Strategic Approach in Training Assessment (SATA): Enhancing Students' Performance Skills in Information and Communication Technology

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ABSTRACT

This study aimed to assessed the performance skills of students in information and communication technology in Baliwasan Senior High School taking computer system servicing. The study employed an experimental mixed method design using pretest and posttest in information and communication technology students during the second semester period school year 2023-2024. The participants were 50 Grade 12 students of ICT track. The study utilized a purposive sampling technique to determine its sample size. The results showed that Grade 12 students performed satisfactorily. Both pretest and posttest evaluations for the experimental group demonstrated satisfactory to very satisfactory outcomes. The strategic approach intervention led to a significant improvement in mean gain scores. There was a notable difference between the pretest and posttest results within the experimental group in information and communication technology. These findings suggest that the strategic intervention enhanced students' ICT skills and contributed to a significant improvement in their overall performance. The students gained knowledge and deeper understanding on the used strategic approach which further equipped them with the proper practice and strategy to master their performance skills. It is recommended that senior high school teachers in ICT may use strategic approach in teaching to enhance the ability and skills of students when giving performance tasks. The teachers may also adopt the intervention plan as seemed adequate in their field of specialization to enhance and developed performance skills of the students.

Keywords: Information and Communication Technology, Performance Skills, SATA, Strategic Approach, Training Assessment

Context and Rationale

According to Sutopo (2012,1), the concept of information and communication technology (ICT) encompasses two main components: information technology and communication technology. ICT serves as a tool for managing, manipulating, and utilizing information, integrating these aspects under the umbrella of information technology. Whereas, communication technology is referring to anything that focuses on the use of tools from one device to another by transferring data.

There are much of literature tries to explain information and communication technology in many ways such as given its various and complex nature. It is a significant perception that changes every at any time. Even though, the term "ICT" lately has become useful in the world, there has been no arrangement regarding a clearer meaning of it (Zuppo 2012,3).

The emergence of ICT has brought about significant transformations in the modern world, influencing virtually every aspect of human life and activity. Its integration into education has notably enhanced the quality of learning by making teaching a dynamic and interactive process closely connected to real-life contexts. This study aims to compile insights from a range of accessible literature on the impacts of ICT on education. Contemporary instruction and education approaches highlight the shift from traditional teacher-centered methods to more student-centered, interactive pedagogies. ICT-facilitated active and collaborative learning environments help foster a knowledge-driven student community. The research delves into the role of ICT in education, examining

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its impact on the teaching-learning process, educational quality, accessibility, learner motivation, the learning environment, and students' academic achievements. (Amponsah and Stonier 2020, 1)

The integration of ICT in primary education, especially in Australia, plays a vital role, with the ICT Capability Learning Continuum guiding teachers in fostering students' learning progression. However, there is a growing need for knowledge on evidence-based strategies to effectively incorporate ICT into classroom practices. Developing ICT capabilities through educational activities remains a significant challenge for many educators. Additionally, the rapid pace of technological advancements intensifies the pressure on teachers aiming to integrate ICT into their teaching. A common misconception is that simply using any form of technology in the classroom automatically contributes to the development of ICT skills. (Hilkemeijer 2024,1)

On the other hand, ICT plays a significant role in broadening educational access, enabling learning to take place anytime and anywhere. Online course materials, for instance, are available around the clock, making education more flexible and convenient. Teleconferencing technology simplifies real-time interactions between teachers and learners. With ICT, education is no longer limited to printed materials; a wealth of resources is readily available online, including videos, audio content, and visual presentations. Research has shown that ICT contributes to reshaping teaching environments into more learner-focused and interactive spaces. (Castro Sánchez and Alemán 2011, 911-915)

The primary objective is to create an action plan aimed at enhancing youth engagement and effective participation in the National Development of Saudi Arabia's efforts (Ministry of Economy and Planning, 2014). A key aspect of this strategy is the incorporation of ICT into education to improve its quality and ensure accessibility, particularly for individuals in remote areas. For instance, the Saudi government has introduced initiatives like Distance Education, the Saudi Digital Library, and the National Centre for E-learning to support the Kingdom's vision of spreading knowledge and making education available to everyone. (SUSRIS 2015,1)

