Challenges Encountered by High School Students in the Use of Interactive Videoconferencing and Online Text-Based Module during the New Normal Education

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Abstract
This qualitative study aimed to explore the challenges experienced by the eighty-two Grade 12 students in utilizing the interactive videoconferencing and online text-based module while learning the concepts of Kinematics and Dynamics. The use of each learning modality provides unique demotivating experiences that need to be addressed. The students identified technological sufficiency challenges, social anxiety, household barriers, technology fatigue, and online multitasking behavior as challenges in using interactive videoconferencing while self-regulation challenges, self-learning ability and learning style preferences, lack of immediate support and feedback, and technological sufficiency challenges are identified for online text-based module. Understanding these challenges may help educators in increasing the learning outcomes in the use of these modalities.

Keywords: Online Learning difficulties, Physics lesson, Synchronous modality, Virtual learning

Introduction
With the emergence of the COVID-19 pandemic, numerous uncertainties and challenges are introduced in different sectors of business industries and government, including education. Most countries have closed schools temporarily to prevent the spread of the virus. Millions of students and teachers are affected by the COVID-19 epidemic in different parts of the world, leading to difficulties in all types of education. Several countries' responses, including community lockdown and quarantine, have compelled students and teachers to study and work from home (Huang et al., 2020). In the Philippines, over 28 million students have been displaced by school closures (UNESCO, 2020). Students from different levels have been impacted, causing educational delays and adjustments. Changes to the Philippine educational systems were necessary to comply with medical and WHO standards, as well as COVID-19 measures established by health experts and the government.

With these limitations set forth, the adoption of online distance learning modality is seen as the most effective instructional technique to overcome the challenges posed by COVID-19 in education. The unavoidable closure of educational institutions necessitated a reoriented instruction to cope with the class disruptions resulting from the COVID emergency (Aboagye et al., 2021). Students receive instruction via online classes, video recordings, videoconferencing, online text-based modules, or any other form of audio/visual technology in distance learning. Online distance education is intended to provide education to students who cannot attend a physical location (Motycka et al., 2012). Both students and teachers share content synchronously or asynchronously. Synchronous learning like interactive videoconferencing enables instructors and students to interact concurrently (Ashley, 2003; Cook et al., 2008) through Google Meet, zoom, and other online platforms. Conversely, asynchronous learning allows communication to happen in a separate block of time through the use of modules, blogs, video lectures, website-based training, among others (Ashley, 2003).

Such adoption of online distance learning poses challenges to both teachers and students. Nearly all schools and universities in the Philippines use face-to-face teaching before because of the country's lack of technological infrastructures and reliable internet connection. In comparison to the first world countries,

developing countries face challenges such as inadequate internet connectivity, a lack of knowledge about using ICT, and a dearth of content development (Aung et al. 2015). Prior to the pandemic, online classes were only used in a few universities for specific distance learning courses. Nevertheless, the pandemic has left the country with no choice but to adopt online distance learning despite of the several challenges that its users might encounter. Indeed, it fashioned a painful welcome of a long-overdue revolution in Philippine education.

Despite the increasing demand and use of online distance education to deliver curriculum amidst of the pandemic, several aspects of teaching and learning remains to be prominent challenges disabling both learners and teachers to achieve the goals for academic performance fully. It is the aim of this study to find out the different challenges encountered by the high school students in using interactive videoconferencing and online text-based module in learning Kinematics and Dynamics lessons.

Literature Review

Various studies have identified the challenges to synchronous videoconferencing and asynchronous modular learning. Hvalshagen, et al. (2021) disclosed that synchronous learning at home eroded support for their student role while also creating conflicts between the student role and other competing roles, such as child, sibling, or supplemental wage earner resulting to the of lacked motivation to complete schoolwork. Students with a poor conducive learning environment affect their concentration on the synchronous meeting (Pinar, 2021). Another study reported on the lack of engagement resulted from course management systems that lack the functionality to support student activities and reports from instructors. It is challenging to keep pace with current online technology and content (Revere et al., 2011). Engagement and participation of the students in an online learning environment is limit by the disturbance which leads to boredom and isolation (Martin et al., 2018).

