instruction in Values Education and their influence on learners' performance. This study aimed to determine the teachers' utilization and effectiveness of Information and Communications Technology (ICT)- Based Instruction in Values Education and their influence on learners' performance in the Schools Division of Iloilo, Province of Iloilo, Philippines, for the school year 2025-2026.

The need to strengthen Filipino values was supported by the executive order through Presidential Proclamation No. 479 dated October 7, 1994, titled Declaring the Month of November of Every Year as Filipino Values Month. It aims to mobilize all Filipinos for nation-building by actualizing human values in daily lives as citizens and to awaken all to the power of values and ideals in achieving the individual and national goals.

Presently, Values Education (VE), often merged with Good Manners and Right Conduct (GMRC) under Republic Act 11476, is a core K-12 subject focusing on universal moral values, ethics, and Filipino principles like *Maka-Diyos, Makatao, Makakalikasan, Makabansa* (Love for God, People, Nature, Country) to build character, responsible citizens, and a just society, integrating these values across subjects to foster discipline, integrity, nationalism, and global citizenship.

Values education as a part of the school curriculum is the process by which values, attitudes, and habits are formed as the learner interacts with their environment under the guidance of the teacher. It involves different kinds of teaching-learning processes. First, in terms of subject matter, values have direct and immediate relevance to the personal life of the learner. Second, the process involves not just cognitive but all the faculties of the learner. The teacher must appeal to the heart and the total human person instead of only to the mind. And third, one learns values the way children learn many things from their parents. Children identify with parents, and this identification becomes the vehicle for the transmission of learning. Hence, the teacher's personal values play an important role in values learning. Studying values will not necessarily influence behavior. Behavior can only be influenced when a value is experienced and a commitment made to it in belief and attitude.

This study was grounded in the Unified Theory of Acceptance and Use of Technology (UTAUT), Constructivist Learning Theory, and the Theory of Performance. The Unified Theory of Acceptance and Use of Technology (Venkatesh et al., 2003) provides a foundation for understanding the factors influencing ICT integration. UTAUT posits that technology adoption is driven by achievement expectancy, effort expectancy, social influence, and facilitating conditions. These factors highlight the need for ICT tools to be user-friendly, valuable to the learning process, and supported by an enabling environment and infrastructure.

Moreover, the Constructivist Learning Theory (Vygotsky, 1978) emphasized the active role of learners in constructing knowledge through meaningful engagement and interaction. ICT tools, such as collaborative platforms, multimedia resources, and simulations, align with constructivist principles by fostering active, personalized, and experiential learning. Administrative support enhances this process by ensuring that teachers have access to training and resources to design constructivist learning experiences using ICT.

This study was also anchored on the Theory of Performance (ToP) proposed by Elger (2007), which develops and relates six foundational concepts to form a framework that can be used to explain performance as well as performance improvements. To perform is to produce valued results. A performer can be an individual or a group of people engaging in a collaborative effort. Developing performance is a journey, and the level of performance describes the location in the journey. Current level of performance depends holistically on 6 components: context, level of knowledge, level of skills, level of identity, personal factors, and fixed factors. Three axioms are proposed for effective performance improvements. These involve a performer's mindset, immersion in an enriching environment, and engagement in reflective practice

METHODS

This descriptive correlation study determined the teachers' utilization and effectiveness of Information and Communications Technology (ICT)- Based Instruction in Values Education and their influence on learners' performance in the Schools Division of Iloilo, Province of Iloilo, Philippines, for the school year 2025-2026. Descriptive research describes a phenomenon without the manipulation of any of the variables. Correlation research, as defined by McCombes (2020), measures a relationship between two variables without the researcher controlling either of them. It aims to find out whether there is either a positive correlation where both variables change in the same direction, a negative correlation in which the variables change in opposite directions, or a zero correlation when there is no relationship between variables. The degree of association, expressed as a number, indicates whether the two or three variables are related. In this case, the relationship or association that was tested was the teachers' utilization and effectiveness of ICT-based instruction and their influence on learners' performance.

