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Online learning: It's impact in the exit assessment of technical vocational senior high school

Analyn Bernabe

University of Cordilleras

Corresponding author email: analynbernabe32@gmail.com

Armida Binbinon

University of Cordilleras

Email: armidabinz@gmail.com

Hazel Camson

University of Cordilleras

Email: zschech85@gmail.com

Abstract---The use of online learning in teaching Technical Vocational in the Senior High during this pandemic is a challenge. This study examines the impact of online learning in the Senior High School exit assessment in the Technical Vocational specializations in Alejo M Pacalso Memorial National High School. The use of phenomenological approach and thematic analysis, face-to-face talks, online interviews and observations were applied to synthesize, identify and come out with the findings. Findings confirm that education using online learning significantly impacts the exit assessment of the technical vocational learners as respondents has issues in technical, technological, physical, environmental, personal and psychological difficulties while using the said platform. Further, the research reflects that the knowledge domain can be highly met using online learning using discussion, video and learning materials as strategies but psychomotor and affective domain does not. Although some acknowledge that online learning benefits them because its self-paced, respondents clamor to be more confident when they learn the competency skills using hands-on than in online platform. Strengthening parent-teacher-stakeholders in partnership with the Department of Education will guarantee innovations, interventions and continuity of online learning to ensure high exit assessment results of senior high school technical vocational learners.

Keywords---exit assessment, senior high school, technical vocational, online learning.

Introduction

Lockdowns, quarantines and restrictions continue to hamper the continuity of traditional teaching and learning in public schools in the country, as a result, the Department of Education (DepEd) introduced varied learning platforms for basic education as alternative hence, it prompted teachers and learners to venture their own online platform teaching strategies. Wentling et al. (2000) defines online learning as the acquisition and use of knowledge distributed and facilitated primarily by electronic means.

The different Technical Vocational specialization in the senior high school is composed of competencies that belonged to basic, common and core competencies. Basic and common competencies focus on the cognitive and affective domain of learning but a significant concern is the psychomotor domain where core skill competencies is given more emphasis, in preparation for the National Competency Assessment which is the exit assessment of learners in the senior high school taking technical vocational courses geared to the world of work.

Although many studies feature online learning in the Technical Vocational track, few studies point out the effect of online learning in exit assessments. Allen & Seaman (2014); Bell & Federman, (2013) stated that almost three- quarters of academic leaders believe that the learning outcomes of online learning are similar to or better than those of face-to-face education.

Statement of the problem

The goal of technical vocational program of the Department of education (DepEd) emphasizes that students must be equipped with competitive skill by passing the exit assessment which is the National Competency Assessment of their chosen qualification to be able to enter the workforce after high school, but then again, due to a sudden shift in learning, the challenge in the use of Online learning paved its way to the basic education for the continuity of teaching and learning process.

While there is uncertainty to take the exit assessment towards the end of the school year since their skills are learned in an online platform. Kisanjara et al. (2017), stated that e-learning is useful in increasing knowledge and skills for effectiveness, productivity in their learning, and accomplishing their course tasks quickly. Researchers would like to study the effect of online learning to their exit assessment of each learners

Methodologies

Locale of the study

The study is conducted at Alejo M Pacalso Memorial National High School located at Bua, Tuding, Itogon Benguet. The school was selected for completeness of specialization offering in their technical Vocational track program and at the same time they are using online mode of delivery during this pandemic. Itogon bespeaks of a mining town that is why it is popularly known as the "gold haven" in the Region. With the mineral rich land and mountains oozing colors of crystal white to yellows to rich terra cottas and gold's, rising from ordinary and semi-arid landscape. There emerged 3 private high schools and 5 Public High Schools including the area of the study.

For School Year 2021 - 2022, Grade 12 technical Vocational learners comprises of 70 learners from Home Economics, Industrial Arts and Information Communications Technology. The school gives no definite platform for online learning in teaching the grade 12 learners under the technical vocational learners so teachers can use any online platform they are comfortable with using synchronous and asynchronous mode.

