Senior High School Pioneering Graduates' Level of Satisfaction in the Naval School of Fisheries: Input to Crafting the School Improvement Plan (SIP)

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Introduction

High The implementation of Senior School Curriculum in the country is coupled with different challenges before and after its full operation. The Department of Education made a careful step to ensure smooth execution of this new added curriculum in the K to 12 program. However, problems and challenges emerging during the first implementation is undeniable.

According to Heck & Johnsrud (2020) education nowadays is facing increasing pressure to enhance value of its activities in support to quality assured educational services. Aldridge & Rowley (1998) articulated that quality education provides better learning opportunities and suggest that the level of satisfaction or dissatisfaction strongly affect the students' success or failure of learning. Sunanto et al. (2007) also posited that students should be viewed as primary clients of educational institutions thus, significant efforts should be done to maximize their satisfaction in terms of curriculum, administrative processes and educational services. Cheng (1997) emphasized that students' satisfaction is an adequate measure to assess educational quality and therefore the ability to address needs in this area is of prime importance.

In support to quality assured educational services, this study aims to find out the level of satisfaction of the pioneering senior high school graduates on program implementation in the Naval School of Fisheries. Factors such as students' academic achievement, faculty performance, school and classroom environment, learning facilities and institution reputation is categorized into tangibility, reliability, responsiveness, assurance and empathy in this study.

The results could be utilized by the school administrators as a good input in crafting their school improvement plan and in addressing emerging issues for the continuous improvement of the senior high school curriculum implementation.

Methodology

The research design used in the conduct of this study is a descriptive correlational scheme because it determines the significant relationship between the profile and the over-all satisfaction of the respondents to the SHS program.

Participants in this study were the Senior High School pioneering graduates of the Naval School of Fisheries from the STEM, ABM and AFA strands.

A standardized questionnaire was used as the main tool in data gathering. The first part of the questionnaire aimed to know the students' age, gender and strand and the second contains the SERVQUAL indicators to determine the level of satisfaction among pioneering graduates of SHS program. Data gathered were tallied and analysed using statistical analysis for an appropriate interpretation based on the objectives of the study.

Results and Discussion

Profile of the Senior High School Pioneering Graduates

Age. Eighty-six (59.7%) of the SHS students are 18 years old, 32 (22.2%), 16 (11.1%), 6 (4.2%) and 4 (2.8%) aged 17, 19, 20 and 21 respectively. This implies that majority of the respondents are in exact age as to their grade level.

Sex. Female students 80 (55.6%) dominates in number than male students 64(44.4%).

Strand. Majority of the SHS students are in TVL-AFA strand 78 (54.25%), followed by ABM strand 48 (33.3%) & STEM strand 18 (12.5%). The result further implies that technical-vocational strand is the most preferred offering in the school from this batch of pioneering graduates.

Level of Satisfaction of the Senior High School Pioneering Graduates

The tangibility aspect got an average weighted mean of 3.49 interpreted as Uncertain. This means that the students are not definite when it comes to satisfaction relating to the schools' physical facilities, utilization of equipment available and teachers' instructional materials during the first implementation of the SHS Curriculum.

Reliability part refers to the ability of the teachers to perform the duties dependably and appropriately, got an average weighted mean of 3.87 which means students are satisfied. This implies that teachers are very much reliable at performing their duties.

Responsiveness refers to the teachers' willingness to stick on rules and working principles with students and provide a safe environment in the classroom and is interpreted as Satisfied with an average weighted mean of 3.94. This further indicates that teachers exhibited the role of being sensible and responsive according to the students.

Assurance refers to teachers' good relation with co-teachers and students and their ability to inspire trust and confidence in the classroom, got an average weighted mean of 4.09 interpreted as Satisfied. This denotes that students are satisfied with their teachers' encouragement and positive influence as an assurance in achieving their goals.

Empathy refers to caring & providing attention to individual needs of the learners, it has an average weighted mean of 3.86 interpreted as Satisfied. This implies that the students are contented of the teachers' concern towards their individual needs & abilities as learners.

The grand mean for the level of satisfaction is 3.85 described as Satisfied. The results further signify that the SHS pioneering graduates are contented with the quality of educational services exhibited in the implementation of the SHS curriculum in the school.

Significant Relationship between Senior High School Pioneering Graduates' Profile and Level of Satisfaction

Level of satisfaction on assurance and empathy exhibited no significant association with age, sex and strand of the respondents based on the analysed data. While tangibility, reliability and responsiveness has a strong association on the strand of the respondents which shows that these key areas in educational services are satisfactorily carried out during the first two years of the program implementation.

Age and sex has no significant relationship with the overall satisfaction, while strand has a significant association with the overall satisfaction on the SHS program implementation in the school. This implies that students' satisfaction is greatly affected by the strand offering in the school.