The respondents were the 284 Values Education teachers currently teaching in the Schools Division of Iloilo for the school year 2025-2026, selected from the total population of 984. They were chosen through stratified random sampling. Slovin's Formula was used to determine the sample size from the population of teachers who served as the respondents of this study.

Table 1 shows the distribution of Values Education teachers per district using the actual population, sample size, and percentages. Based on the data, each congressional district was proportionately represented. As shown in the table, 27% of the respondents were from the Fifth District. Twenty-six percent were from the Third District, while 17%, 18%, and 12% were from the First, Second, and Fourth districts, respectively.

Table 1. Distribution of Respondents

Congressional Districts	**N**	**n**	**Percentage**
First	165	48	17
Second	170	49	18
Third	259	75	26
Fourth	121	35	12
Fifth	269	77	27
Total	984	284	100

This study used an adopted and modified questionnaire as a research instrument. It was subjected to content validation by experts in the field. The validators were five professional experts with postgraduate degrees in educational management and research. All their comments and suggestions were incorporated into the survey questionnaire before the conduct of the study and its distribution to the respondents. The criteria of Good and Scates for validation of the questionnaire were used.

The validated research instrument was pilot tested on 30 Values Education teachers in the School Division of Iloilo. These teachers were not part of the actual sample. The reliability of the instrument was determined using Cronbach's alpha. Results showed the reliability coefficient for utilization of ICT-based instruction in Values Education as .925 and .912 for its level of effectiveness. This meant that the instrument was reliable. After the retrieval of the questionnaires, the data were tabulated, encoded, processed, and analyzed with the use of Statistical Packages for the Social Sciences (SPSS) software.

This research employed the frequency, percentage, mean, t-test for two independent samples, One-Way Analysis of Variance (ANOVA) or F-test, and multiple regression for data analysis. The individual responses of the respondents were gathered and recorded in tally sheets before presenting the data in tabular form, ready for statistical treatment. The following statistical treatments were used in processing the data using the Statistical Packages for the Social Sciences (SPSS) Software.

DISCUSSION

The result revealed that as a whole, the teachers utilized ICT-based instruction in Values Education to a Great Extent (M=3.04). This showed that all teachers incorporate ICT tools, methods, and systems in their Values Education classes. The teachers had utilized to a very great extent the following: using electronic resources in presenting their lessons (M-3.42); collaborating with colleagues in developing ICT-based lessons (M=3.33); letting their learners view films on Filipino Values (M= 3.31); using multimedia resources when teaching (M=3.35); using electronic resources as a supplement to teaching (M=3.42) and Requiring learners to search the internet on topics related to Filipino values and share their outputs before the class (M=3.29). However, using programs or apps when asking students questions (e.g., Quizlet, Kahoot) was utilized to a low extent (M=2.19). This can be due to the limited exposure of teachers to updated ICT tools that can be utilized for teaching. The results showed that across respondent classifications, teachers' use of ICT-based instruction was extensive. This showed that all teachers incorporate ICT tools, methods, and systems in their Values Education classes. These findings align with the results of the study of Sharma (2021) that the use of ICT in Value-Based Education helps in the exchange and sharing of ideas among teachers for professional growth. It has also improved access and the quality of Value-Based Education, and its integration develops higher–order thinking skills among learners.

The result showed that the teachers assessed the level of effectiveness of ICT-based instruction in Values Education as very high (M=3.36). This revealed that all teachers employed digital tools and techniques that improved their teaching and learning process. All items in the data gathering instrument were rated very high by the teachers, except in making information more readily available than by visiting the library (M=3.25) and making the lessons interesting by using online applications like Quizlet/Kahoot (M=3.19), which they rated only as high. The study of Esmaquilan et.al. (2023) on the utilization of ICT showed that the extent of utilization of ICT in planning and delivering the lessons, and monitoring and evaluation was highly effective. The results revealed that across classifications of the teachers who assessed the level of effectiveness of ICT-based instructions in Values Education, the results were very high. This means that all Values Education teachers employed digital tools and techniques that improved the teaching and learning process. Aligning with these results, Sanjay Shah (2022) found in his study that ICT integration has great effectiveness for both teachers and students. His findings indicate that teachers who are well–equipped with ICT tools and facilities are the main factor in the success of technology-based teaching and learning.

