Assessment of Basic ICT Competencies Among Junior High School Learners: Basis for an ICT Skills Enhancement Program

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ABSTRACT

This study assessed the basic ICT competencies of Grade 7 and Grade 8 learners at Baliang National High School, Baliang, Danao City, Cebu during the 2025–2026 school year to serve as a basis for an ICT Skills Enhancement Program. The study operationalized basic ICT competencies into foundational ICT knowledge measured through an objective ICT-based assessment and perceived proficiency across six application domains: word processing, spreadsheets, slide presentations, video editing, picture editing, and multimedia creation. The study employed a descriptive–correlational research design using total enumeration of the 68 enrolled learners. Data were collected through an objective ICT competency test, a self-assessment checklist, and survey questions. Descriptive and inferential statistical tools, including frequency, percentage, weighted mean, standard deviation, and Pearson Product-Moment Correlation Coefficient, were utilized using SPSS. Findings revealed that the learners were Less Competent in foundational ICT knowledge (Mean = 6.34, SD = 2.42), while their perceived proficiency across the six application domains had an aggregate mean of 1.63, interpreted as Awareness. The lowest perceived domain ratings were Multimedia Creation (1.19) and Spreadsheets (1.28), while Video Editing (2.18) and Picture Editing (1.93) received relatively higher ratings. Statistical analysis showed no significant relationship between foundational ICT competence and perceived ICT proficiency ($r = -0.036$, $p = 0.772$). The findings provide a data-informed basis for targeted, hands-on ICT training, with practical performance checks recommended during program implementation to verify actual skill development.

Keywords: basic ICT competencies, junior high school learners, ICT skills enhancement program, Baliang National High School, digital literacy, ICT proficiency

The Problem and Its Scope

INTRODUCTION

Rationale of the Study

The demands of Information and Communication Technology (ICT) in education have transformed how learning is delivered, assessed, and experienced. ICT has been recognized as a bridge for inclusivity and innovation in education on a global scale. The fourth Sustainable Development Goal of the UN places a strong emphasis on providing inclusive, equitable, high-quality education and encouraging opportunities for lifelong learning for everyone. By increasing access to high-quality education and giving students the digital skills they need for future employability and global competitiveness, ICT helps achieve this goal. UNESCO (2023) has officially recognized digital competence as a foundational literacy, placing it on par with traditional reading and numeracy skills. Early ICT engagement improves digital collaboration, creativity, and problem-solving skills in secondary education, according to OECD (2023).

In the Philippines, the Department of Education (DepEd) acknowledges ICT as a transformative tool, as evidenced by the DepEd Computerization Program (DCP), the Digital Rise Program (2022), and the integration of ICT competencies within the K to 12 Basic Education Curriculum. The DepEd Basic

Education Learning Continuity Plan (2020) further reinforced ICT's role in ensuring continuous learning, emphasizing the acceleration of digital literacy under the Public Schools of the Future Framework and the Sulong EduKalidad initiative.

Despite these high-level mandates, a significant gap exists between policy and classroom reality. While international standards from the OECD (2023) suggest that early engagement is vital, ICT instruction in public junior high schools remains limited. Theoretical integration within the Technology and Livelihood Education (TLE) subject often suffers from restricted instructional time and limited student access. Recent Philippine studies by Calatayud (2025) and Rondubio and Gantalao (2025) highlight that teachers in public secondary schools deal with structural constraints like a lack of instructional devices and a lack of time for practical practice because of curriculum overcrowding.

Furthermore, there is a documented disparity in ICT provision between public and private institutions. In contrast to public schools, where bureaucratic inefficiencies and funding shortages frequently impede technological integration, Gamit (2023) notes that private schools typically offer more comprehensive ICT subjects and better infrastructure. These institutional challenges are further compounded by socioeconomic and infrastructure barriers. Cabahug and Tabaosares (2024) found that students' ICT access, competence, usage, and available infrastructure are important considerations in understanding ICT – related learning conditions. This restricted access is especially severe in rural and mountainous barangays, where students lack the extended exposure required to develop fundamental digital competencies (Baterna et al., 2020; Galve & Labio, 2023).

Research has demonstrated that students' digital competencies and problem-solving abilities are greatly enhanced by prolonged exposure to ICT-integrated instruction (Baterna et al., 2020 and Palines & Ortega-Dela Cruz, 2021). However, a critical void exists in the current body of knowledge. Although many studies have examined teacher preparedness and the availability of ICT facilities, limited attention has been given to assessing the actual ICT competencies of the students themselves. Previous researchers have largely focused on policy implementation and teachers' digital readiness (Estolas, 2025), but they have failed to investigate the baseline digital skills of Grade 7 and Grade 8 learners.

This oversight makes it difficult to determine students' current capabilities or identify the specific areas where interventions are needed. At Baliang National High School, students in Grades 7 and 8 are confined to limited instructional time under the TLE Subject, causing them to miss opportunities to build foundational skills necessary for higher ICT-based specializations in Grades 9 and 10, such as Computer Systems Servicing (CSS). The lack of early, structured instruction limits their preparedness for digital careers and assessments.

Based on this identified gap, the purpose of this research is to comprehensively analyze the basic ICT competencies and proficiency of students in grades 7 and 8 at Baliang National High School. The study aims to bridge the digital divide by moving beyond the study of "facilities" to evaluate the students' actual theoretical knowledge and skills. This will provide a data-informed basis for an ICT skills training enhancement program, aligning with DepEd's Digital Rise Program to ensure that students in rural mountain barangays are not left behind in a digitalized world. For purposes of this study, basic ICT competencies are operationalized into two complementary areas: (a) foundational ICT knowledge and concepts, measured through the objective ICT-based assessment; and (b) perceived proficiency in six application domains measured through the self-assessment checklist, namely word processing, spreadsheets, slide presentations, video editing, picture editing, and multimedia creation. These domains define the scope of the study and provide a direct basis for identifying the areas to be prioritized in the proposed training program.

THEORETICAL BACKGROUND

This study is anchored on several key educational theories and frameworks as follows:

Constructivism Theory was primarily developed by Jean Piaget and Lev Vygotsky. According to constructivist theory, students actively construct knowledge through experience rather than passively

receiving information (Piaget, 1952). Vygotsky's (1978) social constructivism further posits that learning is a social process supported by scaffolding and interaction within the "Zone of Proximal Development" (ZPD)

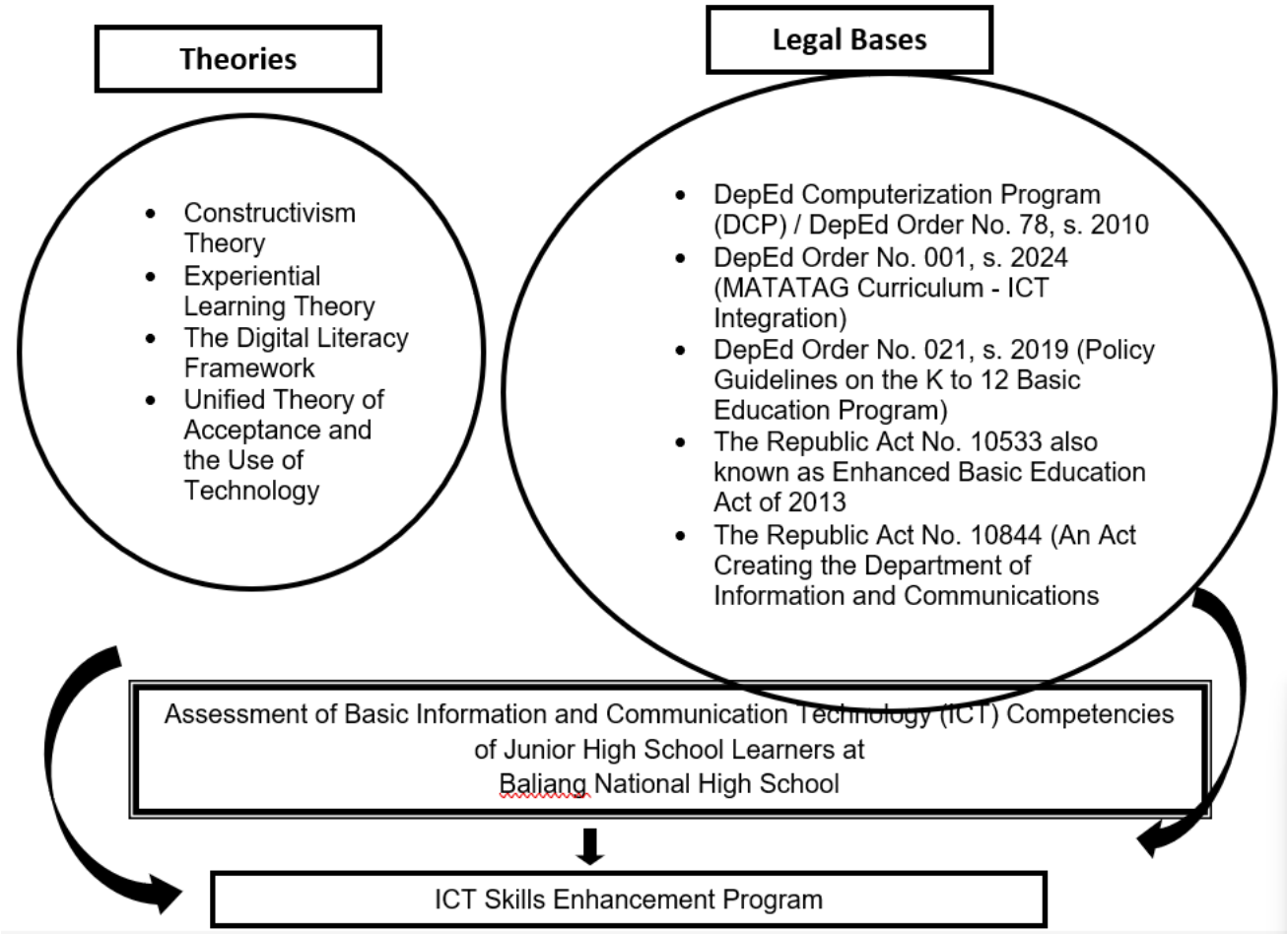


Figure 1. Theoretical - Conceptual Framework of the Study

The findings of this study can be explained by constructivism, which accounts for the gap between students' high level of theoretical awareness and their low level of practical proficiency. In the absence of hands-on interaction with technology, learners are unable to effectively construct digital skills. The ZPD is particularly relevant to the proposed ICT Skills Training Enhancement Program, as it provides theoretical support for the intervention and for the scaffolding—

structured guidance from the teacher—that helps learners progress toward the Proficient competency level specified in the curriculum.