Moreover, privacy and the protection of personal information are significant concerns often viewed as drawbacks of ICT. The collection, storage, and retrieval of online data raise issues about limited control over access to personal details, such as internet activity and electronic transactions, potentially leading to adverse effects for users. Additionally, the lack of clarity surrounding laws, policies, and ethical standards related to data protection further exacerbates these worries. (Stanford 2014,1)

A frequently mentioned justification for integrating ICT into classrooms, particularly in high schools, is its role in better preparing the current generation of students for a workforce increasingly dominated by ICT, especially computers and the internet (Schwab, 2015; Sjodin, 2015). Technological literacy, or the ability to effectively and efficiently use ICT tools, is seen as a critical advantage in an increasingly globalized job market. Consequently, it equips students with a deeper understanding of the relevance and application of computers and software in their future careers. (World Economic Forum 2014, 1)

Consequently, learners develop the skills to tackle complex problems, exchange and critically analyze information, generate innovative ideas, design models, and adeptly control devices. They exhibit sound judgment in selecting and utilizing ICT tools and resources. Furthermore, they gain the ability to assess and appreciate the impact of these tools on their academic growth through thorough and systematic review and evaluation, fostering a deeper understanding of their educational journey. (Hertlein and Ancheta 2014, 1-11)

The stark contrast in the utilization of ICT between developed and developing nations is evident. Developing countries face numerous challenges that impede the effective implementation of ICT, including insufficient funding, limited internet access, a shortage of qualified educators, and the absence of comprehensive long-term plans and strategies. (Niebel and Mannheim 2014, 1-26).

It is apparent that the performance skills of the students in information and communication technology are rational and entails an evolving process. The challenges on the training assessment to achieve a successful strategic approach of technology requires an effort from both the teachers and the students with the guidance of the school. The current situations, barriers to, and solution for a better-quality and developed strategic teaching and training are more relevant when given emphasis in the school setting. More so, the possible gaps between

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the existing practices and an improved performance are directed to coming up with a concentrated training assessment that focuses on a well strategize manner of performance skills of learning by doing.

The present study aimed to assessed the performance skills of the students in Baliwasan Senior High School-Stand Alone during the school year 2024-2025. More so, the extent of training assessment that can be done with the use of strategic approach in information and communication technology. Lastly, it aims to determine a training assessment that suits students need to improve their performance skills in preparation for computer system servicing NC II.

Innovation, Intervention and Strategy

SATA in ICT (Strategic Approach in Training Assessment). SATA in information and communication technology specifically in computer system servicing is a program created which is a performance-based approach that can be individually or group activity that is school base institutionally done where students are given instruction by their teachers. This is also an activity where all members of the group have an equal task and privilege to do the specified task or performance to be done. The purpose of SATA in computer system servicing is to enhance the confidence level of the students in performing a required task or performance in information and communication technology and showcase their skills in their specialization by doing the proper procedure in computer configuration in the class. They are expected to comply the necessary output in system servicing by presenting their actual performance. Furthermore, this will help students to master the proper steps in configuration which they can used when taking the National Certificate in TESDA for their assessment.

The teacher uses a group or teamwork activities as part of the procedure.

The strategy will focus on the performance based in the context of prescribed competencies pattern from TESDA where curriculum guide was followed. The required performance task is computed based from a criteria indicator where rubrics will be used.

This was supported by (Albugami and Ahmed 2015a, 36-54) where it is said that one key aspect of the government's role in ICT implementation is the provision of training, which is considered crucial for its success. Many educators advocate for the integration of training initiatives into education policies, emphasizing the need for high-quality, well-designed programs. Additionally, offering incentives to motivate teachers to participate in such training is widely viewed as an essential step in promoting effective ICT adoption.

Intervention. This program intensifies the concepts of "*learning by doing"* where students must pass through a certain stage of intensive training by performing the required task or output. An orientation will be done to ensure students are well guided, followed by doing an institutional or school-based assessment training to enhance the performance skills of the students and do post conference for make-up learnings or additional information needed by them. As the students learn from each stage of the training, the procedure also extends to a more complex task that are aligned to the competencies in the assessment. A thorough and immense performance based will be lay out by the teachers to let students appreciate the process in their full sense of understanding. A series of training workshop will be done for students to deepen their understanding and have a clear concept of the performance task and the output that are required which are vital to the assessment process in taking the national certificate assessment.

The intervention programs address the needs to make students abreast with the proper performance output and must see to it that the students understood the process of the workshop especially the steps in complying with the proper configuration in system servicing. The training conceptualizes a readiness in action in the student's performance skills which are essential for teachers to identify that students are ready in taking the assessment.