Furthermore, some students reported difficulty in managing tasks such as note taking and listening at the same time in a synchronous videoconferencing while participating in the interactive activities, and solving the problems. This is consistent with the cognitive load theory (He et al., 2017). This results to congestion of learning lessons and lack of reflection time among students (Park et al., 2007). In addition, instruction becomes ineffective when learners are unnecessarily required to mentally integrate disparate sources of mutually referring information such as separate text and diagrams. Such split-source information may generate a heavy cognitive load because material must be mentally integrated before learning can commence (Chandler, 1991). Along with academic performance or financial pressures, poor multitasking behavior and self-interruptions while studying contribute stress to students (Mark et al., 2014). Another study reported on the discomfort of the use of technology in an online distance learning. One study opined that remote students felt distanced and they were hesitant to interrupt the instructor while teaching even if they wanted to ask questions (Anderson, et. al., 2003). Some students also complained that online lectures caused anxiety about using cameras and were not focused while studying (Simamora, 2020). Fitzgibbon (2003) added that it is natural that learners will have anxieties about a teaching medium that they have never experienced before. However, one study revealed that remote students participants appears to be more relaxed during synchronous meetings and felt like the are in real classrooms (Candarli et al., 2012).

Meanwhile, the use of self-directed online modules has its disadvantages to students as well. Self-regulation becomes a challenge to modular learners (Cho & Shen, 2013). According to Faisal et al., (2014), students in asynchronous set-up engaged in procrastination, especially during the discussion where students spend a lot of time thinking. This leads them to go back to what they have missed, thus wasting their time (Faisal et al., 2014). This agrees to the study conducted by Aduke (2015), which reported that procrastination, prioritization and planning were strong indices that affected the students' academic performance in relation to time management. Eventually, this affect student fulfilment of educational achievement and goals for academic performance. Another self-regulated learning strategy is found to affect students' performance.

According to Nadler (1998), students are having dilemma of asserting one's individuality vs depending on others when seeking online-help. Other researchers agrees that ego involvement increased executive help-seeking in students who attributed failure to low ability (Er et al., 2015). This resulted to help-seeking avoidant students who were more anxious, performed more poorly and relied less on rehearsal and more on organization strategies (Karabenick, 2003). Along with this, Guan et al (2008) disclosed that the lack of time and peer response were given as the main reasons for low participation in social activity and learning

discussions for students enrolled in online modules. Students experienced most difficulties interpreting scientific representations in the learning modules and that teachers' reflections on difficulties students experienced as they participated in the module (Varma et al., 2008).

Furthermore, the implementation of a self-directed instructional design may not appeal to all learners but ultimately, it is the learner's responsibility to claim control of their own learning (Mentz et al., 2018). A study reported that there is a strong association between self-management and test scores of the students which implies that higher self-management scores and learning style scores have a positive effect on student performance (Bodkyn & Stevens, 2015). Also, Fleming et al. (1992) suggested that asynchronous mode of curriculum delivery might not be beneficial to visual learners and auditory learners, and would be expected to have learning difficulties. Furthermore, poor self-regulated and self-directed learners are likely to pose difficulties on learning and workplace simulations (Jossberger et al., 2010). On the other hand, Francis et al. (2012) claims that the result of Self Directed Learning survey is not directly related to the academic performance or preferences of the students.

In terms of interaction, Jayachitra et al. (2020) reported that e-learning system lacks interaction, and students get isolated with no personal contact with the instructors or teachers as opposed to traditional teaching methods. The report added that the instructional, design, usability, evaluation, and quality of learning materials have significant positive influence students' academic achievements (Ganyaupfu, 2013). As a result, Cahyono et al. (2019) online module must contain at least material and enrichment activities, formative test, assignment, regulations and quality assurance.