The results suggests that Senior High School program operation should be assessed regularly and address emerging needs and problems by designing and implementing appropriate projects and programs incorporated in the School Improvement Plan (SIP).

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Maasin City National High School Teachers' Challenges on the New Normal Education

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Introduction

The war against the threats to COVID-19 pandemic suffered deep effects and impacts on almost all sectors in humans. These have resulted in the widespread disruption such as travel restrictions, closure of schools (Viner, Russell, Croker, Packer, Ward, Stansfield, Booy 2020), global economic recession, political conflicts, racism, and misinformation and controversies. One of the most affected is the educational sectors.

Most countries around the world have momentarily closed educational establishments to comprise the spread of the virus and lessen infections (UNESCO, 2020). This closure has affected more than 1.2 billion learners worldwide with more than 28 million learners in the Philippines (UNESCO, 2020). Responses like community lockdown and community quarantine of numerous countries have led students and teachers to study and work from home which led to the delivery of modular learning platforms. However, the implementation of modular learning posed different risks, problems, and challenges to both the teachers and students.

Maasin City National High School the largest school in Maasin City Division with 1,227 enrollees and 67 teachers, located in the heart of the City of Maasin, is adopting Modular Distance Learning (MDL). This learning modality involves individualized instruction that allows learners to use self-learning modules (SLMs) in print or digital format/ electronic copy, whichever is applicable in the context of the learner, and other learning resources like Learner's Materials, textbooks, activity sheets, study guides and other study materials.

Learners access electronic copies of learning materials on a computer, tablet PC, or smartphone. USB storage and computer-based applications can be used by hearing impaired students enrolled in the school. The teacher takes the responsibility of monitoring the progress of the learners. The learners may ask assistance from the teacher via e-mail, telephone, text message/instant messaging, etc. Where possible, the teacher shall do home visits to learners needing remediation or assistance. Any member of the family or other stakeholder in the community needs to serve as para-teachers.

Thus, teachers face challenges with the MDL modality. Challenges such as the quality, quantity, and availability of learning modules to be used by the learners. School allocation funds for the printed materials and safety kits are insufficient. Moreover, teachers' health is at risks during the distribution and retrieval of the modules. At this point of the pandemic, assessments and grades continue to be controversial topics among school leaders, teachers, and other members of the school community. The questions generally revolve around the relevance and implications of assessing and grading students while the global crisis continue to put security, safety, and health of everyone (Tuscano, 2020).

In response to these situations, educational leaders decided to adopt the new normal in education. At the basic education, the Department of Education (DepEd) implemented the Learning Continuity Plan (LCP), a key part of the overall budget package for K-12 that seeks to address funding stability for schools while providing information at the local educational agency (LEA) level for how student learning continuity will be addressed during the COVID-19 crisis effective School Year 2020-2021 (DepEd, 2020).

Within the new normal, the situation presents a unique challenge to every teacher's decision-making process. Hence, to sustain the delivery of quality of instruction to learners, this study presents opportunities for responding issues, problems and trends that are arising and will arise in the future due to COVID-19 pandemic. The proponents have a keen interest in the current and future trends in the new normal education, what is worth studying after returning to normality, are the implications that have arisen for the day after, that is, what adjustments need to be made, the extent of the situation and to define the basic dimensions of education and learning in formal education systems and organizations amid educational disruptions. The new normal in education together with the strengthening educational planning and health is a concern to provide quality, inclusive and accessible education for every student. This paper is crafted to deliver a clear lens of the new normal in education from teachers' perceptions and experiences. Hence, this research intends to hear out teachers' issues and concerns in the educational system in times of crisis. Furthermore, this study proposes to identify problems and to address such difficulties.

Methodology

This study used phenomenology-descriptive research which aims to determine the challenges of the 67 teachers of Maasin City National High School, school year 2020-2021 on the new normal education. Phenomenological research aims a direct investigation and description of phenomena as consciously

experienced, without theories about their casual explanations or their objective reality such as "Lived experiences", "modes of being", "ontology" and "life worl" (Bodan & Biklen. 2007). In relation to the methodology of this qualitative study, the research design of phenomenology is selected as an appropriate method of inquiry because this research design emphasizes the exploration of human experience. The study covers all the teachers in Maasin City National High School.