Additionally, ICT-powered learning boosts learner engagement, fostering active participation and enabling students to maximize their potential in both research and independent study (Adu and Mireku, 2016). Integrating ICT comprehensively into education is vital, as it ensures that society reaps the benefits of these well-equipped individuals once they graduate and contribute to their communities.

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More so, Haris, Mohammed, and Adel (2016, 368-381) found that full integration of ICT into education enables students to enhance their academic performance. Traditionally, teachers primarily act as providers of pre-prepared information and facilitators of learning activities. ICT can assume these roles within the classroom, serving as an additional source of knowledge. This shift decreases students' reliance on teachers and fosters greater independence in the learning process, ultimately promoting learner autonomy.

Strategy –Learning by Doing. It is a combination of actions that strategies to increase the learning capabilities of the students. This strategy uses the experience, share, process, generalize, apply methods and repeat itself as long as the student eventually learn the process and be able to perform better on the given task to complete with less supervision.

As John Dewey once stated, "We learn by doing," emphasizing that our dynamic, practical world can only be truly understood through active engagement. This philosophy, often summarized as "learning by doing," is a foundational concept widely recognized in the field of education, even by those with a basic understanding of pedagogy.

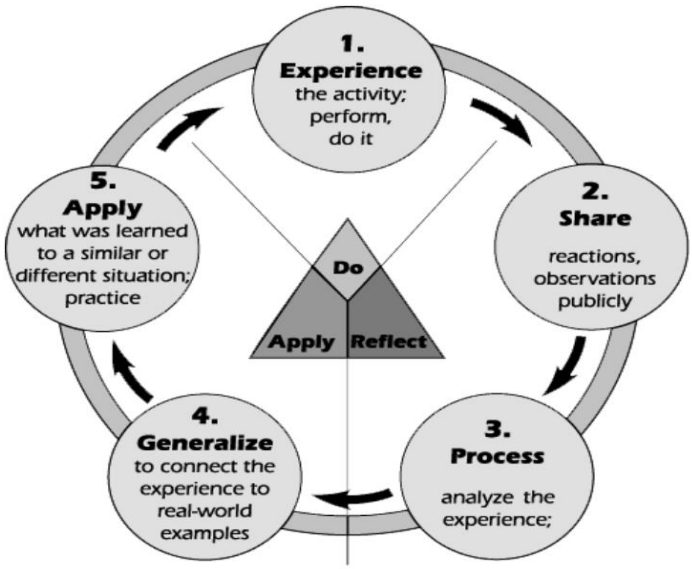

Figure 1: Learning by Doing Methods

In addition, the figure clearly stated a strategy that needs to follow for a successful implementation in the learning by doing concept. The students will first experience the activity to perform then later interact or do some observation on the proper performance to be done. Next is the process by which students analyze the given task to perform and do generalize to connect the experience on the performance task to accomplish. More so, an application of what was learned during the practice must be initiated which is a crucial part of the strategy to ensure proper performance skills must be done in the process.

In essence, the ‘Learning by Doing’ approach is a remarkably versatile and adaptable teaching method. It can be applied in various contexts, ranging from skill development and personal growth to theoretical exploration, making the learning process more profound, effective, and memorable. The key lies in interpreting ‘doing’ not merely as practical activities but as active engagement with the subject matter and continuous reflection on the learning journey. Equally crucial is fostering a secure educational setting that encourages exploration and embraces new, challenging experiences. (DNS 2022,1).

Also, Boser (2020,1) highlights that for the 'learning by doing' approach to be effective, it requires proper groundwork. Recent studies emphasize that timing is crucial; this method yields the best results when introduced at the appropriate stage of the learning process. Learning is inherently progressive, building upon prior knowledge. If 'learning by doing' is implemented prematurely, it can lead to confusion and hinder learning instead of fostering it.

Model validation. Learning by doing model works after students gained some familiarity with the content and familiarity on their performance skills needed to complete a task. It works because the methods call for an active engagement with the training given to them where they improve their acquisition of the proper completion of the task given in the assessment. The teacher will lead and do some demonstration but make sure proper communication must be adhere to students to learn on the concepts of system servicing. The demonstration varies to whether students right away understood the performance and the skills needed to acquire in the said strategy used.