The performance of learners was based on their average grades during the first and second quarters in Values Education. The results revealed that, as a whole, (M=87.73), and according to their classifications, the teachers assessed the performance of their learners as very satisfactory. This showed that the learners have developed the fundamental knowledge and skills and core understandings and can transfer them independently through authentic performance tasks.

The findings of Temitope (2024) showed that the majority of the surveyed students showed a positive attitude toward ICT use by believing that information from ICT is better than using textbooks or any printed material, improving their learning ability in subjects like Mathematics. It makes studying Mathematics more interesting and allows them to interact with other students in foreign countries. It also enables them to assess current learning materials in Mathematics.

The results revealed that significant differences existed in the extent of teachers' utilization of ICT-based instruction in Values Education when classified according to position (t-value =3.96, p-value =.000 at df=282), and length of service (t-value =2.03, p-value =.043 at df=282). This means that the extent of utilization of ICT-based instruction in Values Education by teachers differs when their position and length of service are considered. This may be because the higher the position of a teacher, the more exposure they have to the use of ICT tools

compared to teachers with lower positions. Likewise, teachers who have been in service for a long time may have developed more skills to use ICT applications in their teaching, which differ from those of teachers who are still new to teaching. However, no significant differences existed in the extent of teachers' utilization of ICT-based instruction in Values Education when classified according to educational attainment (t-value=1.86, p-value = .064 at df=282). This means that the teachers' extent of utilization of ICT-based instruction did not vary significantly when their educational attainment was considered. These findings contradict the results of the study conducted by Esmaquilan et.al. (2023), which showed that there were no significant differences in the extent of effectiveness of the utilization of the ICT in terms of age, length of service, and in the planning and delivery of the lessons.

Table 2. Significant Differences in the Extent of Teachers' Utilization of ICT – Based Instruction in Values Education when Classified according to Educational Attainment, Position, and Length of Service.

Variables	**Categories**	**Mean**	**t- value**	**df**	**P - value**	**Remarks**
Educational Attainment	Bachelor's Degree Master's Degree	45.11 46.70	1.86	282	.064	Not Significant
Position	Teacher I-III Master Teacher I-III	44.45 47.67	3.96	282	.000	Significant
Length of Service	1-15 years 16 years & above	44.85 46.48	2.03	282	.043	Significant

The results showed that there were significant differences in the extent of teachers' utilization of ICT-based instruction in Values Education when classified according to grade level taught (F-value = 3.135, p-value = .026) and congressional district (F-value = 10.024, p-value = .000). This means that the extent of teachers' utilization of ICT-based instruction in Values Education differed significantly when their grade level taught and congressional district are considered.

The variation can be attributed to the different competencies required in every grade level, which would require teachers to select the appropriate teaching strategies they would employ in their classroom instruction. The variation in the congressional district can be attributed to the differences in the geographical conditions of every district. The teacher's extent of utilization of ICT-based instruction is determined by the availability of resources such as internet connectivity, available gadgets, and electronic resources, which can aid instruction.

Table 3. Significant Differences in the Extent of Teachers' Utilization of ICT – Based Instruction in Values Education when classified according to Grade Level Taught, and Congressional District

Variables		**Sum of Square**	**df**	**Mean Square**	**F - value**	**P - value**	**Remarks**
Grade Level Taught	Between Group Within Group Total	422.57 1258.60 13004.18	3 280 283	140.85 44.93	3.135	.026	**Significant**
Congressional District	Between Group Within Group Total	1634.070 11370.110 13004.180	4 279 283	 408.517 40.753	10.024	.000	**Significant**

The results revealed that there were significant differences in the assessment of teachers in the level of effectiveness of ICT-based instruction in Values Education when their position was considered (t-value =2.61, p-value = .009). This means that the assessment of teachers on the level of effectiveness of ICT-based instruction in Values Education significantly differed when their position was considered. The position of teachers is based on their education, training, and experience, among others, which would explain the variation in the way they assess things.