Experiential Learning Theory is provided by David Kolb's (1984). Concrete Experience, Reflective Observation, Abstract Conceptualization, and Active Experimentation are the four phases of Kolb's learning cycle. When a learner completes all four phases, effective learning takes place.

This theory serves as the blueprints for moving from assessment to intervention. The evaluation phase gets the learners at the Reflective Observation and the Abstract Conceptualization. The learners are assessed at Reflective Observation and Abstract Conceptualization (Awareness without Mastery). The proposed enhancement program aims to facilitate the Active Experimentation stage where learners can take theoretical knowledge and put it into practice. The finding that competence does not equal to skill is addressed in this cycle, in which theoretical concepts are put to the test and further developed through concrete experiences (Kolb, 1984).

The Digital Literacy Framework, which goes beyond technical "computer literacy" to define a

multifaceted set of competencies, serves as one of the anchors for this study. Eshet-Alkalai (2004) claims that digital literacy encompasses a survival-based set of cognitive abilities, including information literacy (critical data evaluation), reproduction literacy (creating new meanings from existing data), and photo-visual literacy (understanding visual interfaces).

Reliability of the assessment tools used in this study is based on this framework. It highlights the cognitive and sociological dimensions of digital literacy and supports the separate measurement of foundational ICT competence (knowledge of ICT concepts measured through an objective test) and perceived practical proficiency (learners' self-reported ability to use selected digital applications). The distinction is important because self-assessment describes learners' perceived skill level and does not constitute direct observation of task performance. The six application domains assessed through the self-assessment are word processing, spreadsheets, slide presentations, video editing, picture editing, and multimedia creation.

Unified Theory of Acceptance and the Use of Technology (UTAUT) - Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions are the four main factors that determine technology acceptance and usage, according to the UTAUT model, which was created by Venkatesh, Morris, Davis, and Davis (2003). The model is frequently used to explain how environmental and personal factors affect the uptake of digital tools.

The Unified Theory of Acceptance and Use of Technology (UTAUT) provides the framework for understanding the current level of ICT competence among learners at Baliang National High School. The findings indicate that several factors, including low family income and the limited availability of computers at home, influence students' opportunities to develop digital skills. These conditions reflect the facilitating conditions described in the UTAUT model, which can either support or hinder the effective use of technology. Likewise, students' perceptions of ICT as moderately difficult are associated with effort expectancy, while their generally neutral to positive views about the benefits of ICT relate to performance expectancy. Guided by this framework, the study emphasizes the need for an ICT Skills Training Enhancement Program that strengthens the school's support systems, provides learners with greater access to technology, and makes ICT learning more accessible and meaningful, particularly for students with limited prior exposure to digital tools.

Legal and Policy Framework

This study is also supported by several Philippine Laws and Policies as stipulated as follows:

DepEd Order No. 78, s. 2010 (DepEd Computerization Program (DCP)) - aims to provide public schools with appropriate technologies that would enhance the teaching – learning process and meet the challenges of the 21st century. Based on its objectives, the enhancement training program for Basic ICT Skills aims to raise the ICT literacy of learners.

Within the context of the UTAUT framework, the DepEd Computerization Program (DCP) serves as one of the key facilitating conditions that support learners in developing their ICT skills. The program provides schools with the necessary technology resources, creating opportunities for students to gain hands-on experience with digital tools. In this study, the availability and accessibility of these computer units are examined to determine how they influence the ICT competence of Grade 7 and Grade 8 learners. Beyond assessing the presence of ICT equipment, the research also evaluates how effectively these resources are utilized in the teaching and learning process. The findings provide the basis for the proposed ICT Skills Training Enhancement Program, which aims to maximize the use of existing technology resources and translate them into meaningful learning experiences and improved student competencies.

DepEd Order No. 001, s. 2024 (MATATAG Curriculum - ICT Integration) - While the study references the K to 12 guidelines, the MATATAG curriculum further reinforces the "Digital Rise" initiative, focusing on foundational literacy which now includes digital competence.

This study supports the goals of the MATATAG Curriculum by reinforcing the development of learners' foundational ICT skills while complementing the curriculum's streamlined approach. Rather than adding more content to the existing curriculum, the proposed ICT Skills Training Enhancement Program provides focused learning opportunities that address the specific digital skill gaps identified among learners. In doing so, the study promotes a more meaningful integration of ICT into the teaching and learning process, ensuring that technology is used not merely as a component of the TLE subject but as a practical tool that enhances students' learning experiences and prepares them with essential 21st-century skills.

DepEd Order No. 021, s. 2019 (Policy Guidelines on the K to 12 Basic Education Program) - Policy Guideline Number 29 emphasizes in the third sentence that Information and Communications Technology (ICT) competencies have been integrated into the curriculum to equip learners with skills that will enable them to cope with technological demands of our time. Further, in the Policy Guideline Number 30, DO 021 enumerates the K to 12 Curriculum Support System that will help developed the learners holistically with 21st century skills. To mention, one of these support systems is anchored on Skills such as Information and Media, and Technology Skills. ICT Environment as one of the curriculum support systems is explained thoroughly in provision number 38. It says that the Department envisions Information and Communications Technology (ICT) as a powerful tool and an important medium in delivering curriculum content.

This DepEd Order provides the benchmarks and competency standards that serve as the basis for the assessment tools used in this study. The evaluation of learners' skills in word processing, spreadsheet applications, and multimedia is aligned with the ICT competencies prescribed in the policy. By comparing students' current level of proficiency with these expected standards, the study identifies specific areas where learners require further development. These findings provide a strong, evidence-based foundation for the proposed ICT Skills Training Enhancement Program, ensuring that the intervention is responsive to learners' actual needs and supports the achievement of the ICT competencies expected by the Department of Education.

The Republic Act No. 10533 also known as **Enhanced Basic Education Act of 2013**, in Section 2, Paragraph 3 states that the State shall create a functional basic education system that will develop productive and responsible citizens equipped with the essential competencies, skills and values for both life-long learning and employment equipping learners to development of 21st century skills including ICT.

Republic Act No. 10533 serves as the primary legal foundation of this study by recognizing ICT as an essential component of 21st-century education. The law emphasizes the importance of equipping learners with the knowledge, skills, and competencies needed to succeed in a rapidly changing and technology-driven world. Guided by this mandate, the study assesses whether Grade 7 and Grade 8 learners have attained the expected ICT competencies outlined in the K to 12 curriculum. The findings provide the basis for the proposed ICT Skills Training Enhancement Program, which is designed to address identified skill gaps and support the law's objective of preparing learners to become digitally competent, globally competitive, and ready for future academic and career opportunities.

The Republic Act No. 10844 also known as **An Act Creating the Department of Information and Communications Technology**, defining its Powers and Functions Appropriating Funds Therefor, and For Other Purposes in Article I paragraph (b) states to formulate policies and initiatives, in coordination with the Department of Education (DepEd), the Commission on Higher Education (CHED), and the Technical Education and Skills Development Authority (TESDA), to develop and promote ICT in education consistent with the national goals and objectives, and responsive to the human resource needs of the ICT. This law supports this enhancement training program as this is in line with this framework.

This study supports the national goals of strengthening ICT education by providing evidence-based information from the local context of a rural mountain barangay. Through the assessment of the ICT competencies of Grade 7 and Grade 8 learners, the research identifies specific skill gaps that may hinder students' digital development. These findings provide valuable information that can guide the design of appropriate school-based interventions aligned with the objectives of the Department of Information and

Communications Technology (DICT). By helping learners build strong foundational ICT skills at an early stage, the proposed enhancement program contributes to the development of a future workforce that is better prepared for advanced digital learning, technology-related careers, and the growing demands of the digital economy.

The Problem

Statement of the Problem

This study assessed the ICT competencies of Grade 7 and Grade 8 learners of Baliang National High School in Danao City during the School Year 2025–2026. The findings served as the basis for developing an ICT Skills Training Enhancement Program.

Specifically, this study sought answers to the following questions:

1. What is the demographic profile of the learners in terms of:
1.1. age and gender;
1.2. availability of computer at home;
1.3. daily allowance;
1.4. allocation of allowance to internet café; and
1.5. combined monthly family income?
2. What is the level of the learners' foundational ICT competence in terms of their performance on the objective ICT-based assessment?
3. As perceived by the learners, what is their level of ICT proficiency in the following application domains: word processing, spreadsheets, slide presentations, video editing, picture editing, and multimedia creation?
4. What are the experiences of learners in learning ICT in terms of:
41. its difficulty;
4.2. reasons for the difficulty;
4.3. overall perception of ICT, and
4.4. place of acquisition of ICT skills?

Is there a significant relationship between the learners' foundational ICT competence and their perceived ICT proficiency?

6. Based on the findings, what ICT Skills Training Enhancement Program may be proposed?

Statement of the Null Hypothesis

Based on the objectives of the study, the following null hypothesis was tested at 0.05 level of significance:

H0: There is no significant relationship between the respondents' ICT competence and their proficiency in ICT.

Significance of the Study

The findings of this study are important evidence on the online literacy gap among the junior high school learners and will be useful to the following entities:

Department of Education. The results provide DepEd officials with localized evidence to support the delivery of specialized training of teachers and greater technical support in the rural school. This ensures that the national programs, such as Digital Rise Program, are developed to achieve a successful outcome in developing students having competencies of "Alpha Z" and in mitigating specific socioeconomic challenges.