Respondents

The researchers decided to take selected grade 12 Technical Vocational Track learners of Alejo M Pacalso Memorial National High School to gage the impact of online learning as they are the subject of the exit assessment in the senior high school program. The grade 12 respondents consisted of 10 specializing in Home Economics, 20 in Industrial Arts and 10 in Information Communications Technology respectively. All of these learners opted for online learning delivery. The researchers chose simple random sampling in selecting the respondents. It is a type of sampling technique in which the researchers selected a number of students from a class to be the part sample.

Data Gathering

The researchers employed the use of phenomenological approach in gathering data. Phenomenological approach in research focuses on the commonality of a lived experience within a particular group. After getting approval from the school principal, researchers conducted face to face and video call interviews, observations through the recorded Zoom classes and floated questionnaires through google forms in order to get more information from the students. All interviews were carried out prior to setting of appointments with the concerned respondents. The interviews had no specified time limit as the researchers based it on the student's convenient time. All interviews were carried out with the help of combining formal and conversational interviews. Standardized open-ended questions were also utilized. Further, the questions were extended to the different specialization teachers to validate data.

Data Analysis

The researchers used thematic approach in analyzing data. Thematic analysis emphasizes pinpointing, examining, and recording patterns (themes) within data. The researchers first examine the information gathered, then, researchers listed the recurring themes from the data collected. Finally, researchers selected the final themes needed for the data analysis.

Review of Related Literature

This covid-19 pandemic forced institutions to close their doors and turn on their screens, and go into online to continue teaching-learning. Distance learning, also called distance education, e-learning, and online learning, is a form of education in which the main elements include physical separation of teachers and students during instruction and the use of various technologies to facilitate student-teacher and student-student communication (Simonson, 2020). Also, online learning can occur asynchronous or synchronous, encourage social networking and collaborative engagements amongst students, and incorporate digital technologies and applications into its learning environment (Slobodian, 2021).

As cited by Caplan (2015), online learning is thought to have several advantages over traditional face-to-face and blended education, including flexibility and accessibility to study anywhere, at any time, without requiring one's physical presence at a campus location. In addition, learning becomes more learner-centered since it promotes greater participation from them (Markova, et. al., 2017). Because of the rapid and massive switch to online learning students are losing in-person peer-to-peer interaction, events, and access to communal study and studio spaces (Policy Response, 2020). Hence, personal contact and direct communication/interaction between teachers and students are essential for learning motivation and success (Zinn, et.al. 2020).

At the beginning of the pandemic, a study showed that digital media were increasingly being used in vocational schools, that teachers ascribed great importance to the teacher-related use of digital media and that they were very open to their implementation (Pittich et al. 2021). Also, Zinn (2021) cited that learning activities outside of vocational school environments are the exceptional rather than the rule and are likely to be even more open, with very little or no teaching-learning interaction or feed-back. According to Syauqi,K., Munadi,S & Triyono, M., (2020) based on the responses of students, the majority of them feel that online learning is still considered less effective and in line with their expectations.

A famous quote from Lao-Tse saying; "If you tell me, I will listen. If you show me, I will see. But if you let me experience, I will learn" .The synchronicity is a mediating factor during learning as the synchronicity is a necessary factor in achieving the learning performance (Wijesooriya, et. Al., 2019). Hence, online learning may affect the performance of learners in the technical vocational track. According to Dumford and Miller (2018), a decrease in academic performance, in both online and face-to-face courses, has been attributed to lack of student engagement, with the quality of faculty-student interactions and learning

strategies, being among the variables with a high positive correlation. Therefore, the technology must match the needs of the task executed by users to achieve the task performance (Goodhue & Thompson, 1995). Learning requires information to be shared among participants in the learning process where the knowledge expert communicates the information to the student (Leidner & Jarvenpaa, 1995; Shell & Janicki, 2012). The outcome of the learning is indicated by the perceived learning performance (Wijesoorya, et. Al., 2019). In addition, learning is a progressive process where students pay attention to the learning material, retain the learning, and then use the learning for practical applications (Jin et al., 2015)

Results and Discussion

This section characterizes the outcomes and thorough inquiry of the information obtained in the study. Its outcomes were based on the data gathered through the interview records and google form results from the respondents. These data were then selected, studied and interpreted and emerged as the themes used to answer the research problem.