However, there were no significant differences in the level of effectiveness of ICT-based instruction in Values Education when classified according to educational attainment (t-value = 1.32, p-value = .186) and length of service (t-value = .045, p-value = .964). This means that the assessment of teachers on the level of effectiveness of ICT-based instruction in Values Education varies significantly when their educational attainment and length of service are considered.

Table 4. Significant Differences in the level of effectiveness of ICT-based instruction in Values Education as assessed by teachers when classified according to educational attainment, position, and length of Service

Variables	**Categories**	**Mean**	**t- value**	**df**	**P - value**	**Remarks**
Educational Attainment	Bachelor's Degree Master's Degree	52.35 53.22	1.32	281	.186	Not Significant
Position	Teacher I-III Master Teacher I-III	52.03 53.73	2.61	281	.009	Significant
Length of Service	1-15 years 16 years & above	52.65 52.63	.045	281	.964	Not Significant

The results revealed significant differences in teachers' assessments of the effectiveness of ICT-based instruction in Values Education, classified by grade level taught (F-value = 1.51, p-value = .211). This means that the assessment of teachers was similar when the grade level taught was considered. However, significant differences were noted in the teachers' assessment of the level of effectiveness of ICT-based instruction in Values Education when classified according to congressional district (F-value=8.84, p-value =.000). Therefore, the null hypothesis was rejected. This means that the assessment of teachers of the level of effectiveness of ICT-based instruction in Values Education differed significantly when classified according to congressional district. The variation in the geographic characteristics of the districts may have contributed to the differences in the assessment of teachers. The findings are aligned with the results of the study of Escubido et.al. (2025), which states that as the level of ICT tools integration increases, the level of student performance will not decrease but may even increase, as documented.

Table 5. Significant Differences in the level of effectiveness of ICT-based instruction in Values Education as assessed by teachers when classified according to Grade Level Taught, and Congressional District

Variables		**Sum of Square**	**df**	**Mean Square**	**F - value**	**P - value**	**Remarks**
Grade Level Taught	Between Group Within Group Total	122.66 7538.56 7661.23	3 279 282	40.88 27.02	1.51	.211	**Not Significant**
Congressional District	Between Group Within Group Total	864.55 6796.68 7661.23	4 278 282	216.13 24.44	8.84	.000	**Significant**

The results revealed that there were no significant differences in the assessment of teachers of their learners' performance in Values Education when classified according to educational attainment (t-value = .730, p-value = .466), position (t-value = 1.05, p-value = .297), and length of service (t-value =.245, p-value = .807). This means the assessment of teachers was similar when these variables were taken into account. It can be explained that learners' performance is due to their personal attributes, study habits, and the influence of family factors, among others. The educational attainment, position, and length of service of their teachers may have a minimal contribution to their performance. The study concluded that students' attitudes toward the use of ICT enabled them to maximize its use despite the challenges they faced, resulting in improved academic performance. Irrespective of gender, ICT usage has a significant effect on students' academic performance (Temitope, 2024).

Table 6. Significant Differences in the Level of Learners' Performance in Values Education as assessed by teachers when classified according to educational attainment, position, and length of service

Variables	Categories	Mean	t- value	df	P - value	Remarks
Educational Attainment	Bachelor's Degree Master's Degree	3.99 4.05	.730	282	.466	Not Significant
Position	Teacher I-III Master Teacher I-III	3.98 4.07	1.05	282	.297	Not Significant
Length of Service	1-15 years 16 years & above	4.02 4.00	.245	282	.807	Not Significant

The results revealed significant differences in teachers' assessments of the level of their learners' performance in Values Education when classified by grade level taught (F-value = 3.748, p-value = .023) and congressional district (F-value = 3.634, p-value = .007). This means that the assessment of teachers differs significantly when their grade level taught and congressional district are considered. Variations in teacher assessments may be due to the different competencies required for each grade level. This would require the use of appropriate strategies, depending on the subject matter's difficulty. Likewise, the district's geographic conditions and characteristics may have contributed to these differences. The availability of infrastructure such as internet connectivity, electronic resources, and teacher training in the use of ICT may be considered. The findings align with Escubido et al. (2025), which states that as the level of ICT tool integration increases, student performance does not decline; it may even increase. The results further showed that implementing ICT tools significantly influences student performance.