Graduate School MAVED Program at CTU. This can serve as a data-informed study to improve technology enhanced learning courses for curriculum developers in the MAVED program. It highlights, in particular, the need for models of instruction that focus on the 21st century context in which ICTs are used, and on the vocational aspect of ICT theory.

ICT Teachers. This study can be used by teachers to develop a diagnostic profile of the areas of Less Competent for their students. It gives them the opportunity to rethink the way they plan lessons to ensure they include performance-based strategies that bring theory into contact with practice, as opposed to mere memorization of concepts of ICT.

Learners. As the basis for a focused ICT Skills Training Enhancement Program, the study has an immediate effect on the students. The students will learn the practical skills required for entrepreneurship, digital self-reliance and readiness for senior high school through a curriculum designed specifically to address weaknesses identified by the students.

Parents. The findings provide parents with insight into their children's digital challenges, which stem from limited access. This helps them to be able to press school leaders for improvements in digital facilities, and to help their children learn at home.

Researcher. This study provides the researcher with the empirical data necessary to design a sensible improvement program for the specific situation. Furthermore, it supports the researcher in his professional capacity to implement interventions based on evidence that directly enhance the ICT environment of the station.

Future Researchers. The study can be used as a foundation for future research on the "theory-practice disconnect" in the teaching and learning of ICT. It offers correlational data and a validated framework that can be used to investigate other factors in comparable to rural school settings, like equipment ratios or home environments.

RESEARCH METHODOLOGY

This section presents the methodological process of the study which consists of the method and design, the flow of the study, the research environment, the sources of data, data gathering procedure, and data analysis.

Design

The study employed descriptive-correlational research. The purpose of this research was to examine the correlation between learners' ICT competence and their ICT skills in grade 7 and grade 8 of Baliang National High School in School Year 2025-2026. A descriptive-correlational design is used if it aims to describe the existing characteristics of the variables and find out if there is a significant correlation between them, without manipulation or control of any variable. Unlike cause-and-effect designs, this design aims to find the direction and strength of relationships between naturally occurring variables (Creswell & Creswell, 2018). The descriptive component of the study was to determine the ICT competence of the learners and ICT proficiency of the learners and correlational component of the study was to find out whether the learners' ICT competence significantly associated with their ICT proficiency or not. Both variables were already present in the educational environment in which they occurred; it was neither possible nor desirable to manipulate both variables. The research design is commonly employed in Educational Research to examine the relationships between learner characteristics and competencies and subsequently to offer empirical evidence from which a suitable intervention program and instruction improvement in school can be developed (Fraenkel et al., 2019; Creswell & Creswell, 2018).

Flow of Study

The research followed the Input–Process–Output (IPO) model to achieve its objectives and present a

systematic flow of procedures. The "input phase" involved the collection of relevant data through ICT competency tests, survey questionnaires, and documentary review of existing ICT programs and DepEd guidelines. These instruments gathered information on learners' ICT competence, proficiency, experiences, and perceptions. The "process phase" covered the methodological procedures such as the administration of tests and surveys, data organization, statistical treatment, and interpretation of findings. Descriptive-correlational research design using total enumeration of respondents was employed in this study. Data were collected through ICT competency test, self-assessment checklist, and survey questionnaires covering word processing, spreadsheets, presentations, multimedia editing, and ICT Concepts. Descriptive statistics and inferential statistics tools, including frequency, percentage, weighted mean, standard deviation, and Pearson Product-Moment Correlational Coefficient, were utilized using SPSS.

The schematic representation of this research process is shown in Figure 2, illustrating the flow of the study from input to output

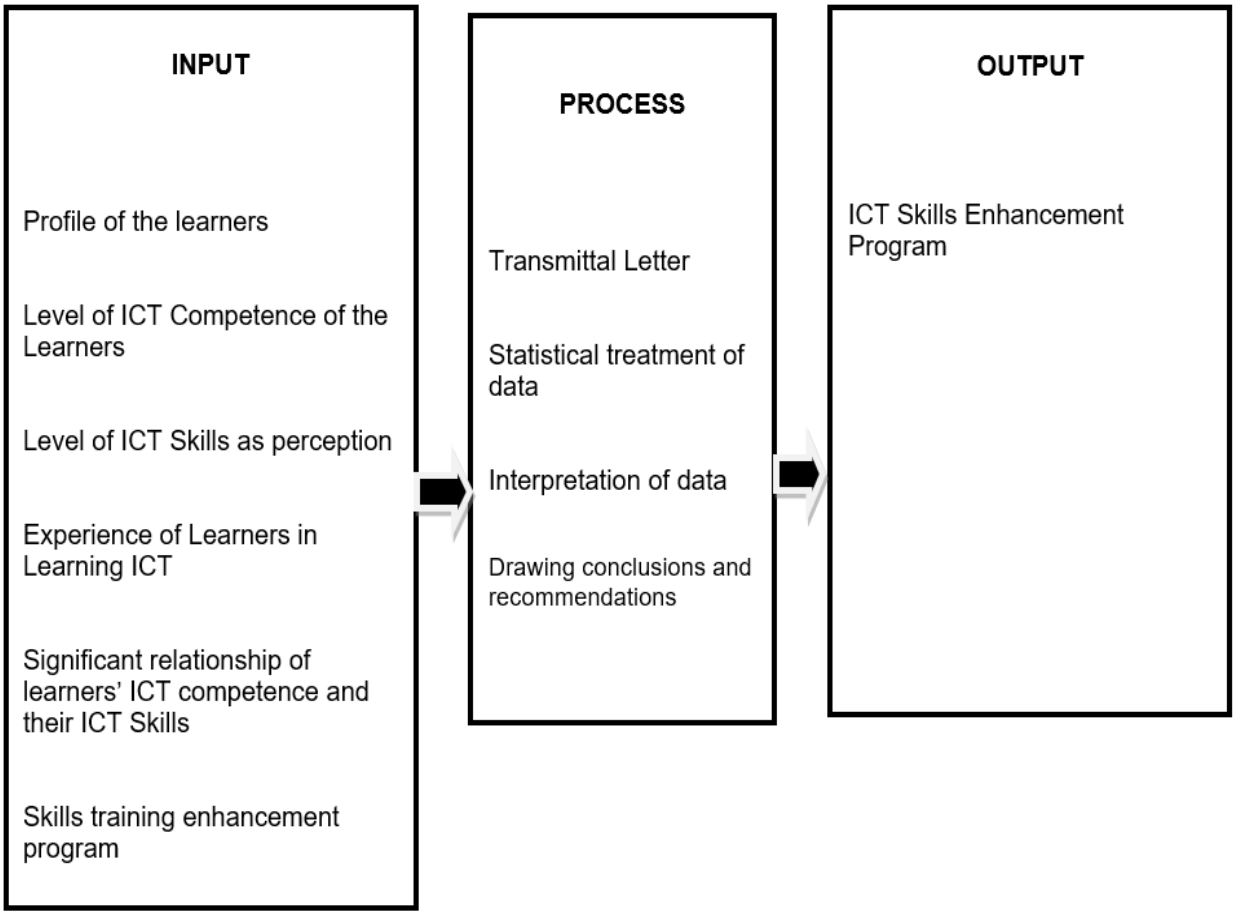


Figure 2. Flow of the Study

Environment

This study was conducted at Baliang National High School, located in Barangay Baliang, Danao City, Cebu, approximately a 30-minute drive west of the city proper. The school is situated in a mountain barangay, providing a serene and conducive environment for learning.

Under the supervision of the Schools Division Superintendent, Mr. Roseller N. Gelig, Baliang National High School functions as one of the implementing units of the Department of Education (DepEd). The school actively participates in DepEd programs and initiatives that promote the holistic development and welfare of learners.

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Baliang National High School is currently headed by Mr. Andrew C. Perminoff, the School Head. The institution consists of three school buildings with a total of eight classrooms. It operates as a complete public secondary school, offering both Junior High School and Senior High School programs. For the School Year 2025–2026, the school has a teaching force of 16 teachers and a total enrolment of 235 students. The school has a functional ICT Laboratory equipped with 20 functional computer units. Currently, the laboratory is primarily utilized for practical activities for Senior High School students enrolled in the Computer Systems Servicing (CSS) Program. The laboratory serves as the main venue for hands-on ICT learning activities within the institution. The ICT curriculum implementation varies across grade levels. Previously, the ICT laboratory was concurrently used by Grades 9 and 10 students whose TLE major



Figure 3.Location Map of Research Environment

was CSS. However, the laboratory was seldomly used by Grades 7 and 8 students because their TLE subject focused on ICT theories rather than practical applications. This theoretical approach for lower grade levels has resulted in limited hands-on exposure to ICT tools and applications.

The researcher noted that there was a huge gap in learners' competence and skills in ICT. Although most students have taken various computer-based exams (Khao-Ti, PISA Practice Test, Regional Achievement

Test, etc.) they lack the knowledge and skills in ICT use. This mismatch between requirements for assessment and competency of students has become a critical issue for the institution

The school is actively involved in various DepEd programs and initiatives which support the holistic development and wellbeing of learners. The CSS Program in the Senior High School track is the main structured ICT Program offered by the institution. Also, the school provides computer-based assessment facilities for students of Junior High School so that they can be given minimal and necessary computer system exposure.

Despite the initiatives and aim of the school, the following were seen as challenge: A high student-to-computer ratio: 1 computer for every 11 students (235 students); and Theoretical emphasis in the teaching of ICT in Grades 7 and 8 restricts the acquisition of skills; Lack of lab facilities for lower grades; Students' lack of confidence in using information and communication technology; and Not enough practical activities to support theory lessons in ICT.

On a positive note the following were viewed as opportunities: The existing functional ICT lab serves as the basis for the expansion of the program; The school's size (16 teachers and 235 students) permits for the manageable program implementation; and Effective leadership and support from the School Head and synergy with DepEd initiatives; and Being a faculty member allows the researcher to coordinate and monitor the program efficiently; and Increased awareness of the importance of developing ICT skills in students.