Along with these challenges, Wildavsky (2017) and Alvarez (2020) reported that lack of gadgets such personal computers, and poor internet connections also limits the success of asynchronous design. Dridi et al. (2020) disclosed that that poor Internet connection in the camps severely impacted both students' and instructors' experience of the course. Several factors such as the lack of conducive learning area, existence of distractions and external disturbances affects student's performance in an online learning environment (Baticulon et al., 2021; O'Doherty et al., 2018). Also, students needed to conduct household tasks and home duties and they lack sufficient room for study (Bahian et al., 2020). The said barriers compromise student's focus and throws off the balance of learning time among the students. This challenge is also evident to other countries (Khalil et al., 2020).

Lastly, a study reported that there was a stronger sense of immediacy to respond to peer's questions in synchronous mode than in asynchronous mode (Chou, 2002). The immediacy of response and interactivity affects student success in asynchronous design (Wang et al., 2007). The report added that online learning may not always foster two-way interaction and that students need time to the material, reflect on it, and received feedback (Wang et al., 2007). Another study disclosed that students who show high levels of engagement appear less likely to be at risk of failing, and how engaged a student is in their online experience can be characterized as factors contributing to their social presence (Shelton et al., 2017). This is also stressed in the Community of Inquiry (COI) which identifies the social presence and teaching presence otherwise actively facilitate tasks so that students accomplish of educational outcomes (Anderson, 2017).

Methods

This exploratory qualitative study aimed to determine the various challenges encountered by 82 Grade 12 students in utilizing the interactive videoconferencing and online text-based module while learning Kinematics and Dynamics lessons in Physics for two weeks. The survey was carried out using a Google form. Content analysis was used to analyze students' responses.

Findings and Discussions

Several studies have reported the challenges of synchronous learning mode. Certain aspects of technology, such as time delay, background noises, and other technical hitches (Gillies, 2008) limit synchronous classes' success. Moreover, some reported that prolonged exposure to technology results in fatigue (Dol, 2016), feelings of isolation, anxiety, irritation (Fitzgibbon, 2003), and difficulty managing tasks. Synchronous learning at home creates conflicting roles between the student role and other competing roles (Hvalshagen, 2021). Along with this, the participants of this research have identified several challenges they experience in interactive videoconferencing. There were five (5) themes formed from the content analysis of the data which include: Technological Sufficiency Challenges, Social Anxiety, Household Barriers, Technology Fatigue, and Online Multitasking Behavior.

Challenges Encountered by Students in Interactive Videoconferencing
Theme 1. Technological Sufficiency Challenges
Weak internet connection, power outages, and device unavailability are reported technical challenges encountered by most of the students. The majority of the complaints were about the unstable internet connectivity. Students reported that the poor internet connection caused them to be forced out of session, missed lessons, lost pace in learning, and became demotivated to learn. Some students (n=3) noted that poor internet resulted in poor video and audio quality, making discussions challenging to follow. Some comments (n = 6) stated that power interruptions hinder them from participating in the videoconferencing sessions. Unable to participate due to poor connection and power interruptions would often result in difficulty catching up with the lessons. Only one of the students complained about the unavailability of the mobile device to use for the synchronous session. Sample comments:

> *"The internet connection is a problem since its stability is uncertain which could lead to broken connections and could make a student lose pace in learning the [topics]."*
> *"As video conferencing is taxing on the bandwidth of data connection, I missed lessons in a day and had quite some trouble catching up with the following lessons."*
> *"..During the times of weak internet connection or brownout. The student would immediately be left out."*
> *"..It is difficult when one doesn't own a laptop or a device that can be use in a daily synchronous class."*

Before the COVID-19 pandemic, schools in the Philippines had never implemented online learning on a massive scale (Baticulon et al., 2021). Schools in the Philippines had not set standards and minimum resource requirements for online learning. It was evident that some students cannot afford the cost of resources such as stable internet subscriptions and sufficient gadgets to support online learning due to varying socio-economic status. Despite this, the school elected to adopt online learning to pursue learning continuity and make education accessible to students dwelling in different areas of the province.