Real-world Application. This is where the students start to initialize the importance of information and communication technology. Practice should include guided instruction by enhancing the quality of performance skills, and developing a sense of direction as well as the application of the proper skills that are vital in system servicing and the main strategies that are designed by independent practice.

Action Research Questions

This study aimed to assessed the performance skills of students in information and communication technology of Grade 12 students in Computer System Servicing Class of Baliwasan Senior High School during the school year 2023-2024.

In particular, it aims to address the following;

1. What is the pre-test and post test result in information and communication technology of the experimental group?
2. What are the mean gain scores of students in information and communication technology experimental group?
3. Is there a significant difference in the pretest, post-test scores results in information and communication technology?
4. Does the strategic approach improve the performance skills of the information and communication technology students?

ACTION RESEARCH METHOD

Research Design

The study employed an experimental research design, incorporating both pre-tests and post-tests to assess information and communication technology aligned to computer system servicing. It combined quantitative and qualitative methods to evaluate the performance of grade 12 students in the area of information and communication technology, with a specific focus on computer system servicing.

Quasi-experimental studies are structured to evaluate the efficacy of interventions while bypassing the need for randomization. Randomized trials specifically, they aim to establish a causal link among an involvement and its results. These designs involve the selection of a comparison group that closely mirrors the treatment group in terms of baseline (pre-intervention) attributes, ensuring a reliable and meaningful analysis of the intervention's impact. (White and Sabarwal 2014, 4)

Participants and / or Other Sources of Data and Information

For this research, the target populations are the G12 students of Baliwasan Senior High School of Zamboanga City taking TVL-ICT CSS who are enrolled in the school S.Y. 2023-2024. In determining the sample size, the researcher collected the pretest scores of the ICT students and chose the students who obtained a good score and mastered skills in computer system servicing during the second semester. The researchers applied purposive sampling as the method to select the study's participants, ensuring the chosen samples effectively represented the objectives and focus of the research. This deliberate approach allowed them to tailor the selection process to

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align with the specific criteria and goals of the study. Hence, there are 40 ICT-CSS students who will be part of this study. These respondents will be then part of the training in computer system servicing in which strategic approach will be applied.

Proportional quota sampling ensures that a population's key characteristics are properly represented by choosing samples according to their proportional presence within the entire study group. This method is commonly used in surveys and opinion polls, where the total number of participants is often prearranged. (Nikolopoulou 2022,1)

Research Instrument

The research utilized a 20-item multiple-choice examination focused on computer system servicing as its instrument. This exam was administered for both pre-tests and post-tests to evaluate the study participants.

The tool used to assess students' system servicing performance skills was derived from the CapSLET and computer system servicing modules. ICT teachers and experts conducted content validation of the instrument, ensuring its relevance and alignment with the students' abilities. Feedback and recommendations from the validators were carefully considered and incorporated into the finalized version of the instrument. The instrument underwent comprehensive item analysis to assess its reliability and validity. Twenty copies were administered to non-respondents with characteristics comparable to those of Grade 12 learners. The gathered data was meticulously processed and analyzed through norm-referenced item analysis techniques. The reliability test produced a score of 0.897, confirming that the instrument was highly reliable and well-suited for the study's objectives.

Data Gathering Procedure

The researchers-initiated data collection after receiving approval for the research proposal. Authorization was sought from the Schools Division Superintendent over a formal request letter to allow data gathering from Grade 12 students. Upon approval, the permission letter was presented to the District Supervisor and the school principal, with the finalized letter handed over to the principal to complete the process.

At the beginning of the second quarter, the researcher conducted a range of preparatory activities. These included providing an overview of the subject matter and introducing the peer tutoring method to the experimental group. Participants were notified about their involvement in the educational experiment, and their consent was duly secured for inclusion in the study. During the next session, both the control and experimental groups were given a 20-item multiple-choice test, with approximately one hour allocated for completion. Following the administration of the pretest, the researcher employed the peer tutoring method as the treatment. Once the intervention concluded, post-test materials were distributed, collected, and personally reviewed by the researcher. The tabulated data was then submitted to a statistician for analysis, and the researcher proceeded with the discussion and interpretation of the results.