The identified gaps and institutional context have immediate implications for the proposed ICT Skills Enhancement Program. The learning gaps identified in the assessment in relation to the ICT competency observed support the need for a structured program that goes beyond the current TLE subject. The program should focus on students in the 7th and 8th grades who are only taking theoretical ICT classes, but should also include students in the 9th and 10th grades to reinforce their skills in the practical aspects of ICT. The current ICT lab which has 20 functional units could be the main venue, but it will be necessary to develop a scheduling and resource allocation strategy to accommodate additional students. The program should be integrated to the existing TLE curriculum. It should provide additional hands-on activities which will help students to relate theory to practice. The school's active involvement in DepEd initiatives and the researcher's role in the school will provide a framework for program implementation, monitoring, and eventual scaling. Learners are expected to become familiar with practical activities relating to ICT, enhance their ICT assessment skills in computer-based assessment and to build basic skills in ICT relevant to their academic and professional futures.

The researcher purposively selected this institution as the research environment since he is a faculty member of the school. This familiarity allows for efficient coordination, convenient data collection, and a deeper understanding of the school's ICT learning environment. The institution aims to establish a structured program on top of the TLE subject to expose learners to hands-on activities in ICT, addressing the identified competency gaps and preparing students for the increasing digital demands of modern education and assessment systems.

Respondents

The population in the study was the entire population of Grade 7 and Grade 8 learners of Baliang National High School (BNHS) for the School Year 2025-2026. The study utilized total enumeration, involving all 68 officially enrolled in the mentioned grade level. This approach was selected to provide a full and accurate picture of the target population, without sampling error and with a complete data set for the proposed enhancement program. Only certified Junior High School learners who are officially enrolled in the specified grade-levels were included in the selection. Data were collected using an ICT-based assessment test (measuring competence) and a survey questionnaire (measuring perceived proficiency and experiences). This design was deemed suitable since it allowed the researcher to establish relationships among students' ICT proficiency and understanding their perceived experiences with ICT, and their exposure to ICT learning opportunities both inside and outside formal instruction.

The researcher purposively selected only Grade 7 and Grade 8 students as the respondents because of the following reasons:

Students have limited opportunities to engage in practical ICT activities. In grades 7 and 8 ICT is taught in a predominantly theoretical manner. There is a difference between the TLE major of Lower Grades and the TLE major of Grades 9 and 10. Whereas lower grades are taken from the perspective of ICT theory and concepts, Grades 9 and 10 are focused on Computer Systems Servicing (CSS) with hands-on laboratory activities. This makes them the best population to measure baseline ICT competency gaps.

Grade 7 and Grade 8 are considered as the basic level years of Junior High School for students to learn the basic ICT skills. At this level students are starting to experience computer-based assessments (Khao-Ti, PISA Practice Test, Regional Achievement Test), but they do not have the hands-on training to perform at their best. Teaming the development of ICT skills at this stage with that of other skills ensures students have solid ground to build on as they progress to higher grades in increasingly specialized ICT courses.

The researcher observed the learning gaps in ICT competence and proficiency in Grade 7 & 8 students, as a faculty member of the school. Such students often had to sit computer-based exams despite having little to no experience using computers, leading to less than optimal performance and increased anxiety when interacting with computer systems.

Table 1 below shows the distribution of the respondents.

Table 1 Distribution of Respondents (n=68)

Respondents	Number	Percentage (%)
Grade 7	34	50.00
Grade 8	34	50.00
Total	**68**	**100.00**

Instruments

The primary research instrument used in the study was a structured questionnaire designed to gather the necessary data on the learners' demographic characteristics, ICT competence and proficiency, and experiences in acquiring ICT skills. The instrument consisted of three parts, with each part addressing a specific aspect of the study.

Part I – Demographic Profile of the Respondents. Part I was designed to gather the basic demographic and socioeconomic information of the respondents. It included items on the learners' age, gender, availability of a computer at home, daily allowance, allocation of allowance for computer or internet hub use, and combined monthly family income. The information gathered from this section was used to describe the respondents' profile and provide relevant background information for interpreting their ICT competence and learning experiences.

Part II – ICT-Based Assessment Tool. Part II consisted of an objective ICT-based assessment tool developed to measure the learners' foundational ICT competence. The items focused on basic ICT concepts and operations, including computer hardware and software, operating system functions, file management, basic computer operations, and basic ICT security concepts. This part provided an objective measure of the learners' knowledge and understanding rather than a direct observation of practical application. The results served as the basis for determining the learners' level of foundational ICT competence and identifying areas that require further enhancement.

Part III – Self-Assessment and Experience Survey. Part III gathered the learners' perceived proficiency in six ICT application domains—word processing, spreadsheets, slide presentations, video editing, picture editing, and multimedia creation—together with their experiences in learning and using ICT. Because these ratings are self-reported, they indicate perceived proficiency and are not treated as direct evidence of

observed task performance. The section complements the objective ICT-based assessment by providing information on learners' confidence, exposure, and perceived ability to use selected digital applications.

Before the actual administration of the instrument, it was subjected to expert validation to establish its content validity, clarity, and appropriateness for the respondents. Three school-based experts—the Master Teacher, ICT Coordinator, and School Research Teacher—reviewed and validated the instrument. The validation results indicated an Item-Content Validity Index (I-CVI) and Scale-Content Validity Index (S-CVI) of 1.0. The reliability of the instrument was also established through Cronbach's alpha, which yielded a coefficient of 0.86, indicating high internal consistency.

Content Validity Index (CVI) Figure for Expert Validation

Before the distribution of the questionnaire, there were 3 experts in the school who validated the instruments. They were the Master Teacher, ICT Coordinator, and School Research Teacher.

Figure 4 Content Validity Index (CVI) for Expert Validation



The instrument was validated by the Master Teacher, ICT Coordinator and School research teacher as experts. All items had a perfect agreement on content validity as reflected in the Item-Content Validity Index (I-CVI) and Scale-Content Validity Index (S-CVI) values which were all 1.0. The reliability of the instrument was determined by Cronbach's Alpha with the result of 0.86, which indicates the high internal consistency of the instrument.

Data Gathering Procedures

The data gathering procedure was carried out in three stages: preliminary stage, data gathering stage, and post-data gathering stage. Preliminary Stage. Before conducting the study, the researcher first secured an approved letter from the Office of the Schools Division Superintendent of the Division of Danao City, where the research environment is under its jurisdiction. After obtaining the approval of the Schools Division

Superintendent, the researcher also secured approval from the Office of the Public Schools District Supervisor. Upon approval of the request, the researcher proceeded with the conduct of the study.

Data Gathering Stage. The researcher then administered the research instruments to the identified respondents. The administration of the test and survey was conducted following the prescribed procedures. After the respondents completed the instruments, their responses were collected for checking and preparation for data processing. The study used an ICT-based assessment to determine the learners' ICT competence and a survey questionnaire to gather information regarding their perceived ICT proficiency and experiences. These instruments were administered to the Grade 7 and Grade 8 learners included in the study.

Post-Data Gathering Stage. After the data gathering, the responses from the different sets of respondents were collected, checked, collated, and consolidated using a spreadsheet application such as Microsoft Excel. The consolidated data were then prepared and submitted to a statistician for appropriate statistical treatment.

The collected data were analyzed using descriptive and inferential statistical tools. Frequency and percentage were used to describe the respondents' demographic profile, while weighted mean and standard deviation were used to determine the level of ICT competence and the learners' perceived experiences. To determine the significant relationship between the learners' ICT competence and proficiency and the identified variables, the Pearson Product-Moment Correlation Coefficient was employed. All statistical analyses were interpreted at the 0.05 level of significance.

Ethical Considerations

The study observed ethical practices to protect the rights, privacy, and well-being of the learner-respondents. Necessary approvals were secured from the appropriate DepEd offices and the school administration before the data gathering.

Since the respondents were minors, parental or guardian consent and learner assent were obtained. Participation was voluntary, and the learners were informed that they could decline or withdraw without any penalty.

The information gathered was treated confidentially and used only for the purposes of the study. Names were not included in the presentation of results, and the data were coded and securely handled. The assessment and survey were conducted in a manner that did not cause unnecessary physical, emotional, or academic risk to the learners.

Finally, the researcher maintained honesty and integrity in collecting, analyzing, and reporting the data. The findings were presented based on the actual responses of the participants and were used solely to support the objectives of the study.

Statistical Treatment of Data

For more accurate and convenient data analysis, the gathered and consolidated data from the survey was transferred to Statistical Package for Social Sciences (SPSS Ver. 23 for Windows). The analysis was conducted at a 0.05 level of significance. SPSS provides data analysis for descriptive statistics, numerical outcome predictions, and identifying groups. This software also gives data transformation, graphing and direct marketing features to manage data smoothly. Descriptive-correlational research design using total enumeration of respondents was employed in this study. Data were collected through ICT competency test, self-assessment checklist, and survey questionnaires covering word processing, spreadsheets, presentations, multimedia editing, and ICT Concepts. Descriptive statistics and inferential statistics tools, including frequency, percentage, weighted mean, standard deviation, and Pearson Product-Moment Correlational Coefficient, were utilized using SPSS.

The specific statistical tools employed in this study are defined and applied as follows:

Frequency and Percentage. This is a descriptive statistic used to summarize the distribution of data by counting the number of occurrences within a category. These tools were used to describe the demographic profile of the Grade 7 and Grade 8 learners (Question 1), including their age, gender, computer availability at home, and family income.

Pearson Product-Moment Correlation Coefficient (Pearson r). This is a measure of the linear correlation between two sets of data. It yields a value between +1 and −1, where 1 is total positive linear correlation, 0 is no linear correlation, and −1 is total negative linear correlation. This was the primary tool used to test the Null Hypothesis. It determined if a significant relationship exists between the respondents' foundational ICT competence (objective test scores) and their perceived ICT proficiency (self-assessment). Because the proficiency measure is self-reported, the resulting relationship should be interpreted as an association between objective foundational knowledge and perceived proficiency, not as evidence of a relationship between test performance and directly observed practical performance.