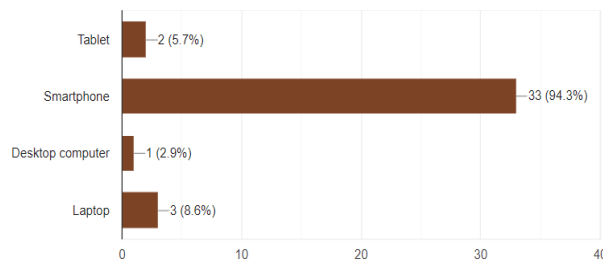


Fig. 1 Electronic Devices used for online learning

Figure 1 shows the electronic devices used by senior high technical vocational learners in their online distance learning. 33(94.3%) respondents are using smartphones, followed by 3 (8.6%) learners using laptops, 2(5.7%) uses tablet and 1(2.9%) uses desktop respectively.

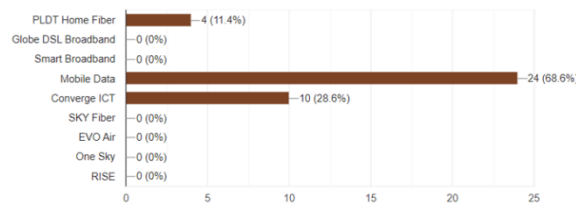


Fig. 2 Internet Provider

Figure 2 shows which internet provider availed by senior high technical vocational learners in their online class. Mobile data as the most availed internet provider with 24 (68.6%) responses, followed by Converge ICT with 10 responses (28.6%) and PLDT Home fiber with 4 (11.4%) responses.

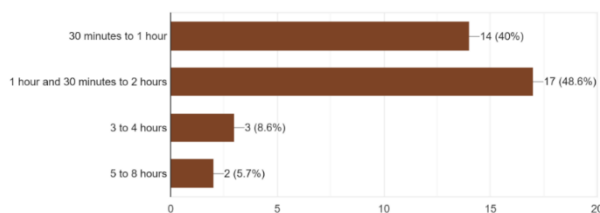


Fig. 3. Time allotment for online learning

Figure 3 shows the time consumed by senior high technical vocational learners in online classes. Most of the students spent 1 hour and 30 minutes to 2 hours with 17 (46.6%) responses, followed by 14 (40%) who responded thirty minutes to 1 hour, then 3 (8.6%) retorted to 3 to 4 hours and 2 (5.7%) are spending 5 to 8 hours in their online classes .

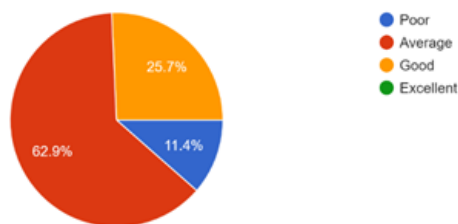


Fig.4. Learners overall opinion towards online distance awareness

Figure 4 shows the overall opinion of senior high technical vocational learners toward online distance learning. Majority of the learners perceive online learning is average with 62.9%, group of learners with 25.7% perceive it good and 11.4% observed it poor.

Difficulties encountered during online learning that impact exit assessment

Technological and technical Difficulties

Table 1. Technical and technological struggle in online classes for Industrial Arts learners

Theme	Reference
Poor Internet Connectivity	1.” I have slow internet connection.” 2. “I experience recurrent internet loss during class.” 3.” Because of unstable internet connection, I cannot follow and understand the discussion.” 4. “I only use mobile data for my online class. ”

Poor Internet Connectivity

Respondents mentioned poor internet connectivity as one of the contributing difficulties in their online distance learning. According to a study released by the Philippine Institute for Development Studies (PIDS), bad Internet connection is a more pressing problem in the Philippines compared to poverty and corruption, (Ordinario, 2017).