Sampling

Purposive sampling was used to 67 teachers in this study since Maasin City National High School has the biggest number of teachers and students in terms of population. Due to the number of student population, the teachers might encounter numerous challenges that are needed in the conduct of the study. Purposive sampling of primary studies for inclusion in the synthesis is one way of achieving a manageable amount of data (Ames et.al., 2019)

Data Collection

First the researchers asked permission from the school principal, Teofila B. Epis. After the permission from the school principal, the researchers conducted the survey to the teachers. An open-ended question prepared by the researchers to gather the challenges that they encountered and interventions that they initiated to combat the challenges. The researchers asked probing questions to gather more recommendations to better improve the new normal education. Each participant was given individual copy of survey forms form them to read and understand the questions at their own pace. Responses of the teachers were recorded and/or taken down to notes for transcribing.

Results and Discussion

This portion corresponds to an analysis and interpretation of the data developed in the study and discusses a comprehensive assessment of the research problem. Its results were based on the data gathered through an open-ended survey questionnaire crafted by the researchers. These data were analyzed to be presented and interpreted that serve as answers to the research problems.

Table 1.1: Teachers' Challenges in Terms of Planning and Preparation Strategies

Themes	Description	Verbatim	Frequency
Preparation, instructions, learning resources, and delivery and retrieval of modules	Teachers' experiences in preparing and crafting learning modules or activity sheets and in using appropriate teaching-learning instructions	*"Availability of materials such as ink, bond paper, and printer"*	32
		"There are confusing instructions on how to do things"	1
	Teachers' experiences in using the learning resources provided by the central office, the regional office, and the division office, and the conduct modular distance learning in different barangays by delivering modules to parents and retrieving modules and outputs from them	*"Lacking learning resources or learning materials. Delayed ADM"*	30
		"Because of slow internet connection I cannot download the reference from the internet"	1
		"Not every student will pass their module on time."	23
		"Some parents do not return their PTG on time due to unavailability of transportation"	6

Table 1 shows the responses harvested from the survey questionnaires answered by the MCNHS teaching staff.

The table shows the frequent responses of the teachers in each of the team. The result demonstrates that in terms of preparations and instructions the teachers mostly answered that availability of bond papers, ink and printer are the usual problem they experienced. However, there is one teacher who answered that confusing instructions was also one of his encountered problems. Butron (2021) also suggested that teachers should be provided with instructional supervision and feedback, consistent technical assistance, and additional avenues for teachers to report their daily accomplishments. Yet, teachers in MCNHS said they were having difficulty in choosing the most appropriate teaching-learning instructions in the modality. They believe they were not given clear and proper instructions as to how to do this modular modality.

In terms of the learning resources, shortage of learning resources or learning materials like delayed distribution of ADM were there commonly encountered problems. In relation to this, Butron's (2021) findings in his study stated that one of the most important daily tasks of teachers is preparing modules and creating instructional materials. However, teachers mostly experienced the lack of learning resources provided by the higher office. Most of them are crafting their own teacher-made learning activity sheet in lieu of those missing SLM's. This challenge is true to mostly every subject. This condition took a lot of time from the teachers. They think this is the most challenging situation in the new normal education. Moreover, most of the teachers think that during the preparation and crafting of learning modules or activity sheets they had limited access to the materials like bond paper, ink, and printer. They were experiencing this issue since the school belongs to a large school category where there is a large number of students per section. Some teachers said that they need enough time to for printing and sorting of activity sheets. Some also think that they were not given proper training on how to craft these activity sheets. Internet connection was also a challenge since they must use it frequently in order to help them in crafting learning activity sheets.

Table 1.2: Teachers' Challenges in Terms of Communication and Monitoring

Themes	Description	Verbatim	Frequency
Dealing with students and parents or stakeholders	Teachers' experiences in communicating with learners and in dealing with them.	*"Some students are hard to reach especially those who do not have phones."*	34
		"Most students would have incomplete works especially the ones to be graded"	5
	Teachers' experiences in communicating with parents and in dealing with them	*"Too busy to communicate with us; too busy to help the students"*	35
		"Parents barely know sign language"	1
		"Some parents don't know the lesson, no time to teach, don't know how to communicate with their children"	1

The teachers mentioned that some students were hard to reach especially those who do not have phones. It would be too difficult for them to contact and monitor the learners due to unavailability of gadgets. However, on the part of the parents, teachers answered that parents were not able to help and assist their children in answering the modules since they were so busy with their work. The teachers answered that there were some parents who were not able to teach their children because they

themselves don't understand the lesson. They were not able to undergo such lessons when they were still in school. Since students are home-schooled, parents must keep track the progress and performance of their child on their daily activities during the independent learning hours (Ancheta, 2020).

According to the teachers there are parents who are too busy to communicate with them and too busy to help their children. Teachers were having a hard time encouraging these parents and guardians because they think these home learning facilitators are also working for other matters that they overlooked their children's learning needs. This is a challenge also since not all parents can facilitate their students, especially the parents of the hearing-impaired students who do not know even the basics of sign language.