Standard Deviation. This measures the amount of variation or dispersion in a set of values. A low standard deviation indicates that the data points tend to be close to the mean, while a high standard deviation indicates that the data are spread out. This was used alongside the weighted mean to assess the consistency of the learners' responses regarding their ICT competence and skill levels.

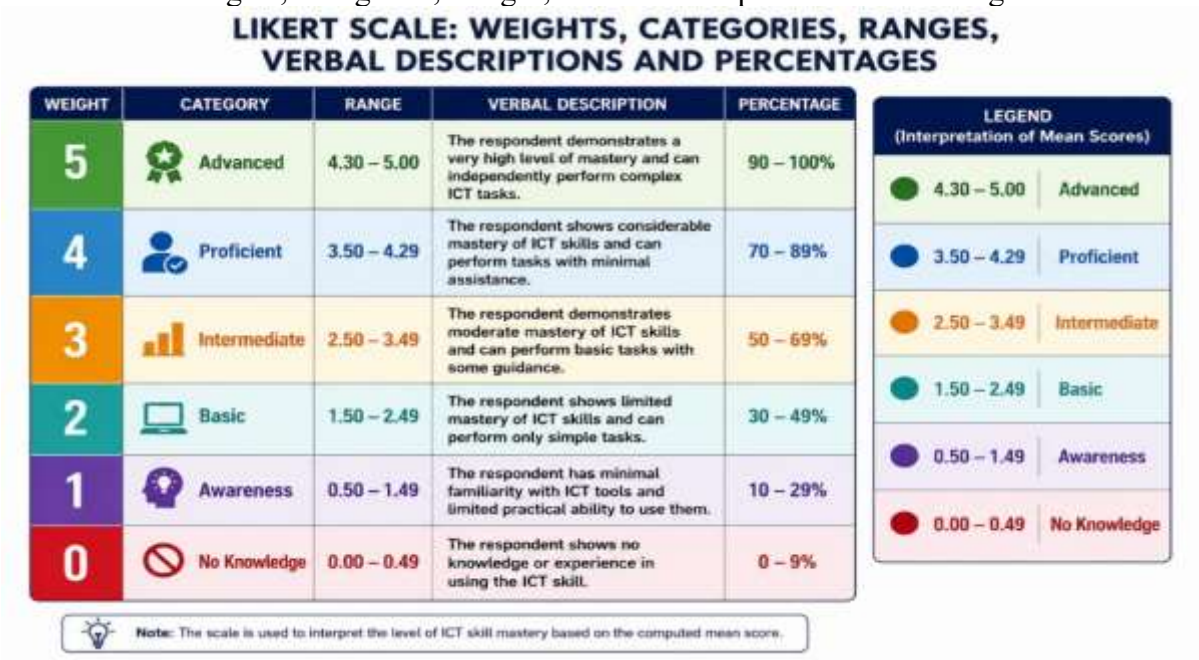
Total Enumeration. While not a mathematical calculation, this is a sampling technique where the entire population is included in the study. Because the study involved all 68 enrolled Grade 7 and 8 students at Baliang National High School, this approach ensured that the statistical results reflect the whole group without sampling error.

Weighted Mean. This is the average of a set of values where some values contribute more than others. In this study, it represents the average score of the respondents based on the Likert Scale weights. This was utilized to determine the learners' level of ICT competence (Question 2) and their perceived level of ICT proficiency (Question 3). It was also used to quantify their experiences in learning ICT (Question 4).

Scoring and Scaling Procedures

The scores garnered by the respondents were identified by the number of correct responses garnered during the administration of test. The mean shall be the basis for the treatment of the statistical data.

Likert Scale: Weights, Categories, Ranges, Verbal Descriptions and Percentages



(Source: Adapted from Cano (2005) Likert Scale Interpretation.)

Definition of Terms

The following terms are defined as of how they are used in the study.

Availability of Computer at Home. This refers to whether a learner has access to a functional desktop or laptop computer at home. In this study, it is considered as one of the factors that may influence the learner's exposure to and opportunities for practicing ICT skills outside the school.

Basic ICT. This refers to the foundational knowledge and application areas of information and communication technology covered by this study. It includes foundational ICT concepts measured through the objective assessment and six selected application domains—word processing, spreadsheets, slide presentations, video editing, picture editing, and multimedia creation—whose proficiency was measured through self-assessment.

DepEd Computerization Program (DCP). This refers to the Department of Education's program that provides public schools with computer equipment, devices, and other ICT-related resources to support teaching and learning. In this study, the DCP represents an important school-based source of access to technology for learners of Baliang National High School.

ICT Skills Training Enhancement Program for Junior High School. This refers to the proposed intervention developed from the findings of the study. It is designed to address identified gaps in learners' ICT skills by providing structured and practical activities that strengthen their ability to use digital tools and develop essential 21st-century digital competencies.

Level of ICT Competence. This refers to the extent of learners' knowledge and understanding of basic ICT concepts as determined through their performance in the ICT-Based Assessment Tool. Their level of competence is determined based on their assessment scores and classified according to the established competency levels used in the study.

Level of Proficiency in ICT. This refers to the learners' perceived ability to perform tasks using the selected ICT applications. In this study, it is determined using the weighted mean of the Self-Assessment Checklist. It represents perceived proficiency and does not constitute a direct observation or performance-based measure of actual task execution.

Place of Acquisition of ICT Skills. This refers to the setting or source where learners acquired or developed their ICT knowledge and skills. It may include the school computer laboratory, the learner's home, internet or computer café, or other places where learners have opportunities to use digital devices and applications.

Presentation, Data Analysis, and Interpretation

This chapter presents the results of the assessment conducted among Grade 7 and Grade 8 learners at Baliang National High School. This includes the presentation, analysis, and interpretation of the data gathered based on the conducted survey which are organized into four thematic areas: the socioeconomic and demographic profile of the respondents; their levels of ICT competence and practical skills; their lived experiences and perceptions of ICT; and the correlation between their theoretical knowledge and practical application.

Specifically, these discuss the student's profile (age and gender, availability of computer at home, daily allowance, allocation of allowance to internet café, and combined monthly family income); level of competence of Basic ICT Concept based on mean and standard deviation; level of understanding of computer concept – word processing, spreadsheets, PowerPoint, picture and video editing, and components of ICT; and perceived experiences of learners in learning ICT in terms of difficulty and their reasons. The results and discussion are presented in a tabular and textual format in which interpretations and implications of the results are provided.

Demographic Profile of the Learners

This section presents the demographic and socioeconomic profile of the learner-respondents who participated in the study. It provides relevant background information that may help describe the learners' circumstances and their learning environment in relation to ICT. The profile includes age, gender, availability of a computer at home, daily allowance, allocation of allowance for computer or internet café use, and combined monthly family income. These characteristics provide a clearer context for understanding the learners' ICT competence, proficiency, and experiences in acquiring basic ICT skills.

Age and Gender

The demographic distribution of the 68 respondents, who make up the entire cohort of students in Grades 7 and 8, is shown in Table 2.

Table 2 Age and Gender

Age (in years)	Female		Male		Total	
	f	%	f	%	f	%
15 and above	4	5.88	1	1.47	5	7.35
14	6	8.82	13	19.12	19	27.94
13	17	25.00	12	17.65	29	42.65
12	7	10.29	7	10.29	14	20.59
below 12	0	0.00	1	1.47	1	1.47
Total	**34**	**50.00**	**34**	**50.00**	**68**	**100.00**

The distribution of age and gender of the respondents is shown in Table 2. The learner's age in this study is paralleled to the age range of Grade 7 and 8 learners, from 12 – 15 years old.

The data shows that most of the respondents are aging 13 years old which comprises of 42.65% of the total population. Specifically, most of the male respondents are aging 14 years old while most of the female respondents are aging 13 years old. Since the researcher used total enumeration technique, it is evidently shown that the data are fairly distributed between genders. There are 34 respondents from each gender which comprises of 50% from the total population.

The data shows that both male and female learners are equally distributed, 50% male and 50% female, and majority of the learners (42.65%) were aged 13. It is an age period that is crucial because it corresponds to the early adolescent period when UNESCO (2023) indicates that digital competence should be consolidated with general literacy. The balanced representation makes sure the findings (and the subsequent enhancement program) is gender-inclusive and is representative of the gender of the typical junior high student in a rural setting.

Availability of Computer at Home

Table 3 presents the respondents' access to technology within their domestic environment.

Table 3 Availability of Computer at Home

Availability of computer	f	%
Available	22	32.35
Not Available	46	67.65
Total	**68**	**100.00**

From the data shown, it is reflected that most of the respondents don't have computers at home. Record

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reveals that 67.65% from the total population says that they have no computer at home. This comprises with 46 counts out of 68 respondents.

This discovery does show that there is a huge digital divide in the Baliang community. This means that the learners have no access to resources at home and must rely on the school's limited lab resources. This lack of access limits opportunities for independent practice, exploration and the Active Experimentation Kolb refers to in the Experiential Learning Theory. This technological poverty is something that is common in rural Philippine barangays, as noted by Cabahug and Tabaosares (2024) where students are digitally grounded outside the school premises. This implies that most of the respondents are dependent to external resource to learn ICT.

Respondents' Daily Allowance

Table 4 presents the distribution of the learner-respondents according to their daily allowance.

Table 4 Respondents' Daily Allowance		
Daily Allowance (in pesos)	f	%
below 10	5	7.35
11-20	16	23.53
21-30	20	29.41
31-40	10	14.71
41-50	9	13.24
51 and above	8	11.76
Total	**68**	**100.00**

The data shows that majority of learners have a very low daily budget, above 30% of the total learners received only Php 21.00 – 30.00 and over 30% received even lesser, Php 20.00 and less. This financial constraint indicates that the allowance for the students would be used for essentials like travel and food, and with that, they would have hardly anything left for study materials or exploring the digital world.

The relatively high cost of travel in a rural mountain barangay such as Baliang creates a significant challenge to incidental ICT learning, such as acquiring mobile data or going to an internet café, with a low allowance.