Table 7. Significant Differences in the Level of Learners' Performance in Values Education as assessed by teachers when classified according to Grade Level Taught and Congressional District.

Variables		Sum of Square	df	Mean Square	F - value	P - value	Remarks
Grade Level Taught	Between Group Within Group Total	.034 136.935 136.968	3 280 283	.011 .489	3.748	.023	Significant
Congressional District	Between Group Within Group Total	6.783 130.186 136.968	4 279 283	1.696 .467	3.634	.007	Significant

The result shows the significant influence of the extent of ICT-based instruction utilization and its effectiveness in Values Education on learners' performance. Results of the multiple regression on the extent of utilization and level of effectiveness of ICT-based instruction as predictor variables and learners' performance as the independent variable indicate an R2 of .052, implying that 52% of the variation in learners' performance is explained by the extent of teachers' utilization of ICT-based instruction. The remaining 48% can be attributed to other factors, such as, but not limited to, the internet connectivity, availability of electronic resources, the learning environment, and learner variables.

As shown in the table, the Beta value for the extent of utilization of ICT-based instruction is less than the p-value ($\beta = .005$, $p < .0005 > .05$). This indicates that the extent of utilization of ICT-based instruction had a significant influence on learners' performance (dependent variable). Likewise, the Beta value for level of effectiveness is less than the p-value ($\beta = .034$, $p = .000 > .05$). This indicates that the level of effectiveness of ICT-based instruction in Values Education significantly influences learners' performance. The results implied that the teachers' extent of utilization of ICT-based instruction in Values Education and their assessment of the level of its effectiveness are positive determinants of learners' performance.

These findings are supported by Escubido et al.'s study, which finds that ICT influences the academic performance of intermediate learners. With the increasing integration of digital tools and resources in educational settings, understanding their impact on students' learning is crucial. Further, the study revealed that ICT

integration significantly enhances students' engagement, motivation, and overall academic performance. The use of interactive software, online resources, and digital collaboration tools correlates with improved comprehension and retention of material.

Table 8. Multiple Regression Analysis of the Extent of Utilization and Effectiveness of ICT-Based Instruction in Values Education on Learners' Performance

Variable	Multiple R	R^2	R^2 Change	F	Sig. F	SEB	Beta	t	Sig
Extent of Utilization of ICT-based Instruction	.237	.052	.046	7.746	.007	.000	.005	-.765	.000
Effectiveness of ICT-based Instruction	.070	.000	-.003	.017	.009	.000	-.034	.3655	.000

CONCLUSIONS

Based on the findings, the following conclusions are drawn:

1. Most teachers in the School Division of Iloilo incorporate ICT tools, methods, and systems in their Values Education classes.
2. All Values Education teachers in the School Division of Iloilo employed digital tools and techniques that improved the teaching and learning process.
3. The learner has developed the fundamental knowledge and skills and core understandings and can transfer them independently through authentic performance tasks.
4. The extent of utilization of ICT-based instruction in Values Education of teachers is determined by their position, length of service, grade level taught, and congressional district.
5. The assessment of teachers on the level of effectiveness of ICT-based instruction in Values Education is determined by their position and congressional district.
6. The assessment of teachers of their learners' performance in Values Education is determined by their grade level taught and congressional district.
7. The performance of learners in Values Education is influenced by the extent of their teachers' utilization of ICT-based instruction and its level of effectiveness**.**

RECOMMENDATIONS

In view of the findings, the following are recommended:

1. The Department of Education may provide ICT support and infrastructure to the far-flung schools so that they have access to technology.
2. Professional development training for teachers must be organized by the Department and/or Division on the use of Gamification and other digital interactive pedagogy to equip them with the necessary skills in teaching.
3. The school heads may develop and implement targeted strategies, such as facilitating professional development for teachers and introducing focused interventions to boost learners' performance. These efforts aimed to strengthen the effective utilization and effectiveness of ICT-based instruction not only in Values Education but across all subject areas.

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