According to Ancheta (2020) for the teachers, learners and parents, the new learning modality is a great change be it virtual or modular class. Since the school is adapting the modular class, this led them to experience various challenges. In terms of communicating with learners and in dealing with them the challenge was for those students who do not have cell phones or gadgets. Since the modality is modular distance, teachers are having trouble in contacting the learners, especially those who need assistance and facilitation. There are also students who did not answer their modules or worse they did not claim them. Teachers find this challenging since they must reach out for these learners and make them answer and cooperate.

Table 1.3: Teachers' Challenges in Terms of Evaluation and Assessment

Themes	Description	Verbatim	Frequency
Performance or Output Assessment	Teachers' experiences in assessing and evaluating students' outputs and performances	*"Not accurate or not reliable"*	34
		"Majority of the students have poor scores in the formative and summative tests."	2
		"Safety during travel"	10

In terms of assessments, most of the teachers responded that students' outputs or answers were not that reliable because teachers couldn't see if the students were the ones answering the questions. Pokhrel and Chhetri (2021) stressed in their study that assessment and evaluation is challenging for teachers to find the authenticity of the outputs. In this study this issue remains controversial. Teachers believe that the validity of students' outputs is not accurate and reliable. Some students failed to do the tasks, and some got poor scores in the formative and summative tests. Teachers received complaints from the home learning facilitators and students saying the tests and activities are too much for the learners to handle.

They believe that most of the time the parents are the ones answering the modules. They also have poor summative results since they prefer face to face classes.

Table 1.4: Teachers' Challenges in Terms of Risks and Safety

Themes	Description	Verbatim	Frequency
Risks and safety	Teachers' experiences as they do their tasks and responsibilities in school, in assigned barangay and at home	*"Exposure to possibility of getting COVID '19"*	35

In terms of risks, exposure to possibility of getting COVID '19 was the main challenge experienced by the teachers. Lastly, in terms of the distribution and retrieval of modules, teachers responded that there were many students who were not able to submit modules on time. The safety of the teacher in delivering and retrieving modules was also one great challenge encountered.

During the distribution and retrieval of modules, teachers experienced challenges such as incomplete submission of modules and late arrival of parents or guardians at the drop-off area. Some parents, especially the parents of the hearing-impaired learners were not able to submit the modules on time because of the unavailability of transportation since most of these deaf learners live outside Maasin City.

Furthermore, everyone involved in the new normal education must observe the general health safety protocols using protective measures. Also, the school must always ensure the accessibility of disinfecting paraphernalia (Ancheta 2020). However, teachers feel challenged in terms of risks. They feel they are more exposed to the virus especially when they deliver and retrieved modules from their assigned barangay. Teachers who were assigned in remote areas felt their safety was challenged as they travel especially on rainy days.

Table 2: Teachers' Initiated Practices to Combat the Challenges

Theme	Verbatim	Frequency
Feedbacking and communication	*"Constant communication to parents and learners through messages, texts, and calls and other using the internet"*	12
Attitude and behavior	*"Observing minimum health protocols"*	2
	"Time management"	4
	"We practice buddy-buddy system especially in distributing modules to far-flung areas and with too many modules."	1
	"Patience, optimism, adaptation, commitment"	8
Pedagogy	*"Sending/giving of USB (sign language) for videos"*	1
	"Give reinforcement activity sheets and video lessons"	5
	"Apply effective strategy in the learning process of the students"	1
	"Modify LAS according to students' level of understanding"	5
Community on practice	*"Careful planning, honest and realistic feedback"*	1
	"Feedback mechanism, collaborative consultations and discussions"	4

The table shows that constant communication to parents and learners through messages, texts and calls and other using the internet was the teachers' way in combating the challenges. However, despite the challenges, teachers found ways to overcome the new situation. They initiated interventions such as constant communication to parents and learners through limited home visitation, messages, texts, and calls; careful planning and time management; use of feedback mechanisms; and collaborative consultation and discussions with colleagues. As educators, it is our role to improve and perfect the educational system to achieve a learning

environment that works for everyone (Bozkurt & Sharma, 2020).