This discovery is similar to the socio-economic issues Baterna et al. (2020) cited as compounded deprivation for students living in rural areas due to the lack of daily liquidity to access technology-rich areas. It is therefore not surprising that there is a low allowance, since the students do not have the funds to provide their own ICT exposure outside the classroom as mentioned in the Less Competent findings in Table 7.

Respondents' Allocation of Daily Allowance to Internet Café

Table 5 presents data of whether the respondents allocate budget forInternet café from their daily allowance. Specifically, this table presents the frequency of which the respondents have answered in the survey if whether or neither they allocate spare from their allowance to internet café.

Table 5 Respondents' Allocation of Daily Allowance to Internet Cafe		
Allocation (in pesos)	f	%
With Allocation	10	14.71
No Allocation	58	85.29
Total	**68**	**100.00**

Most of the respondents (85.29%) allocate nothing at all to computer and internet cafes for daily allowance. This lack of allocation is a direct result of the inadequate daily allowance pointed out in Table 4, which is

when the amount of allowance received is less than Php 30.00 per day, an hour with an internet café (Php 15–20) is an unsustainable luxury. This implies that the digital divide of these learners is not only related to low access to hardware, but also to a low level of digital disposable income.

This indicates that learners have virtually no opportunities for hands-on experience other than the Baliang National High School computer lab. The learners who are not able to go to the internet café are digitally grounded, and are deprived of the casual, play-based digital experiences that foster confidence, according to Cabahug and Tabaosares (2024). This is part of the UTAUT model, which is a lack of Facilitating Conditions that refers to the surrounding environment outside the school, which fails to facilitate the use of technology, thus inhibiting the process of theory to action.

Respondents' Combined Family Monthly Income

Table 6 shows the combined family monthly income of the household where the learners reside. This refers to the combined family income of all the family members living in the same household in one month.

Table 6 Respondents' Combined Family Monthly Income		
Monthly Income (in pesos)	f	%
20,001 and above	6	8.82
15,001-20,000	10	14.71
10,001-15,000	19	27.94
5,001-10,000	24	35.29
Below 5,000	9	13.24
Total	**68**	**100.00**

The family income distribution also shows that the respondents are highly vulnerable economically as 48.53% of the families had income of less than Php 10,000.00 per month. The learner's household income, when compared to the Philippine Statistics Authority (PSA) national poverty threshold of Php 13,873.00, it is clear that a large number of the learners belong to a family whose income is not sufficient to provide for basic food and non-food needs. In a subsistence economy, the use of ICT devices such as a computer or a home subscription to Internet is considered as a luxury or something not crucial to education.

This economic factor is reflected in the fact that 67.65% of people don't have a computer at home, as is evident in Table 3. This confirms the results of Galve and Labio (2025) which claimed that the most important factor affecting digital literacy in rural schools is socioeconomic status. Public education is key to building digital capacity, as these families are concerned with survival.

The results give evidence to the need for implementing the proposed ICT Skills Training Enhancement Program because it is obvious that these learners will continue to suffer from technological poverty if no focused school intervention is provided to enhance their ICT skills.

Level of ICT Competence

Table 7 presents the mean and standard deviation of respondents on basic ICT Competency Test. This shows the competence of respondents based on understanding of theoretical background of ICT. The learners answer an objective test to determine their level of competence on ICT.

Table 7 Level of ICT Competence of the Respondents (n=68)			
Level	Range of Scores	f	%
Highly Competent	13-15	0	0.00
Competent	10-12	8	11.76
Moderately Competent	7-9	22	32.35
Less Competent	4-6	31	45.59
Not Competent	1-3	7	10.29

Total	**68**	**100.00**
Mean	6.34 (Less Competent)	
St. Dev.	2.42	

Legend: 12.50-15.00-Highly Competent; 9.50-12.49-Competent; 6.50-9.49-Moderately Competent; 3.50-6.49-Less Competent; 1.00-3.49-Not Competent

Table 7 presents the respondents' level of competence on ICT Skills. The results present that most of the respondents inhibit less competence as 45.59% of the total population are distributed with 31 occurrences to have score ranging from 4-6. This is reflected by the overall mean score of 6.34 (SD = 2.42).

In terms of distribution, the largest distribution of respondents (31 or 45.59%) is classified as Less Competent, followed by 22 respondents (32.35%) who are Moderately Competent. Only 8 respondents (11.76%) attained the Competent level, while 7 respondents (10.29%) are classified as Not Competent. Notably, none of the respondents reached the Highly Competent level.

The overall mean score of 6.34 puts the learners in the category of Less Competent. This indicates that at the theoretical level too, students have difficulties in identifying and understanding the basic elements of ICT. This is a low performance that could be explained by the theory only teaching method that is being used at the moment at Grades 7 and 8. The concepts are abstract and hard to remember if they can't be seen and touched in front of them the hardware they read about. This is in line with the observation of Estolas (2025) which found that the provision of theoretical knowledge without the application of their practical skills results in superficial learning in public secondary schools.

Level of the Respondents' Ict Proficiency

The table below shows the distribution of data based on the self-assessment checklist of the respondents on their perceived readiness, familiarity, awareness, and knowledge in selected ICT application domains. The six domains covered are word processing, spreadsheets, slide presentations, video editing, picture editing, and multimedia creation. These results represent learners' perceptions of their proficiency and should therefore be interpreted together with, rather than as a substitute for, the objective ICT competence test.

Table 8 Level of the learners' ICT Proficiency

S/N	Indicators	WM	SD	Verbal Description
1	Word Processing (MS Word, Google Docs)	1.63	1.35	Awareness
2	Spreadsheet (Excel, Google Sheets)	1.28	1.27	Awareness
3	Slide Presentation (PowerPoint, Google Slides)	1.54	1.19	Awareness
4	Video Editing (CapCut, Filmora, Canva)	2.18	1.35	Basic
5	Picture Editing (Photoshop, Canva)	1.93	1.34	Basic
6	Multimedia Creation (audio, animation)	1.19	1.21	Awareness
	Aggregate Mean	**1.63**		Awareness
	Aggregate Standard Deviation		**1.28**	

Legend: 4.21-5.00- Advanced; 3.41-4.20- Proficient; 2.61-3.40- Intermediate; 1.81-.2.60- Basic; 1.00-1.80- Awareness

Table 8 presents the respondents' perceived level of ICT proficiency based on self-assessment across the six identified application domains. The data show that most domain ratings fall within the Awareness or Basic levels, indicating limited perceived ability to use the applications independently. The aggregate mean of 1.63 falls under the Awareness level. Video Editing (2.18) and Picture Editing (1.93) received the highest domain means, while Multimedia Creation (1.19) and Spreadsheets (1.28) received the lowest. These findings identify the application areas that should receive greater emphasis in the proposed training program.

The aggregate mean of 1.63 places the learners at the Awareness level, the lowest tier of proficiency.

Interestingly, Video Editing (2.18) and Picture Editing (1.93) scored higher than academic tools like Spreadsheets (1.28).

The differences among the domain ratings may reflect learners' varying exposure to commonly used digital applications. However, because Table 8 is based on self-assessment, the results should not be interpreted as direct evidence of actual task performance. The lower perceived proficiency in Spreadsheets and Multimedia Creation, together with the objective test result showing Less Competent foundational ICT knowledge, supports the need for structured, hands-on practice. The proposed training therefore maps the identified gaps to specific activities in word processing, spreadsheets, presentations, picture editing, video editing, and multimedia creation.

Perceived Experience On Ict-Based Learning Activities Experiences Of Respondents In Learning Ict In Terms Of Its Difficulty

This part presents the different factors that influence the respondents' perception of ICT based on their personal experiences and ICT-based learning activities. This presents also their reasons of their current understanding on ICT including their over-all perception.

Difficulty

The respondents' experiences in learning ICT can be shaped by how difficult they find computer-related activities and tasks. Their responses can provide an idea of how they feel when performing tasks that require basic ICT knowledge and competence. In this study, the respondents were asked about how difficult they find learning and performing ICT-related activities based on their existing competence with technology. The table below presents the perceived feelings of the respondents in learning ICT in terms of its difficulty. This tailors on how they feel about engaging to computer / ICT- based performances considering their current understanding and competence of ICT Skills.

Table 9 Experiences of Respondents in Learning ICT in Terms of its Difficulty		
Difficulty	f	%
Very Difficult	1	1.47
Difficult	21	30.88
Moderate	42	61.76
Easy	3	4.41
Very Easy	1	1.47
Total	**68**	**100.00**

From the table, it can be inferred that there is moderation of feelings of respondents' experiences in learning ICT in terms of its difficulty. This comprise of 42 counts out of 68 respondents which is 61.76% of the total population. This average feeling signifies that more training and exposure are deemed necessary. It is followed with 30.88% which is 21 counts who say that the activity is difficult. On the other hand, there is 1 instance out of 68 respondents who says ICT-Based activities is very difficult and very easy respectively. This distribution requires strengthened program for skill development. This may be influenced by their current understanding and competence of ICT Skills.

Despite their low competence, 63.24% of students maintain a Neutral perception of ICT, and 61.76% view the difficulty as Moderate. This indicates that learners are not necessarily intimidated by technology; rather, they are stalled by their Limited Knowledge (67.65%).

The fact that 57.35% of learners acquire their skills exclusively at school underscores the heavy responsibility placed on the institution. The Neutral perception is a double-edged sword: it shows a lack of excitement or Performance Expectancy (UTAUT), but it also means there is no deep-seated resistance to learning. The proposed Enhancement Program must therefore transform this Neutral stance into a Positive one by showing the relative advantage and trialability of ICT skills in their daily lives.

Reasons for the Difficulty

Table 10 shows the underlying experiences of respondents' experiences in learning ICT in terms of the reasons for the difficulty. This represents one of the factors of their current understanding and level of competence in ICT Skills.