One learner articulated:

“I experience recurrent internet loss during class.”

According to the Akamai State of Internet Report for the 2nd Quarter 2016, the Philippines ranks at 6th out of 15 Asia-Pacific countries with an average mobile internet speed of 8.5 Mbps, (Department of Information and Communications Technology, 2017). This report shows that the Philippines is still way behind in terms of internet connectivity.

A learner also cited:

”Because of unstable internet connection, I cannot follow and understand the discussion.”

A slow internet connection certainly affects the learning process, and is typically experienced by learners from distant areas of Itogon starting from barangay Ucab (12 km from Baguio City) where internet cables have not yet reached their homes so the learners depend on mobile data from Smart or Globe wireless provider. This conforms to the survey of DepEd as cited by Santos (2020) mentioning that 2.8 million students have no way of going online especially in rural areas where internet access and speed is a challenge. This results to missed lesson specially demonstrations which requires return demonstration for formative assessment.

One also mentions;

“I only use Mobile data for my online class.”

Contrary to Learners from barangay Ucab , Barangay Tuding which is 5 -10 km from Baguio City where internet cable lines are accessible ,regrettably , some don't have the luxury of applying for Internet connectivity because accordingly, their parents cannot afford for monthly subscription during this pandemic , as explained by Muthuprasad et al (2020), online classes will be successful only if the internet facility is provided to all by making it equitable and affordable. so most of the learners depend still in mobile data for their online class because internet shops are mostly closed and they could bring their phones with them which becomes an advantage to the learners interviewed .This is supported by Cahyadi (2014) stating, ”Smartphone is a set of technological tools that have major applications required in the needs of life, the Smartphone has incredible capacity, using mobile phone. One of the capacities is able to operate like computer, and ease the users to bring it everywhere.”

Table 2. Technological Difficulties

Theme	Reference
Availability of proper technology for online learning	<p>1. "I don't have personal laptop, sometimes I can borrow my sisters but she often uses it for her online class in the university so I just use the mobile phone for recording my demonstration."</p> <p>2." I use my mobile phone, I am just hard up encoding because the screen is small and the text as well".</p> <p>3. "I do not have noise cancelling headphone to avoid background when I make my demonstration performance "</p>

Availability of proper technologies in the course of teaching and learning activities are beneficial to improve the success of teaching and learning in an online class.

One respondent cited,

"I don't have personal laptop, sometimes I can borrow my sisters but she often uses it for her online class in the university."

Most of the respondents live in an average family status so the luxury of having personal laptop or desktop is not of importance, and accordingly, the sibling who is going to a university is the priority.

One learner mentioned,

" I use my mobile phone, I am just hard up encoding because the screen is small and the text as well."

This respondent is wearing glasses, so accordingly, he is hard up and tends to be slow when typing his output in the word app in his mobile phone.

Another learner mentioned,

"I do not have noise cancelling headphone to avoid background when I make my demonstration performance. "

Accordingly, his place is near a house being constructed and his teacher has difficulty understanding him and vice versa because of the background noise.

Table 3. Technical Difficulties

Theme	Reference
Newness of the online platform	1. "I am not familiar using the online learning."

Adapting to unfamiliar technology came out to be a difficulty, experienced by learners in the Industrial arts group, most of them answered “I am not familiar using online learning”, and accordingly, they do not know how to use the google meet and zoom commonly used by their teachers to meet them.

Physical and Environmental

Table 1

Theme	Reference
Time Management	1. “I am working, so I attend to my online class when I have time.” 2.” I usually do online activities at night time.” 3. “I usually do the activities near the deadline.” 4.” I have a lot of activities from other subjects.”