Table 3: Teachers' Suggested Interventions

Themes	Verbatim	Frequency
Pedagogy	"Give more time for teachers to check and make their LAS; teachers should focus on the teaching-learning process and not be distracted by unnecessary reports and tasks."	12
	"Blended: there's time for face-to-face and online"	6
	"Sufficient trainings"	9
	"Revise modules in a simpler way, especially Math"	1
	"Make time for socio-emotional learning"	1
Assessment and evaluation	"Grading system should be on a "PASS" or "FAILED" and not in numerical figure since the quality of learning process is very low"	1
Planning and Preparation strategies	"Allow enough time to implement interventions and preparation"	4
	"Hope the division or region will provide ready to print modules"	7
	"Proper dissemination of instructions"	4
	"Lessen paper works, avoid as-soon-as-possible submission of reports"	2
	"Make sure that we are really ready"	2
	"Plan instructional design thoughtfully"	1
Communication and monitoring	"Monitor students' capacity of learning in this time of pandemic"	3
	"Dapat guinikanan ang maoy mokuha sa module sa maong adviser sa bata para ma follow-up dayon kung gianseran ba or wala"	2
Learning Resources	"Modules should have fewer pages, including efficient activities, just enough for students to learn and lessen their burden in completing the module activities"	8
	"Stable internet connection"	3
	"Quality learning materials"	1

The table shows that giving more time for teachers to check and make their LAS/PTG; teachers should focus on the teaching-learning process and not be distracted by unnecessary reports and tasks was the suggestion they recommended. To better improve the new normal education teachers suggested and recommended the following: teachers should plan instructional design thoughtfully; teachers should be given more time to check and make their LAS/PTG; teachers should focus on the teaching-learning process and not be distracted by unnecessary reports and tasks; teachers should attend trainings or webinars based on the new normal education; SLMs for learners should be assessed and evaluated well so that learners will receive quality learning. Therefore, teachers should dream of a better future, fight for it, work for it to ensure that education progresses into its true, ideal form. The COVID-19 pandemic has been a disaster for everyone, yet we can turn this catastrophe into an opportunity by reimagining, redesigning and recalibrating education to make it manageable, justifiable, and inclusive to learners (Bozkurt & Sharma, 2020).

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Stay Unique: A Sim On Enhancement Of Academic Performance In Configuring Network Interface Card

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Introduction

Computer Systems Servicing (CSS) is one of the strands offered under Technical-Vocational Livelihood Track. Learners in this strand may obtain a National Certificate Level II (NC II), provided he/she passes the competency-based assessment of the Technical Education and Skills Development Authority (TESDA). Being an NCII holder in CSS is very useful for Senior High School Graduates because it can help them enter a job locally or internationally. According to the study of (Orbeta Jr et.al., 2018) on the Senior High School and the Labor market: Perspectives of Grade 12 Learners and the Human Resource officers' states that SHS graduates should have obtained NC from TESDA. Some employers expressed preference for applicants who have TESDA NC II, i.e., on housekeeping, welding, automotive, and other middle level skills. For them, the TESDA certificate guarantees actual experience and not just textbook knowledge. Thus, some schools in Leyte Division like Asuncion S. Melgar National High School, Palo National High School and Sta. Fe Stand-Alone Senior High School offers this strand to meet the demand of the society and to produce a globally competitive senior high school graduate.

During the batch 2018, out of 62 learners enrolled in Grade 12 CSS in Sta. Fe Stand-Alone Senior-High School only 31 learners successfully passed the National Assessment. Meanwhile, in 2019 only 15 passed the Assessment out of 59 enrolled learners. There was a decreasing number of NC II CSS passers for the past two consecutive years. Based on the interview results with the teacher handling the subject, Sir Emilio R. Suyom Jr., there was insufficient instructional material used during the teaching and learning process. Some of which are books, computers, modules, and Strategic Intervention Material.

Furthermore, the school based MPS in CSS Grade 11 class of Sta. Fe Stand-Alone Senior High School for the school year 2017-2018 Final Examination, the class got 49% only while for the Midterm Examination for the school year 2018-2019, the said class got 51% MPS. This result is very far from the standard MPS which is 75%. Results showed that one of the least learned skills was Configuring Network Interface Card (NIC) in accordance with the network design. Only half or 50% of the said class can perform the practical demonstration successfully. The performance standard and learning outcome would not be achieved if the learners failed to master the said competency. Based on the TESDA training regulations for CSS NC II, Configuring NIC is one of the core competencies that belongs to the "install and configure computer systems and networks". It is a pre-requisite competency that a learner must be proficient at. They cannot proceed to the succeeding core competencies if this competency is not mastered.

Based on the study of (Ventayin, 2018) entitled Level of Competency in Computer Systems Servicing of Teachers in one Town in Northern Luzon: A Needs Assessment and Analysis showed that majority of the ICT coordinator of the primary and secondary schools are competent and expert in the field of Computer Systems Servicing, because high school ICT coordinators are the holder of National Certificate Level II in the field of computer systems servicing. It is concluded that teachers holding computer laboratory can sustain the need if the problems arise. Indeed, our teachers are competent when it comes to skills and education. As a proof of the results of SEAMEO member countries on the Stages of ICT Integration in Education, the Philippines belongs to the Infusing Level (Understanding how and when to use ICT & Facilitates learning) in terms of Professional Development for Teachers & School Leaders Education Dimension in ICT. The results showed that the teachers are equipped with training, knowledge, and expertise of the competencies in the curriculum. Only that this expertise would not be realized if there are lacking instructional materials to be used during the teaching learning process.