Table 10 Experiences of Respondents in Learning ICT in Terms of the Reasons for the Difficulty		
Reasons	f	%
I have no knowledge	5	7.35
I have limited knowledge	46	67.65
I have knowledge about ICT	17	25.00
Total	**68**	**100.00**

The data in Table 10 provides a deeper look into the cognitive barriers faced by the learners, revealing that a combined 75% of the respondents possess either limited or no knowledge of ICT. This widespread lack of foundational knowledge explains the Less Competent rating observed in the earlier competency tests (Table 7).

These results are likely a direct consequence of the theoretical integration currently practiced at Baliang National High School, where Grades 7 and 8 students are taught ICT concepts without consistent hands-on laboratory application. From a Constructivist perspective (Piaget, 1952), learners are struggling because they lack the concrete experiences necessary to build mental schemas for digital tools. The fact that 7.35% of learners claim to have no knowledge at all is particularly alarming for the junior high school level and underscores the urgency of the proposed enhancement program. This finding aligns with the research of Baterna et al. (2020), which suggests that without early and practical exposure, students in rural areas fall behind in developing the 21st-century literacies required for higher-level specializations like Computer Systems Servicing (CSS).

Overall Perception of ICT

In this section, it shows the overall perception of respondents of ICT in learning. This presents the overall feeling of respondents of their perceived experience of ICT-based activities.

Table 11 Experiences of Respondents in Learning ICT in Terms of Overall Perception of ICT		
Perception	f	%
Very Negative	1	1.47
Negative	8	11.76
Neutral	43	63.24
Positive	16	23.53
Very Positive	0	0.00
Total	**68**	**100.00**

Table 11 indicates that the majority of respondents (63.24%) maintain a Neutral perception of ICT in learning. While a neutral stance is not overtly negative, in an educational context, it suggests a lack of engagement or Performance Expectancy—a key construct in the UTAUT model (Venkatesh et al., 2003).

The prevalence of neutral and even negative (13.23%) perceptions may stem from the students' self-identified limited knowledge and the perceived difficulty of the subject matter. When students struggle to see the relative advantage of a tool because they cannot use it proficiently, their motivation to adopt it remains stagnant. Unlike urban digital natives who often show highly positive attitudes toward technology, these learners are digitally grounded by their environment. This lack of enthusiasm reinforces the need for the enhancement program to not only teach skills but also to demonstrate the practical utility of ICT in daily life and future careers to shift student attitudes toward the Positive and Very Positive categories.

Place of Acquisition of ICT Skills

Table 12 represents the avenue where learners acquire learning on ICT and develop skills. This shows the distribution of the respondents' answers on where their experiences in relation to learning the acquisition of ICT Skills took place.

Table 12 Experiences of respondents in Learning ICT in Terms of Place of Acquisition of ICT Skills		
Place of Acquisition	f	%
At school	39	57.35
At home	5	7.35
Online Games	13	19.12
Social Media	4	5.88
From Friends	3	4.41
No Experience	4	5.88
Total	**68**	**100.00**

The findings in Table 12 highlight the critical role of the school as the primary—and for many, the only—avenue for digital literacy, with 57.35% of respondents acquiring their skills within the institution. This heavy reliance on the school environment is a direct reflection of the technological poverty at home; as previously noted, 67.65% of students lack home computers (Table 3) and 85.29% cannot afford to visit internet cafés (Table 5).

Interestingly, nearly 20% of learners identify Online Games as their source of skill acquisition, suggesting that informal, play-based interaction is currently more effective at providing hands-on experience than the current theoretical curriculum. This creates an acquisition gap where students may know how to navigate a game interface but remain Aware rather than Proficient in productivity tools like spreadsheets or word processing (as seen in Table 8). The implication for Baliang National High School is profound: since the school is the students' sole facilitating condition (UTAUT), the institution bears the full responsibility for bridging the digital divide. The proposed enhancement program must therefore maximize the use of the 20 functional computer units to ensure that School Acquisition translates into professional competence rather than just basic awareness.

Test Of Significance Of The Relationship Between The Respondents' Ict Competence And Their Ict Skills

The section determines whether there is a statistically significant relationship between the respondents' level of ICT competence and their ICT skills.

Table 13Test of Significance of the Relationship Between theRespondents' ICT Competence and their ICT Skills					
Variables	r-value	Strength of Correlation	p - value	Decision	Result
ICT Competence and ICT Skills	-0.036	Negligible Negative	0.772	Do not reject Ho	Not Significant
*significant at p<0.05 (two-tailed)					

Table 13 presents the correlation between the competence (theoretical knowledge) and ICT Skills (practical assessment). The computed r-value of -0.036 indicates a negligible negative correlation, which means there is almost no relationship between the two variables.

Furthermore, the p-value of 0.772 is greater than the 0.05 level of significance. This confirms that there is no statistically significant relationship between the two variables.

The statistical analysis reveals a negligible negative correlation that is not significant. This is the most critical finding of the study: it proves that in this cohort, a student's ability to pass a written test about ICT does not mean they can actually use a computer.

This disconnect is a direct critique of purely lecture-based ICT instruction. It validates Piaget's Constructivism—knowledge is not truly constructed until it is experienced. The result implies that the current TLE curriculum for Grades 7 and 8, which emphasizes theory over laboratory time, is ineffective in producing functional digital literacy. To bridge this gap, the school must shift from a teaching about computers model to a learning with computers model through the proposed Skills Training Enhancement Program.

SUMMARY, FINDINGS, CONCLUSION, AND RECOMMENDATION

This chapter presents the summary of the research findings, conclusion and recommendation.

Summary

The main objective of the research was to assess the basic ICT competence of the grade 7 and 8 learners enrolled in Baliang National High School located in Danao City of School Year 2025 – 2026 as reference for a proposed enhancement training on basic ICT Skills.

Findings

With the gathered data, most of the learner-respondents were aged 13, with an equal distribution of males and females. Most learners reported limited socioeconomic resources, and 67.65% did not have a computer at home. The Grade 7 and 8 learners at Baliang National High School showed low baseline foundational ICT competence, with a mean of 6.34 (SD = 2.42), categorized as Less Competent, based on the objective ICT-based assessment. In the self-assessment, the six application domains produced an aggregate mean of 1.63 (Awareness). Video Editing (2.18) and Picture Editing (1.93) obtained the highest perceived proficiency, while Multimedia Creation (1.19) and Spreadsheets (1.28) obtained the lowest. Further, 61.76% of the respondents reported that learning ICT was moderately difficult because of limited knowledge, and 63.24% reported a neutral overall perception of ICT. There was no significant relationship between foundational ICT competence and perceived ICT proficiency ($r = -0.036$, $p = 0.772$). These findings provide a clear basis for the proposed training: foundational ICT concepts require strengthening, while the practical training should give priority to the lower-rated application domains and provide hands-on activities across all six domains.

Conclusion

The findings indicate that Grade 7 and Grade 8 learners have limited foundational ICT competence and low perceived proficiency in selected digital applications. The absence of a significant relationship between objective foundational competence and perceived proficiency also suggests that knowledge and self-perception should not be treated as interchangeable measures. The results, together with limited home access to computers, support the need for structured, school-based and hands-on ICT enhancement activities. The proposed program should therefore use the assessment results as a diagnostic basis: strengthen foundational ICT concepts, provide guided practice in spreadsheets and multimedia creation where perceived proficiency was lowest, and reinforce word processing, slide presentations, picture editing, and video editing through task-based activities.

Recommendation

It is recommended that the Grade 7 and 8 learners undergo the proposed ICT Skills Enhancement Program. The program should map each identified competency gap to a corresponding practical activity: foundational ICT concepts to guided computer-operation and file-management tasks; word processing to document creation and formatting; spreadsheets to data entry and basic formulas; slide presentations to multimedia-supported presentation design; picture editing to basic image-editing tasks; video editing to short video-

production tasks; and multimedia creation to integrated audio, image, and presentation activities. Since the present study used self-assessment for application proficiency, program monitoring should include task-based performance checks or practical demonstrations to verify actual skill development. The school should also maximize its DepEd Computerization Program resources to provide regular technology exposure for learners who have limited access to computers at home.

Output of the Study

The Proposed Enhancement Program

Basic Information and Communication Technology

(Ict) Skills Training For Junior High School:

An Enhancement Program

Andrew C. Perminoff

July 2026

I. Title: Basic Information A=and Communication Technology(Ict)

Skills Training For Junior High School:An Enhancement

PROGRAM

II. Rationale

The integration of Information and Communication Technology (ICT) in education is vital for fostering innovation, inclusivity, and lifelong learning. At Baliang National High School, Grade 7 and 8 learners currently receive limited hands-on ICT exposure, while 67.65% of the respondents reported having no computer at home. The study found Less Competent foundational ICT knowledge and Awareness-level perceived proficiency in the selected application domains. The lowest perceived proficiency was in Multimedia Creation and Spreadsheets, while Video Editing and Picture Editing received relatively higher ratings. This enhancement program responds directly to these findings by providing structured, hands-on training in foundational ICT concepts, word processing, spreadsheets, slide presentations, picture editing, video editing, and multimedia creation. The program is therefore designed as a direct instructional response to the competency gaps identified in the study rather than as a general ICT program.

III. Objectives

The primary objective is to strengthen the foundational ICT competence and application skills of Grade 7 and 8 learners through structured, hands-on training integrated into their learning schedule. Specifically, the program aims to: (1) strengthen foundational ICT concepts and basic computer operations; (2) develop functional skills in word processing and slide presentations; (3) improve learners' ability to use spreadsheets, particularly data entry and basic formulas; (4) develop basic picture and video editing skills; (5) introduce and strengthen multimedia creation skills; and (6) monitor learning through practical, task-based performance checks. The target of at least 80% proficiency should be interpreted as a program success indicator to be verified through practical performance tasks, rather than as a claim about proficiency established by the original self-assessment data.

IV. Scheme of Implementation

The implementation of the Basic ICT Skills Training Enhancement Program follows a systematic three-phase approach:

Phase I: Planning and Pre-Implementation – This involves securing administrative approvals from the Schools Division Office and PTA, conducting a final resource inventory of the ICT Lab (20 computer units), and finalizing the training schedule to ensure no disruption of regular TLE classes.