Phases of interventions to be implemented on the data gathering will be done through to the following as indicated in the table below;

Table 1: Phases of Intervention Activity to be Implemented

Phases	**Activities (Steps)**	**Materials**	**Duration**
Phase 1	Pre-test (Individual Self-Assessment)	Pen & Paper Test / Demonstration	1-2 weeks
Phase 2	Intervention (Integration of SATA)	Demonstration/Workshop (PC set) TESDA Modules	1-2 months
Phase 3	Post-test (Self-Assessment/ Performance Based)	Pen & Paper Test / Group Demonstration	Last month of the semester
Phase 4	NC Assessment (Optional)	Pen & Paper Test / Individual Performance	1-2 days

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Data Analysis

Mean/Average. This statistical measure will be employed to evaluate the pre-test and post-test outcomes of the experimental group. in computer system servicing. It will also play a pivotal role in calculating the mean gain scores of Grade12 students, offering insights into their progress and overall performance in computer system servicing.

One-Sample T-test. This statistical technique will be utilized to identify significant differences in the mean gain scores of Grade12 ICT-CSS students. Furthermore, it will determine the extent of the variation between the pre-test and post-test results within the experimental group, highlighting the effectiveness of the intervention and its impact on the students' learning outcomes.

RESULTS AND DISCUSSION

Students' Performance Before and After the Intervention. Table 2 presents the performance outcomes of Grade 11 senior high school students in information and communication technology, comparing their results before (pretest) and after (posttest) the application of the strategic approach.

Table 2. Pretest and Posttest result of the experimental group

Pretest Result of the Experimental Group			**Posttest Result of the Experimental Group**		
Mean	Equivalent	Description	Mean	Equivalent	Description
10.87	78.00	Fairly Satisfactory	14.08	85.00	Very Satisfactory

Legend:

90-100 = Outstanding *85-89 = Very Satisfactory* *80-84 = Satisfactory*

75-79 = Fairly Satisfactory *Below 75 = Did not meet expectations*

The table shows an apparent result of the experimental group on their pretest and posttest where it obtained a mean of 10.87 which is fairly satisfactory defined as while the latter has a mean of 14.08 equivalent to 85 and described as very satisfactory. This further mean that the students had already acquired the basic knowledge in information and communication technology where an enhancement has gradually improvement in their performance skills by the use of the strategic approach in training assessment as seen in the posttest mean. This implies that the more the students will be engaging in strategic approach and training assessment the more developed they will be in their ICT fields especially when applying for NC in TESDA, confidently passed it. The data revealed a remarkable progress of the students taking part of the strategic approach which they can used it in the real-world scenario.

The result of the findings was supported by the study of Fathima (2013, 51-54). This claim is debated among researchers and academics. However, substantial evidence supports the notion that ICT integration in education positively impacts students' academic performance. The relationship between student achievement and ICT implementation has been a significant focus of research and discussion for some time. Studies reveal that incorporating ICT into the teaching environment leads to notable improvements in students' performance.

Mean gain score of the control and experimental group. Table 4 shows the mean gain scores of the experimental group as indicated below.

Table 3: Mean gain scores of Grades 11 students in physical education of the control and experimental group

	Experimental Group	
Variables	**Mean**	**Std.**

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Pretest	10.87	2.597
Posttest	14.08	2.309
Mean Gain Score	**3.21**	**2.45**

Table 3 displays the mean gain scores of Grade12 students in information and communication technology experimental group. It was revealed that the students got a mean of 10.87 from the pretest and 14.08 from the posttest. The result of the mean gain score of 2.45 obtained from the experimental group indicates uncontrolled figure having a closed gap in their mean both pretest and posttest. From the indicated standard deviation, it shows a distant score improvement from pretest to posttest. This implies that the scores reflected has greatly increase appropriately.

The data reflected from pretest to posttest indicates that the scores of the students in information and communication technology are closed from each score in terms of their mean. This simply implies that the scores of the experimental group increased and improved while using the strategic approach in teaching.

The finding of the study was supported by Salam et al. (2017, 277-284) explored the influence of ICT on student performance by evaluating a model that analyzed samples from both public and private school students. Their findings demonstrate that integrating ICT into education enhances its quality and positively impacts students' academic achievements.

Testing the difference in the pretest and posttest results of the experimental group. The table below shows the significant difference in the pretest and posttest of the students.