Time management came out to be the leading difficulty among the industrial arts learner which scored 77.1%, Most of the respondents answered,

“I am working, so I join my online class when I have time. “

Being a senior high school with common background which is living in an area where mining is a source of livelihood, 40% of the respondents work part time or full time either day or night therefore, according to them, they can attend synchronous and asynchronous when they do not work.

Some students answered,

“I usually see the activities online at night time.”
 “I usually do the activities near the deadline.”

some answers also include,

“I have a lot of activities from my other subjects.”

Admittedly from some respondents, the learners acknowledge their failure to manage their time that is why bulks of activities were left undone.

Table 2

Theme	Reference
Inability to focus	1.” My parents always ask me to look after my younger sibling.” 2.” My neighborhood is noisy.” 3. “I don’t have a room of my own , I cannot focus.”

The environment contributes greatly in the effectiveness of online learning and due to its nature, according to Black, K. (2017) “The online environment may not provide the same captive space where students have immediacy in reflection and feedback to verbally think and process information.” hence, according to the respondents, they encounter difficulties when it comes to their ability to focus in their classes as majority of the learners answered.

” My parents always ask me to look after my younger sibling.”

Families in the area do not pay for help to take care of young children so if parents are not around the responsibility to take care of younger siblings lies to the older children. Some cited;

“I don’t have a room of my own where I can focus.”

” My neighborhood is noisy.”

Privacy is a difficulty as most respondent’s families are crowded in an average house but most of them share room with siblings and are not with soundproofs so all the sounds are beyond control.

Table 3

Theme	Reference
Addiction to online games and apps	“I spend a lot of time to online games. “

During this pandemic, most learners have a lot of time playing online games and applications like tiktok, most of the respondents say;

“I spend a lot of time to online games. “

They mentioned, even during a class they play and most of the time setting aside the synchronous activities because they cannot stop the game once they started.

Personal and psychological Difficulty

Table 1

Theme	Reference
Lack of Motivation in online platform	1.” Lectures in online class is boring.” 2. “Too much asynchronous activity.” 3.” Some teachers do not demonstrate but uses video for the demonstration.” 4. “I cannot follow the instruction without hand-on, the national assessment is hands-on.”

Learner’s lack of motivation in online classes is a concern of teachers specially that the respondents are expected to have an exit assessment (National Assessment) of their qualification. As there is no face-to-face interaction, more and more students lost their interest in participating in online classes. One learner said,

“Lectures in online class is boring.”

Unlike the traditional classes, online classes limited the teacher’s personal connection with the learners, she cannot see the them so she could not make some modifications in the way she is discussing. others mentioned,

“Too much asynchronous activity.”

Having too many activities during online class has left students unmotivated as their time was devoted in making them instead. Others say,

” Some teachers do not demonstrate but uses video for the demonstration.”

According to the teachers, often use of video purposely for those who did not attend and those who cannot follow, unfortunately, some learners will say that they could not follow the video alone and some videos from other source are different from what was sent Most commented

“I cannot follow the instruction without hand-on.”

They said, it is important for them to hold the tools and do it, as they are going to perform it in the exit assessment.

There is no doubt, many respondents during the interview mentioned that online can be used but the skill to be performed must be learned through face to face with the teacher and the tools and equipment’s. It conforms to Shore (2020) who mentioned in his article that an online class eliminates the human connection and therefore student motivation, interaction, and educator’s ability to adapt course materials and presentations is somehow lost. Some learners though, may accept the challenge to this year’s assessment.

Table 2

Theme	Reference
Lack of Support	1. “I do not have equipment’s.” 2. “It is hard to ask adult to teach me using their tools, even if I go to working shops in the neighborhood.”

Lack of Support. While online class is becoming a very popular means of continuing education, challenges encountered by students emerged as they continue to use online learning. In this study, what transpired was the difficulty of support coming from the school and the community. One learner mentioned;

” I do not have equipment’s.”