As classroom teachers, it is essential that we become conversant with the type of instructional materials, which can be used in any teaching/ learning situations (Samuel, 2009). Instructional materials refer to those alternative channels of communication, which a classroom teacher can use to concretize a concept during teaching and learning process. Traditionally, classroom teachers have relied heavily on the 'talk-chalk' method during their teaching. But recently, instructional materials help to provide variations in the ways in which messages are sent across. In using instructional materials teachers and learners do not only extend the range of sense organs we use but also extend the range of materials used for convening the same message through the same organ. For instance, in teaching a topic a teacher can manipulate real objects or use their stimulators. Instructional materials therefore constitute the media of exchange through which a message transaction is facilitated between a source and a receiver. In addition to extending the range of materials that can be used to convey the same instructional message to

learners, instructional materials also facilitate the 'process' nature of communication. It can be gleaned in the above statements that instructional materials are very important in the delivery of the lesson. Learning will not take place in the absence of the said materials.

One of the instructional materials that can be used by the classroom teachers is the strategic intervention material. (Bunagan, 2012) revealed that a SIM is an instructional material provided to learners to help improve their knowledge on specific competencies which they did not develop during the regular class instruction. Further, (Barredo, n.d.) described SIM as an instructional material meant to re-teach the concept(s) and skill(s) that are least mastered and is crafted based on the least learned skill identified during the item analysis. It has five parts namely: (1) Guide Card, (2) Activity Card, (3) Assessment Card, (4) Enrichment Card, and (5) Reference Card. In the Guide Card, the learners were given a preview of what they should learn all throughout the end of the material. Activity Cards give at least three activities to address the skill in focus. Assessment Cards monitor learners' learning and use feedback about their progress. The Enrichment Card provides activities that reinforce and sharpen what they have learned. The Reference Card provides readings and illustrative examples that guide the learners as they work on the activities in the activity card.

There are available SIM that can be utilized by teachers. For example, Celestino I. Sapiler, Jr. of Baybay National High School developed the SIM in Computer Hardware Servicing to Learner's Academic Performance in Technology and Livelihood Education. The study was designed to determine the effectiveness of Strategic Intervention Material in Computer Hardware Servicing to selected Baybay National High School Grade 7 learners' academic performance in Technology and Livelihood Education enrolled during the school year 2015-2016. Findings of the study showed that there was a significant difference between

the pre-test and post-test results in TLE using the SIM. The SIM issued and tested to the learners was found effective because it has an improvement to the mastery of the learners as specified objectives in Technology and Livelihood Education Computer Hardware Servicing during the Second Grading Period for the school year 2015-2016. Findings of the study revealed that the performance and academic skills of the Grade 7- Emerald learners in Technology and Livelihood Education particularly in Computer Hardware Servicing had improved due to SIM (Sapiler, 2016). The work of Sapiler is one of the inspirations of this research. However, the focus of this study is on Computer Systems Servicing which is the TESDA newly amended version of Computer Hardware Servicing.

The teacher-researchers come up with the intervention namely "Stay Unique: A SIM on Enhancement of Academic Performance in Configuring Network Interface Card" as the Internet Protocol addresses of a computer are unique and with no duplication. It comprises activities aligned with three different subtasks: (1) Identify the IP Address Parts, (2) Formulate IP Address in accordance with Network Design, (3) Demonstrate the Procedures on Configuration of Network Interface Card. The SIM would help increase the academic performance of CSS learners in the Configuring NIC.

This research study was anchored on the teaching and learning theme reflected in the DepEd Order no. 39, series of 2016 entitled Adoption of the Basic Education Research Agenda. This covers the actors, activities, and fundamental aspects of teaching and learning in various contexts. Specifically, the research agenda looks into the strategies, best practices, and facilitating and hindering factors relative to five sub-themes, namely: instruction, curriculum, learners, assessment, and learning outcomes.