Table 4: Significant difference in the pretest and posttest results information and communication technology experimental group

Respondents	**Experimental**	**t-value**	**p-value**	**Interpretation**
Pretest	10.87	26.140	0.000	Significant
Posttest	14.08	38.057	0.000	Significant

**Significant at @=0.05*

Table 4 presented the findings of a One-Sample t-test, highlighting the significant difference between the pretest and posttest results of information and communication technology experimental group. It is evident that the t-value of 26.140 with p-value 0.000<.005, t-value of 38.057 with p-value of 0.000<.005 indicated that the significant difference exists. This means that the hypothesis stated is accepted having significant difference with the pretest and posttest of experimental group. This implies that the student doing their performance in their ICT class improved whether there is no intervention and with intervention used. This indication simply points out that students have a mastery on their information and communication technology performances and improved their skills more upon doing some intervention as strategic approach. Moreover, it is really evident that the increase in the mean score of the students is a reflection of how the strategic approach training really helped them in their performance skills to be used later when applying for NC in TESDA.

The result of the findings is supported by Wallet (2014,1-61) who said that Numerous countries have recognized the need for strategic planning to address the challenges of integrating ICT into education. By developing comprehensive policies and strategies, they aim to enhance the effectiveness of ICT tools within their educational systems.

Skills improvement from the strategic approach. The researchers were guided by the research problem in this study on “Does the strategic approach improve the performance skills of the information and communication

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technology students?" which were answered to by ten (10) grade 12 senior high school students who were part of the strategic approach training assessment. Participants responded the following;

"It provides us more knowledge and gave us some experiences that would answer or cater our lacking knowledge that really help me improve my skills", Participant 1.

Participants 2, 3 and 4 answered "It helps in mastering tools, understanding concepts, and applying skills effectively in real-world tasks which improved my skills".

Participants 5 responded "I learned things step by step instead of jumping into complex tasks too soon which I am more skillful".

6 and 7 said "Strategic training connects theory to practice, equipping you with tools and techniques applicable to everyday communication challenges".

Participants 8 and 9 replied with "it has developed our hands-on skills and gained practical knowledge, enabling me to effectively apply ICT concepts and tools".

Participant 10 responded with "Training with a clear plan makes it easier for me to understand and use ICT skills in real life.

Theme 1. Performance Skills Improvement. Academically speaking of performance skills where it defines as the observable actions of an individual that implied understanding of a profound functional purpose of the information and communication technology, including motor skills, the process involved in the performance, the interaction and communication skills proving the acquisition of the required knowledge in terms of ICT. The strategic approach is one way to enhance the skills and abilities of the ICT students to properly demonstrates the action they are required to perform in their respectively fields. This has been an essential factor for students to exhibit an outstanding performance relative to getting an NC or national certificate in TESDA.

This was supported by Albugami (2016,3), stating that Technological tools such as the internet, computers, and interactive whiteboards have become essential resources for teaching and learning. Saudi Arabia has made substantial investments in the ICT sector, yet the progress in its implementation remains underwhelming. A significant gap persists between the availability of ICT tools and effective application methods, raising critical concerns for educators and policymakers. This study seeks to develop a strategic framework designed to assist policymakers, educators, and researchers in promoting the effective incorporation of ICT into education, with a specific focus on enhancing its implementation in Saudi secondary schools.

CONCLUSION AND RECOMMENDATION

The Grade 12 senior high school students specializing in information and communication technology initially displayed satisfactory performance in the training assessment (SATA). However, after implementing the intervention program, their performance improved to a very satisfactory level. The experimental group's pretest and posttest results showed a progression from satisfactory to very satisfactory, with mean gain scores increasing from 10.87 to 14.08. A significant difference was observed between the pretest and posttest outcomes, indicating that the strategic approach effectively enhanced the students' skills and overall performance in ICT.

This study emphasized the concept of accessible and conducive learning of information and communication technology students where they can really perform with a complete technology needed in their specialization. The strategic approach is a manifestation that students really learned by doing and greatly enhance their performance skills in preparation for the National Certificate (NC) in TESDA and in the real-world setting.