Although not specific to interactive videoconferencing set-up, the findings of the study are consistent with the age-old problem in the online learning modalities. Gillies (2008) on his study about online learning reported the drawbacks of videoconferencing, such as the time delay, background noises, and other technical hitches. Same results was reported by Fox et al. (2007) suggesting that participants often experience loss of internet connections and poor sound or video quality which affected their learning performance. Moreover, report shows that synchronous classes were not favorable to students who have limited bandwidth (Pinar, 2021; Almanthari et al., 2020; Kamble et al., 2021), experiences frequent brownouts, and lack devices/gadgets (Baticulon et al., 2021; Fahmalatif et al., 2021). The study's findings and the literature indicate that using interactive video conferencing could not be suited as an alternative learning modality when students have no proper internet connection, too many power interruptions, and lack proper gadgets to sustain synchronous meetings. The success of online videoconferencing is also often attributed to the attendance and participation of the learners in the online discussion, which will be limited when these technological barriers come into play.

Theme 2: Social Anxiety
Despite the student satisfaction in terms of interactivity and real time communication (Skylar, 2009) in videoconferencing, the results of this study suggest that learners experienced anxiety on the set-up they have little or no experience with. A significant number of students (n=5) reported that they experience social anxiety when attending interactive videoconferencing. Some students (n=2) claimed that they fear being called in class to participate and recite. Two students noted that they are hesitant and shy to ask further questions to the instructor. Furthermore, the request to open their video camera was perceived to be intrusive and causes anxiety. Sample comments:

> *"being shy to ask because I don't want for my classmates to wait longer or extend the session and bother my teacher to explain it again due to repetitive questions in my head, wishing for it to be answered and explained again."*
> *"Usage of cameras always give me anxiety."*
> *"The social anxiety to ask further questions and being called to answer [questions]."*

Despite the limited study on the effect of interactive videoconferencing relating to students' social anxiety, the findings of this research are consistent with the report that some students expressed anxiety in learning the course in a synchronous online distance learning mode (Karal et al., 2011). This could be explained by the learning difficulties that the students experience during the videoconferencing. Some students complained that online lectures caused anxiety on the use of cameras and were not focused while studying (Simamora, 2020). Students may also feel anxious to be called to solve the problem when they are struggling to keep pace with the discussions, resulting in the withdrawal of concentration from the class. Fitzgibbon (2003) reported that it is natural that learners will have anxieties about a teaching medium that they have never experienced before. Also, this finding coincides with the study of Saunders and Chester (2008) on Online Learning that shy students suffer from performance anxiety inhibiting information processing skills and creativity. In addition, students become overly concerned about their self-presentation style impacting cognitive functions. Students indicate that anxiety is one of their main concerns as screen time continues to rise. This stems from individuals' sensitivity to real or imagined signs of social scrutiny because of their strong chronic public self-awareness (Bernique, 2020).

This problem was recorded in this study due to the fact that students attending the videoconferencing modality were required to leave their cameras open during the whole period of experimentation. Instead, students were encouraged to turn on their videos only during the beginning and end of the sessions. This practice limits the exposure of the students to authentic, face-time interactions that is somehow unhelpful in decreasing their anxiety. In line with this, integrating full-videoconferencing as part of the curriculum implementation could be considered when face-to-face classes are possible after this pandemic.

On the other hand, the study's finding disagrees with the studies which claimed that students are more relaxed during videoconferencing (Candarli et al., 2012; Tabak & Rampal, 2014). The report added that the students felt like they are in a real classroom, and it simulates the face-to-face interaction among the learners and teachers. Students also indicated that synchronous classes allowed them to freely express their ideas without feeling public speaking anxiety in front of a whole class, as observed in traditional settings (Tabak et al., 2014). This conflicting result indicates that a comprehensive study might be pursued to shed light on this type of online learning barrier.

Considering the findings, students might be given authentic learning assessments, activities, and projects that utilize video cameras to ease social anxiety and greater students' exposure. For example, one study noted that video alternatives reduced the anxiety of a live class presentation and improved their performance (Kearney & Schuck, 2006). Another research agrees that a study on iPad intervention as a cam-recorder for video projects increases confidence and appears to lower anxiety (Ockert, 2014). Moreover, the positive relationship of the students and instructor due to communication is found to improve the learning experience and create a positive environment in the virtual classroom reducing student's anxiety (Pinar, 2021). Thus, a student-teacher rapport can be established between instructors and distance learners to decrease anxiety.