Methodology

The explanatory-sequential mixed method design approach was used

in the study. This design is the process of collecting and analyzing quantitative and then qualitative data in two consecutive phases within one study (Ivankova, et al., 2006). The pre-test and post-test were employed. Scores from the different tests and different groups were recorded and compared and served as the quantitative data. These data were used to answer the research questions 1 to 3. To answer question 4, qualitative data was gathered. A questionnaire with an open-ended question that elicits the perceptions of the respondents towards the SIM was utilized. The question was constructed in such a way that the respondents can answer it freely, such as translating English to Filipino language. Thematic analysis was used in analyzing the qualitative data.

a. Participants and other sources of Data and Information

The respondents were the identified Grade 11 learners of Computer Systems Servicing strand enrolled at Sta. Fe Stand-Alone Senior High School SY 2019-2020 who got the low level of mastery in Configuring NIC. The teacher-researchers used purposive sampling in selecting the respondents. This sampling approach is a strategy where members of a sample are chosen with a purpose to represent a location or type in relation to the criterion (Ritchie et.al, 2003). The identified respondents were given consent with utmost confidentiality.

b. Data Gathering Methods

In the CSS curriculum guide, Configuring NIC competency was part of the Learning Outcome 2 which is Setting Network Configuration. It is a prerequisite competency that needs to be mastered so that they can proceed to the succeeding competencies. A 40- item pre-test and post-test was administered to the identified 20 respondents to measure the effectiveness of the SIM to their academic performance. The test was divided into two parts. Test I consists of a 20-item Practical Test while Test II comprises a 20-item written test. The researcher used NETRC level of mastery to categorize learners' level of mastery from absolutely no mastery to mastered.

The teacher-researchers administered the dry run of the test and SIM at Asuncion S. Melgar National High School, a school in Leyte Division that offered Computer System Servicing. Some adjustments were made based on the result of the activity.

The question that was used to answer the research question 4 was checked by the language expert of Sta. Fe Stand-Alone Senior High School. During the intervention the respondents of the experimental group received the SIM while the control group attended the regular class sessions.

After the treatment was completed, the post test was administered to the two groups. Their scores were recorded, analyzed, and interpreted to answer the first three research questions. The experimental group who received the SIM treatment was asked to answer the questionnaire about their perception towards the material. Their responses were analyzed thematically to answer research question 4. The data gathered from the experiment were summarized and analyzed using the appropriate statistical tools. To determine the academic performance of the respondents in Configuring NIC in both tests and groups, the mean percentage score (MPS) was computed. A descriptive equivalent of the National Achievement Test (NAT) range of MPS released by the National Educational Testing and Research Center (NETRC) was used to see which level the computed MPS belongs.

Table 1. National Educational Testing and Research Center (NETRC) Level of Mast

Mean Percentage Score (MPS)	Descriptive Equivalent
96%-100%	Mastered
86%-95%	Closely Approximating Mastery
66%-85%	Moving Towards Mastery
35%-65%	Average
16%-34%	Low
5%-15%	Very Low
0%-4%	Absolutely No Mastery

Paired t-test using Statistical Package for the Social Sciences (SPSS) software was employed to determine the

significant difference on the respondents' academic performance in Configuring NIC in the pre-test and post-test in both groups and the significant difference between the post-test in both groups.

To determine the perception of the respondents towards the utilization of the SIM "Stay Unique: A SIM on Enhancement of Academic Performance in Configuring NIC, they were asked with an open-ended question which elicited their perception towards the material and their responses were analyzed with the use of thematic analysis.

Results and Discussion

This study aimed to determine the effect of SIM to the identified Grade 11- A & B CSS learners of Sta. Fe Stand-Alone Senior High School. The respondents were divided into two, (1) experimental group, those who received the intervention, (2) control group, those who were not given treatment. Below are the results of the study and discussion.

Table 2. Pre and post-test achievement level of the control group

Test	Frequency	Mean	Standard Deviation	MPS	Descriptive Equivalent
Pre-Test	10	7.30	2.359	18.25%	Low
Post-Test	10	8.80	2.440	22%	Low

It may be gleaned from Table 2, the comparison between the level of pre-test and post-test performances of the control group and experimental group. There were ten (10) observations for each test. In the pre-test, the mean score was 7.30 with standard deviation of 2.359 while a mean of 8.80 and a standard deviation of 2.440 in the post-test, respectively. There was a 18.25% MPS in the pre-test and 22% in the post-test over forty (40) items which has a descriptive equivalent of "Low" based on the NETRC standard. It signifies that the respondents who did not receive the SIM garnered a small to no increase in the academic performance.

Table 3 shows the descriptive statistics of the experimental group in the pre-test and post-test. This group

Table 3. Pre and post-test achievement level of the experimental group

Test	Frequency	Mean	Standard Deviation	MPS	Descriptive Equivalent
Pre-Test	10	10.00	2.667	25%	Low
Post-Test	10	26.10	1.969	65.25%	Average

received the SIM. They were isolated in a corner of the classroom in such a way that they would be able to focus on the activities given, every 10:00-11:00 a.m. for one week or 5 sessions. There were 10 observations in both tests. Data analysis revealed a mean of 10.00 and standard deviation of 2.667 for the pre-test while a mean of 26.10 and standard deviation of 1.969 for the post-test. The MPS obtained in pre-test was 25% equivalent to "Low" based on the NETRC standard. However, in the post-test the said group obtained a 65.25% MPS equivalent to "Average". It signifies that the use of SIM helped in the improvement of respondents' academic performance, which was supported by the study of Bunagan, 2012.