Phase II: Execution and Instructional Delivery – The training is delivered through a blended approach of lecture-demonstrations, guided practice, and intensive hands-on activities. Modules are sequenced from foundational ICT concepts and basic computer operations to word processing, spreadsheets, slide presentations, picture editing, video editing, and multimedia creation. Greater practice time is allocated to the lower-rated domains, particularly spreadsheets and multimedia creation. Peer mentoring and guided support are utilized for learners with lower initial competence.

Phase III: Monitoring and Evaluation – Regular performance checks are conducted through practical, task-based activities aligned with each training domain. A post-program practical assessment will be used to determine whether learners can independently perform the targeted tasks, while a feedback survey will document learner experience and program sustainability. The original study's self-assessment results will be treated as baseline perceptions, not as direct evidence of observed performance.

III. The Output Matrix

Areas of Concern	Specific Objective	Strategies / Activities	Time Frame	Persons Involved	Material Resources	Budget	Source of Funds	Expected Outcome / Success Indicators	Actual Accomplishments / Remarks
1.Computer Systems	Identify and describe parts/functions of computer systems.	Lecture-demonstration, hands-on exploration of hardware, group activities	Term 1 (Weeks 1-4)	ICT Teacher, Learners	PC Units, Toolkits, Manuals	₱5,000	MOOE, PTA	100% identification of hardware components.	
2.Operating System Navigation	Navigate and perform basic OS functions and file management.	Guided practice, simulation exercises	Term 1 (Weeks 5-8)	ICT Teacher	PC Units, OS Simulators	₱3,000	School ICT Fund	Learners manage files/settings independently.	
3.Basic Operations	Apply skills in creating, saving, and retrieving files.	Hands-on activities, peer mentoring	Term 1 (Weeks 9-12)	ICT Teacher, Learners	Flash drives, PC Units	₱4,000	LGU Support	Mastery of basic ICT operations/saving protocols.	
4.Internet Literacy	Use search engines to locate reliable information.	Demonstration, supervised browsing, evaluation of sources	Term 2 (Weeks 1-4)	ICT Teacher	Internet Router, PC Units	₱2,500	MOOE	Accurate retrieval of academic resources.	

5.Word Processing	Create formatted documents (letters, reports) with 80% accuracy.	Hands-on exercises, project-based tasks	Term 2 (Weeks 5-8)	ICT Teacher	MS Word, Printers, Paper	₱6,000	School ICT Fund	Proficiency in document layout and formatting.	
6.Spreadsheets	Construct and compute basic tables and formulas.	Guided practice, problem-solving activities	Term 2 (Weeks 9-12)	ICT Teacher	MS Excel, Projector	₱6,000	LGU, PTA	Competence in data entry and basic computation.	
7.Presentations	Design and present a slide deck with multimedia integration.	Project-based learning, peer presentations	Term 3 (Weeks 1-4)	ICT Teacher, Learners	MS PowerPoint, Audio Speakers	₱5,000	MOOE	Successful delivery of multimedia presentations.	
8. Digital Arts	Edit images using basic tools (crop, resize, filters).	Hands-on editing sessions, creative projects	Term 3 (Weeks5-8)	ICT Teacher	Photo Editors, Graphics Tablet	₱7,000	Donations, LGU	Production of high-quality digital artworks.	
9.Video Editing	Create a 2-3 minute video with transitions and audio.	Workshop sessions, collaborative projects	Term 3 (Weeks 9-12)	ICT Teacher, Learners	Editing Software, Cameras	₱10,000	School ICT Fund, LGU	Proficiency in basic video post-production.	
10. Program Review	Evaluate overall student proficiency and program impact.	Post-test administration and feedback survey.	Year-End	School Head, Teacher	Survey Forms, Laptop	₱2,500	MOOE	80% of learners reach "Proficient" level.	

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Andrew C. Perminoff

Researcher

Dedication

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APPENDIX D

TEST QUESTIONAIRE ON BASIC ICT

Survey Questionnaire on Basic ICT Competence and Experience

Title: CONDUCTING BASIC INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) SKILLS TRAINING FOR JUNIOR HIGH SCHOOL: AN ENHANCEMENT PROGRAM

Part I. Demographic Profile

Name		Gender	
Age : ___Below 12 yo __ 12 yo ___13 yo ___14 yo ___ 15 yo and above			
Grade		Section	
Address			
Combined Family Monthly Income		Below Php. 5,000.00	
		Php. 5,001.00 – Php. 10,000.00	
		Php. 10,001.00 – Php. 15,000.00	
		Php. 15,001.00 – Php. 20,000.00	
		Above Php. 20,001.00	
Daily Allowance		No allowance	
		Below Php. 10.00	
		Php. 11.00 – Php. 20.00	
		Php. 21.00 – Php. 30.00	
		Php. 31.00 – Php. 40.00	
		Php. 41.00 – Php. 50.00	
		Php. 51.00 and above	
Do you have computer / laptop at home?		Yes	
		No	
Do you allocate part of your allowance for internet hub / café?		Yes	
		No	

Part II. Basic ICT Competency Test

Direction: Read each item carefully and encircle the letter of the correct answer.

Source: Adapted from quizziz.com and modified by the researcher.

1. What is the smallest unit of memory?

(A) Byte (B) Nibble (C) Bit (D) Word

2. What is the first step required in starting a computer?

(A) Pressing CTRL + ALT + DEL (C) Pressing the power button

(B) Using the mouse to select 'Start' (D) Double-clicking an icon

3. Which of the following is the best way to copy text?

(A) Highlight text → right-click → copy (C) Press CTRL + C

(B) Go to File → Copy (D) All of the above

4. The master control program of a computer is the:

(A) File System (C) Operating System

(B) Hierarchy (D) All of the above

5. Which of the following is not a function of an operating system?

(A) Managing file structures (C) Checking hardware components

(B) Monitoring disk space (D) None of these

6. The physical, tangible parts of a computer system are called:

(A) Tower Casing (B) Monitor (C) Keyboard (D) Hardware

7. The instructions that tell the computer what to do are called:

(A) Hardware (B) Input (C) Software (D) Output

8. ICT stands for:

(A) Information and Communication Technology

(B) Integrating Communication Technology

(C) Information Connecting Technology

(D) Information Communication Technique

9. What is a Trojan Horse?

(A) A virus (C) Self-copying program

(B) A worm (D) Malware disguised as safe software

10. Can folders be created within subfolders?

(A) Yes (B) No (C) Maybe (D) Not possible

11. Which of the following functions cannot be performed using a mouse?

(A) Turn On (B) Hover (C) Right-Click (D) Drag and Drop

12. When you press and hold the left mouse button while moving the mouse, it is called:

(A) Highlighting (B) Dragging (C) Selecting (D) Moving

13. Shortcut key for 'Paste' is:

(A) Ctrl + C (B) Ctrl + P (C) Ctrl + V (D) Ctrl + X

14. What happens if a device remains plugged in after reaching 100% charge?

(A) It may overheat (C) It may stop functioning

(B) It can break (D) Data may get corrupt

15. How does antivirus software protect your device?

(A) Prevents overheating (C) Prevents data corruption

(B) Increases performance (D) Creates backups

ICT Skills and Experiences in ICT-Based Learning and Assessment

Instruction: Please answer the following questions honestly. Your responses will be treated with confidentiality and will be used only for research purposes.

Part III. Self-Assessment of ICT Proficiency

Direction: Check (✓) the box that best describes your level of skill.

Scale Meaning

5 Advanced Highly skilled in using the ICT application independently

4 Proficient Skilled and able to use most functions with minimal assistance

3 Intermediate Can perform basic tasks independently

2 Basic Can perform simple tasks with guidance

1 Awareness Familiar with the application but cannot operate it well

No.	**ICT Application**	**5**	**4**	**3**	**2**	**1**
1	Word Processing (MS Word, Google Docs)	□	□	□	□	□
2	Spreadsheet (Excel, Google Sheets)	□	□	□	□	□
3	Slide Presentation (PowerPoint, Google Slides)	□	□	□	□	□
4	Video Editing (CapCut, Filmora, Canva)	□	□	□	□	□
5	Picture Editing (Photoshop, Canva)	□	□	□	□	□
6	Multimedia Creation (audio, animation)	□	□	□	□	□

Part IV. Perceived Experiences on ICT-Based Learning and Assessment

1. How difficult are ICT-based assessments for you?

☐ Very Easy

☐ Easy

☐ Moderate

☐ Difficult

☐ Very Difficult

2. What is the reason for your answer?

☐ I have sufficient ICT knowledge

☐ I have limited ICT knowledge

☐ I have no ICT knowledge

☐ I have limited access to devices/internet

☐ Others: _____

3. What is your overall perception of ICT in learning?

☐ Very Positive

☐ Positive

☐ Neutral

☐ Negative

☐ Very Negative

4. Where do you usually learn ICT skills?

☐ School

☐ Home

☐ Online Tutorials

☐ Social Media

☐ Online Games

☐ Friends/Peers

☐ ICT Training

☐ No Experience

☐ Others: _____

Answer Key for Part III

1. C
2. C
3. D
4. C
5. D
6. D
7. C
8. A

9. D
10. A
11. A
12. B
13. C
14. A
15. C

APPENDIX E

STATISTICAL REPORT

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
competence	68	1.00	11.00	6.3382	2.41643
skills	68	.33	4.33	1.6249	.95585
experiences	68	1.50	4.25	2.5257	.53277
Valid N (listwise)	68				

Correlations				
		competence	skills	experiences
competence	Pearson Correlation	1	-.036	.196
	Sig. (2-tailed)		.772	.109
	N	68	68	68
skills	Pearson Correlation	-.036	1	-.198
	Sig. (2-tailed)	.772		.106
	N	68	68	68
experiences	Pearson Correlation	.196	-.198	1
	Sig. (2-tailed)	.109	.106	
	N	68	68	68