The learners said, not all learners taking welding have machines and steel in their homes and the school do not allow them to bring equipment’s of the school in their homes for practice.

One learner said;

“It is hard to ask adult to teach me using their tools, even if I go to working shops in the neighborhood.”

The location of the study has small industries where these learners could ask for assistance but according to them, they may accommodate them but it’s hard to teach them as they are working on their orders and sometimes they could not be given task for the fear that errors could happen and may jeopardize their work for their customers.

Teacher Practices in Online Learning

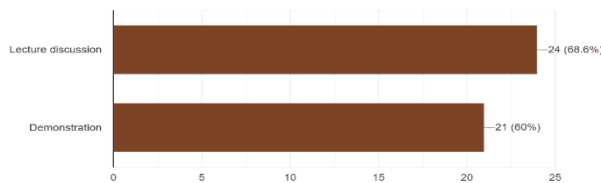


Figure 1. Teacher practices in synchronous online learning

Lecture discussion with 68,6% came out as the most common strategy used by teachers which benefits the respondents to help them acquire the necessary knowledge. Demonstration strategy with 60% came next as the most effective strategy for synchronous class. It is obvious during the interview when they said, lecture and discussion maybe done online but they prefer that demonstration of skills will be done face to face.

Figure 2

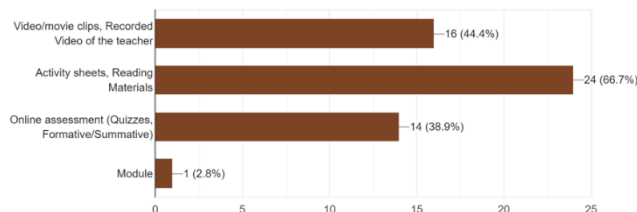


Figure 2. Teacher practices in asynchronous online learning

Activity sheets (66.7%), came out the most common practice used by teachers during asynchronous class, followed by video clips (44.4%), quizzes came next with (38.9%) that helps learners gain understanding of the lesson.

Learning Outcomes best met in online learning

Figure 1

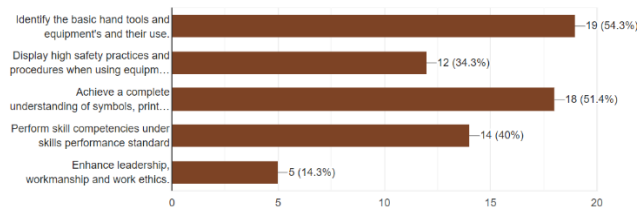
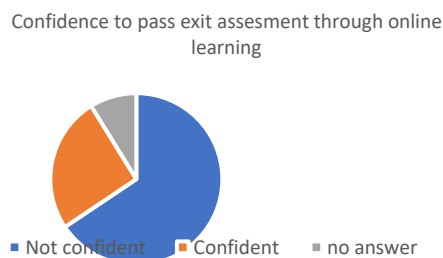


Figure 1 learning outcome met in online learning

The table show the learning outcomes best met in an online learning platform. 54.3% of the respondents said that from online learning they could identifying the basic hand tools and equipment. 51.4 said, they could achieve a complete understanding of symbols and prints, 40% said they could perform skill competencies under skill performance standard, 34.3 % said, they could learn how to display high safety practices and procedures when using equipment and 14.3% said they could enhance leadership, workmanship and work ethics. The table show that the knowledge domain which includes the learning objectives; identifying basic hand tools and equipment and achieving a complete understanding of symbols and prints, is best met in an online class.

The psychomotor domain which includes the learning objectives; perform skill competencies under skill performance standard, and displaying high safety practices and procedures when using equipment from their perception is not much met during online learning. The affective domain which includes the learning objective; they could enhance leadership, workmanship and work ethics is also not met.