Theme 3: Household Barriers
The success of online learning is attributed to a good learning environment, free from learning disturbance. According to the gathered data, several students (n=10) indicated that some external distractions keep them from focusing during video conferencing. Some students (n=6) noted that concentrating while in class is problematic due to background noises and distractions posed by their home environment. Students (n=3) reported that it is challenging to manage time between attending class and is hard to cope with lessons due to duties and responsibilities needed to be fulfilled. One student also reported that personal issues are interfering with their ability to maintain focus during class discussions. Sample comments:

> *"There would be other things interfering with the schedule of the synchronous class, and that would make me miss the class because of my own schedule and other priorities."*
> "My biggest challenge was being able to manage time between doing errands and [attending] video conferencing."
> "...it would be hard for you to cope up immediately with the lessons due to the duties you have at home."

Education in the new normal had forced the students to stay at home to maintain safety measures while learning at a distance. Domestic barriers that include categories on household limited space for conducive

learning and need to fulfill responsibilities at home pose a major concern to synchronous learning (Baticulon et al., 2021). Consistent with the study of Martin et al. (2018) and Chang (2020), distractions in online learning prevent students' engagement and participation in classes. Some students find it difficult to listen and understand the lessons being discussed since many distractions and interruptions were intervening along the learning process, which often results in loss of focus and concentration. Unlike high income countries where physical infrastructure such as study areas are made available to the learners (O'Doherty et al., 2018), developing countries like Philippines has focused mostly on technological and contextual challenges often failing to provide a whole-system perspective (Pinar, 2021). Majority of the Filipino students come from average class family (Ancheta, 2020) and are struggling to provide convenient areas for online learning. Students with a poor conducive learning environment affect their concentration on the synchronous meeting (Pinar, 2021). Some students did not find a suitable place at home for taking online classes and felt like the environment is not suitable at home for attending online lectures (Khalil et al., 2020).

In face-to-face classes, the formal structure of the learning environment somehow allows the teachers and students to control and remove distractions to learning. Some participants pointed out learners' inability to concentrate in the sessions due to the many distractions they encountered and the instructors' lack of control in the online environment (Kamble et al., 2021). The report added that some students miss the ambiance of the classroom environment where their roles as students were evident. On the other hand, having the comfort of learning from home (Kamble et al., 2021) and a suboptimal learning environment (Driessen et al., 2020) allows learners' participation in online learning.

The same challenge is perceived by the students when learning through online-text based module. It was clear that on both methods, more time spent learning at home did not equate to more time to perform task efficiently due to the presence of distractions. It is important to identify any additional of these learning barriers, which may not have been present in the high- income countries where these teaching strategies were often developed and first evaluated (Pinar, 2021). These barriers of online learning are quite evident to affect student's academic performance.

Theme 4: Technology Fatigue
The participants of the study developed technology fatigue because of daily repetitive tasks and sitting in front of a computer for two hours during an online videoconference. Some students (n=2) are having difficulty focusing and remaining seated for the class's duration, resulting in fatigue and the feeling of not motivated. One student expressed he feels drained due to prolonged exposure to the screen while studying. Some students (n=2) are complaining that this learning method worsens their eye problem and strains their vision as a result of looking at the computer for prolonged periods. The technology fatigue that they often experience results in mental exhaustion and disengagement from learning. Here are some of the comments:

> *"Radiation from screens. Sometimes it would hurt my eyes, and my head aches when I stare at my laptop for more than an hour."*
> *"I find it hard to stay focused every discussion for 2 hours every week. I always feel tired and not that motivated at the end of the class."*
> *"Sometimes I feel drained because my eyes are glued to the screen of my laptop."*