It is highly recommended that the senior high school teachers may use Strategic Approach (SATA) with intervention program stated to elevate the performance skills of the students in the ICT field and encouraged to continue using the strategic approach intervention, as it has proven effective in improving students' competencies and overall performance. Integrating these strategies into regular classroom instruction may help

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students develop stronger practical skills and deeper understanding of computer system servicing concepts. More so, this will help ICT teachers to innovate their teaching styles and strategies for students that are not inclined to technology to improved their skills in doing their performance tasks. They may integrate the assessment training in the ICT specialization to boost and greatly improved the performance skills of the student and be ready for any assessment through rubrics in any instances as required in the school and in the community. Schools may also consider providing continuous professional development for teachers to strengthen their capacity in implementing innovative and student-centered teaching strategies. Additional training may focus on designing performance-based tasks, using technology-enhanced learning tools, and applying differentiated instruction to address diverse learner needs. The future researchers may expand the study by increasing the sample size, including multiple schools, or comparing different ICT strands to ensure greater generalizability of results. Conducting a longer-term study would also help determine whether the positive effects of the intervention are sustained over time. Moreover, combining various instructional strategies or introducing advanced performance tasks may yield further insights into enhancing students' ICT proficiency.

In disseminating the action plan, the school will introduce the plan that was established relating to the problems encountered in the ICT-Computer System Servicing class of the students. The said strategy used will be focused into different students depending on the needs arise. The programs are consistent with the findings and conclusions derived from the data, serving as a foundation for implementing suitable intervention programs and techniques to address classroom concerns effectively. Crucial information from this research will form part of the intervention program and guide its application. Furthermore, the findings will be shared with academic institutions for comprehensive presentation, benefiting both local and external communities.

Action Plan

Program /Projects	**Objectives**	**Strategies /Activities**	**Time Framed**	**Persons Involved**	**Resources Needed**	**Expected Outcomes**
Admiration of Pretest & Posttest	Conduct pretests and posttests quarterly.	Administer pretests and posttests every quarter.	The initial semester of each academic year.	-Subjects Group Head -Teachers -Students	Hardcopy modules, lesson plans, handouts, pretest and posttest materials.	learners gain essential life learning skills.
Intervention classes will be made following the program in computer system servicing for Grade 12	Provide intervention classes aligned with the computer system servicing program for Grade 12 students.	Implement intervention classes based on the computer system servicing program.	The initial semester of each academic year.	-Teachers -Students	Printed modules, lesson plans, handouts, pretest and posttest materials.	Students demonstrate improved average grades in computer system servicing.
Peer tutorial in CSS for students and implementation of strategy	Conduct peer tutoring sessions in CSS and execute strategic approaches.	Facilitate peer tutoring and apply strategies in CSS education.	The initial semester of each academic year.	-Teachers -Students	In print modules, lesson plans, handouts, pretest and posttest materials.	students achieve outstanding performance in computer system servicing classes.

The intervention program and the methods used are confirmed through the findings of this study and consequently be given priority based on the stated information reflected on the data. The intervention process is the main focused in order to address the problems relating to low performing learners being able to cope with their performance in the computer system servicing class. Also, the strategy stated are part of the essential and crucial feature of this study in order to properly execute and deliver the activity where students will be engaged in facilitating the said intervention program.

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Financial Report Supplies and Materials					
ITEMS	QTY	UNIT	DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
1	3	Reams	A4 size S20 Bond Paper	250.00	750.00
2	1	Set	Cannon Computer Ink	1500.00	1,500.00
3			Binding Expenses	2,000.00	1,000.00
5			Miscellaneous		4,000.00
Total					**7,250.00**
6			Contingency Expenses (5%)		360.00
Grand Total					**PHP 7,610.00**

Rubrics For Performances (Scoring)

CRITERIA	**5 POINTS**	**3 POINTS**	**1 POINT**
QUALITY	The output shows a high quality of content	The output shows satisfactorily content of quality.	The output shows low quality of content
Performance/skills	The output is effectively completed and demonstrates satisfactory performance.	The output is adequately completed and presented with assistance from the teacher.	The layout and presentation are reasonably accomplished, even with the teacher's assistance.
Time consciousness/ timing/precision	The output is completed within the time frame provided by the teacher	The output is completed beyond the time frame initially allocated by the teacher.	The output remains incomplete even beyond the allocated time frame.
ACCURACY/ Mastery	The output is precisely completed independently, without any teacher assistance.	The output is completed with the teacher's assistance.	The output is completed under the teacher's guidance and oversight.

Informed Consent Form

Department of Education

Region IX, Zamboanga Peninsula

Division of City Schools

Baliwasan Senior High School –Stand Alone

San Jose Road, Zamboanga City

Tel No. 957-3739

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October 30, 2024

Dear Respondent,

Greetings!