Level of Confidence to pass the exit assessment



Exit assessment in technical vocational course is the National Assessment given by TESDA (Technical Education and Skills Development Authority), where they give passers a certificate where they could use when applying on related skill

work opportunities. The figure show that 68.3% are not confident to pass the exit assessment with online learning,23.2% said they are confident to pass the exit assessment while 8.5% percent have no answers.

Some responses from the group who are confident to pass are the following;

“I have my own time to practice in the nearby shop, the time is unlimited and I can use the video they send to follow so it gives more time to understand the pointers given for the assessment.”

“Because it allows student to attend classes from any location of our choice and at our own pace, I can even practice the skills the whole day.”

It is one advantage of online learning because you can work in your most convenient time specially the asynchronous activities ...

On the contrary, the following are responses from the respondents who are not confident to pass with online learning mentioned;

“Poor internet connectivity.”

This is the main issue in online learning, without a strong and fast connectivity learner could not view videos, download activities, send outputs.

“I have difficulty retaining information and trouble understanding concept without hands-on experience. “

During the interview, they said they can easily follow when the teacher demonstrates as they learn the concept by doing it. This conforms with the statement of Margo,H.,et.al.(2020), stated that practical skill are often acquired through learning-by-doing, which occurs in school-based workshops and laboratories or through hand-on experience at the workplace .remote learning approaches are a weak substitute for practical exercises when they require the use of equipment or materials usually found inside the home .

“Stress between working and school, at night we open what teachers send us but we tend to be sleepy already.”

Due to this pandemic, it is inevitable for this respondent to work with their family members as most of them are able already to do harder work to help with family finances, so most of the time they come home tired and neglect the activities they are supposed to do.

“Not all the sources are reliable.”

According to the respondents, if they could not follow the videos, their teacher sent them, they opt for easier one to follow so they usually search in you tube, but in some instances, there are videos that does not coincide with what the teacher sent and also the concepts taught by those working in the shop making the learners confused which one to follow.

“I don't have tools in my house not like in school that is complete.”

This is also an issue why learners are adamant to follow even with tools and equipment's, it is really hard if learners cannot access it, according to them, in their homes or in some shops we could find replacement and learn how to use them but we might get lost when we see the actual standard equipment in the assessment centers.

“I am not used with technology. “

The respondent interviewed said, I only know how to type in the Microsoft word, open Facebook, you tube and messenger and nothing else so it is frightening to try to manipulate the different online apps.

Conclusion and Recommendation

Online Learning became an option on the sudden shift from the traditional face to face delivery of instruction in the senior high school technical vocational of Alejo M Pacalso Memorial National High school. Like other educational institutions it came out that there are factors that impacts the exit assessment result of technical vocational learners encountered during the learning process like poor internet connection, lack of proper technology, unfamiliarity of the online applications, time management, lack of focus, preoccupation with online games and mobile application, lack of motivation, interaction and support.

In order to reduce the effect of these difficulties and be able to help the learners pass their exit assessment school heads must be informed of the result of this research to channel it to higher authorities for innovations and interventions on the different programs accessible for all learners in the event problems brought by the pandemic eases or reoccur. likewise, community and stakeholders must collaboratively work together to meet and assist learner, establishment of a community learning center or LGU funded (local government Unit) center for learners with high speed internet connectivity so they can enjoy online classes following the different local and national safety protocols maybe suggested.

Similarly, since it has been found that skill application must really be done through hands-on, school should find a way to ask assistance from Industries near the learner's area and create a MOA (Memorandum of Agreement) to assist learners with the assistance of the teacher to ensure that they are fully equipped in the exit assessment. Lastly, students, parents and teachers, should work together in staying in touch and informing each other's situations and conditions to provide possible interventions to assure that learners met the competencies needed to pass the assessment. Involving everyone to ensure a learners success is motivating, support from different people and agencies will boost the learner's determination, after all the end goal of each senior high school learner under the technical vocational track is passing the exit assessment and must be set a priority despite all the difficulties online distance learning may bring.

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