Table 4. T-test results of the pre-test & post-test of the control group

Mean Difference	Level of Confidence	p-value	Degrees of Freedom	Critical t-value	Computed t-value
1.50	95%	0.086	9	2.262	1.928

Table 4 shows the result of the paired t-test for the control group. The mean difference is 1.50. At 95% level of confidence, the result of the t-test analysis revealed a 1.928 computed t-value which was lesser than the critical t-value, 2.262, it means that there was no significant difference between the pre-test and post-test. The p-value was 0.086 which was higher than the 0.05 level of significance which means the same. This was computed by observing 9 degrees of freedom.

Table 5. T-test results of the pre-test & post-test of the experimental group

Mean Difference	Level of Confidence	p-value	Degrees of Freedom	Critical t-value	Computed t-value
16.10	95%	<0.05	9	2.262	22.794

Meanwhile, table 5 shows the result of the paired t-test for the experimental group. A mean difference of 16.10 was recorded. At 95% level of confidence, the computed t-value which is 22.794 is greater than the critical t-value which is 2.262. The p-value is less than 0.05. Thus, there was a significant difference in the academic performance of learners in Configuring Network Interface Card between the pre-test and post-test in favor of the post-test in the experimental group. This was computed by observing 9 degrees of freedom, which was supported by the study of Celestino I. Sapiler, Jr. entitled "SIM in Computer Hardware Servicing to Learner's Academic Performance in Technology and Livelihood Education.

Table 6. T-test results of the post-test of the experimental group and control group

Mean Difference	Level of Confidence	p-value	Degrees of Freedom	Critical t-value	Computed t-value
17.30	95%	<0.05	9	2.262	20.187

Table 6 shows the result of the paired t-test of the post-tests for both groups. There was a mean difference of 17.30. At 95% level of confidence, the computed t-value was 20.187 greater than the critical t-value, which is 2.262. This is supported by the p-value which is less than 0.05 level of significance. This was computed by observing the 9 degrees of freedom. Thus, there was a significant difference on the respondent's academic performance in Configuring Network Interface Card between the control and experimental groups in the post tests which was in favor of the experimental group, which was supported by the aforementioned studies.

Perceptions of the Respondents Towards the SIM

From the responses of the respondents, there were three major ideas that described the SIM. These are as follows.
Theme 1.
The SIM was **enjoyable**. The learners enjoyed the material because some of the features of Mobile Legends (colors, heroes and design) were added to the SIM. There were also stars to collect after finishing the stage. It somehow boosts the attention of the learner because they are like playing the game.

Students (1, 4, 10) said *"Nag enjoy po kami sa pagsagot sa material."*

Students (1, 5, 8) said *"Para kaming naglalaro nang paborito naming mobile legend piru dito kami ay natututo tungkol sa aming kurso."*

Students (1, 2, 6, 7, 8) said *"Pasalamat kami kay ma'am at sir at pinagamit kami nito."*
Theme 2.
The SIM was **challenging**. The competence of the skill is being measured in the material. The activities were contextualized in such a way that the learners can easily understand and answer the tasks.

Students (2, 3, 4, 5) said *"Ang SIM na ito ay nahahasa ang aming critical thinking. Nagnenetwork kmi gamit lang ang material na ito."*

Students (1, 6, 8, 9) said *"Kahit mahirap ang networking, napadali sa amin pag.intindi sa tulong ng SIM."*

Students (3, 4, 7, 9) said *"Merong mga stages na dapat malampasan bago makapunta sa bagong activity at may mga stars na dapat kumpletohin para makapasa. Dahil sa SIM na ito mas dumami ang nalalaman ko sa NIC."*

Theme 3.
The SIM was **helpful**. The material really helps the learners in understanding the critical points in Configuring Network Interface Card like in the IP addressing and understanding the basics of Networking. It somehow improved the skill of the learner in the said competency.

Students (2, 6, 10) said *"Nagbigay nang madaming kaalaman ang SIM na ito. Natuto ako na mag.configure ng NIC."*

Students (3, 4, 7) said *"Ang IP addressing, Default Gateway ay mas naintindihan ko pa nang lubusan dahil mas pinadali ang pag.explain sa mga ideya at impormasyon."*

Students (2, 5, 8) said *"Ito rin ay nagbigay sa akin nang kumpiyansa na mag.configure nang NIC sa laboratory tuwing bakanteng oras o kahit sa laptop nang aking kaklase. Dumami ang aking nalalaman sa NIC sa tulong ng material na ito."*

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