I am currently writing my basic Research study with the title. **"STRATEGIC APPROACH in TRAINING ASSESSMENT: ENHANCING STUDENTS' PERFROMANCE IN COMPUTER SYSTEM SERVICING"**. We warmly invite you to participate in this research, with the hope that the findings will provide valuable benefits to you as a student. The objective of this study is to determine the students' performance in computer system servicing through strategic approach in training assessment in Baliwasan Senior High School. This will also craft an action plan to improve the students' performance in computer system servicing class. Participation in this research involves no known risks. There are no associated costs, and no financial compensation will be provided for taking part in the study.

Your involvement in this research is entirely voluntary, and you have the right to decline participation without any repercussions. Survey responses will be presented solely in aggregated form to ensure the protection of your identity, and all collected data will be handled with the highest level of confidentiality.

Yours truly,

ANTONIO T. SANSON JR. **ANDY F. BANGA**

Researcher Researcher

Consent:

By signing this consent form, I acknowledge that I have reviewed and understood the provided information and have been given the chance to ask any questions. I am aware that my participation is entirely voluntary, and I have the freedom to withdraw at any point without providing a reason or incurring any cost. I willingly agree to participate in this study.

Respondent's Signature over Printed Name

BALIWASAN SENIOR HIGH SCHOOL –ZNHS WEST
ZAMBOANGA CITY

PRETEST AND POSTTEST in
COMPUTER SYSTEM SERVICING

Name:_____ Score:_____
Grade/Section:_____ Date:_____

TEST I. MULTIPLE CHOICE: Read the following questions carefully and choose the best answer by blackening the corresponding letter of your choice.

A B C D	
	1. A device that enables connection or communication with the internet.
	a. **Modem** c. Router b. Topologies d. Switches and Hub
	2. This is the central device within a computer network that transmit data.
	a. Router c. Modem b. **Switches and Hub** d. Fiber Optics Cable
	3. One of the latest innovations in network cabling.
	a. LAN Cable b. UTP Cable c. 5G **d. Fiber Optic Cable**
	4. These are computer types like WAN, LAN which are based in shape and size.
	a. Network Topologies b. Network Diagrams **c. Network Types** d. Computer Network
	5. A device that connects modem to other device to allow communication flow.
	a. Switch **b. Router** c. Hub d. WIFI
	6. It is a unique address that identifies a device on the internet or a local network.
	a. IP Address b. Dynamic IP c. Static IP d. Network Address
	7. In computer networking, IP stands for?
	a. Internet Permit **b. Internet Protocol** c. Internal Protocol d. International Protocol
	8. An IP address that changes from time to time is called?
	a. IP Address **b. Dynamic IP** c. Static IP d. Network Address
	9. It is a basic internet program that allows a user to verify that a particular IP address exists and can accept request.
	a. Command Prompt b. Ping c. Ipconfig d. IP address
	10. This message indicates one of two problems either local system or remote router reports.
	a. IP address b. Command Prompt c. Ipconfig **d. Ping**
	11. An architect shares massive files over the internet. What network will he apply?
	a. Computer Network b. Client Server **c. Peer-to-Peer** d. Command Prompt
	12. It is the schematic description of a network arrangement, connecting various nodes.
	a. Point to Point Topology **b. Network Topology** c. Bus Topology d. Ring Topology
	13. A workstation or a router is an example of?
	a. Point to Point Topology b. Network Topology c. Bus Topology d. Ring Topology
	14. It is also called a "line topology" or "backbone topology".
	a. Point to Point Topology b. Network Topology **c. Bus Topology** d. Ring Topology
	15. This refers to computer that provide as well as receive services from another network.
	a. Server b. Client **c. Peer** d. Transmission Data
	16. These are computers that request and receive service from the servers.
	a. Server **b. Client** c. Peer d. Transmission Data
	17. It refers to high configuration computer that manages the resources of the network.
	a. Server b. Client **c. Peer** d. Transmission Data
	18. It is used in many ethernet networks and comprises 4 pairs of thin wires or conductors?
	a. Network Cable **b. Twisted pair Cable** c. Fiber Optic Cable D. Coaxial Cable
	19. it contains a conductor, insulator, braiding and sheath. What do you call this cable?
	a. Network Cable b. Twisted pair Cable c. Fiber Optic Cable **D. Coaxial Cable**
	20. It consists of core, cladding, buffer and jacket, what do you call this kind of cable?
	a. Network Cable b. Twisted pair Cable **c. Fiber Optic Cable** D. Coaxial Cable

Instrument