Notwithstanding the limited pieces of literature relating interactive videoconferencing and technology fatigue, the result of this study is consistent with the research of Sert et al. (2019). This study was conducted in online learning setup which suggests that prolonged exposure to a smartphone was found to be associated with adverse effects on all dimensions of fatigue, such as behavioral, affective, sensory, and cognitive fatigue. Octaberlina and Muslimin (2020) also reported that e-learning teaching and learning processes might cause students to have problems, such as eye strain, etc., that might make them uncomfortable during the learning process. The results also suggest that students can adjust the visual background light of their device and their room to reduce eye strain. Dong et al. (2020) disclosed that parents expressed negative perceptions of online learning due to observation that it affects students' eye vision. Dol (2016) also found out that daily internet usage may cause fatigue to students. Unlike in traditional settings, where the teacher presence can somehow limit the students' reliance on technology and introduce other learning resources, the online setup left learners with no choice but to access information delivered through online platforms.
The findings of this study imply that taking a break and adding short physical activities may help reduce fatigue, especially when videoconferencing is held for two hours. Fatigue can also be reduced when online

teaching tools are used appropriately by involving active feedback responses through polls, chat, etc., and by asking specific participants to speak and give feedback (Peper et al., 2021). The researchers also added that alternately focusing on nearby objects and then look far away allows the muscles of the eyes to relax, reducing eye strain.

Theme 5: Online Multitasking Behavior
Multitasking behavior refers to handling two or more tasks concurrently (Mark et al., 2014). In this study, although minor in percentage, some students complained that they find it difficult to multitask while attending interactive videoconferencing. Two students reported that it is hard for them to take down notes and listen simultaneously as the teacher discusses the lesson. One student complained that he often loses his focus in synchronous meetings because he is slow in note-taking. Moreover, one student expressed that answering the real-time activities posted on the screen and attending the class each day is quite difficult. Sample comments:

> "It is difficult writing my notes from the presentation while listening to the discussion."
> "..there is no given module so you need to take note quickly but I have difficulty in that cause I'm slow in terms of writing."

The instructor elected not to provide a copy of the learning materials to the students for better analysis and comparison against the other learning mode. This made the student multitask while the classes are ongoing. The setup is not favorable to students who have difficulty multitasking and are poor typists. Although not specific to interactive videoconferencing only, the result is consistent with Hrastinski's (2008) findings which reported that synchronous videoconferencing classes resulted in students who often focus on quantity rather than the quality of learning. That is, they write/type quickly, just not to miss what the teacher is saying. This compromises their focus and understanding of the lessons. The study also suggests that students tend to multitask more in online courses, such as the setup of the participants in this study, than face-to-face courses due to several factors (Lepp et al., 2019). This is consistent with the cognitive load theory (He et al., 2017). The students may find it difficult to manage taking notes while listening to the teachers, participating in the interactive activities, and solving the problems posed by the teacher. Students may struggle to keep pace in this kind of environment when they are not used to multitasking. Along with academic performance or financial pressures, poor multitasking behavior and self-interruptions while studying contribute stress to students (Mark et al., 2014).

Even after controlling for a range of potential stressors in student life, multitasking behavior might contribute to the success of interactive videoconferencing in students' learning. The study results imply that videoconferencing could be supported with additional learning materials for the learning benefits of poor multitasker in an online learning environment. One study noted that supplemental materials enhance students' performance because they learn through interaction and using these tools (Chérrez et al., 2014).

Challenges Encountered by Students in Online Text-Based Module
Several studies reported that in asynchronous modular learning, challenges such as procrastination, lack of interaction (Faisal et., al 2014 & Aduke, 2015), low self- management Guan et al. (2008) ability, and lack of strong sense of immediacy to respond inhibit students from fulfilling the goals for academic success (Bodkyn & Stevens, 2015). Along with this, the students in this research have identified several challenges they experienced in online text-based modules. There were four themes from the content analysis: Self-Regulation Challenges, Self-Learning Ability and Learning Style Preferences, Lack of Immediate Support and Feedback, and Technological Sufficiency Challenges.

Theme 1: Self-Regulation Challenges
The problem of self-regulatory learning skills is not only evident to synchronous videoconferencing classes. According to the data gathered, a significant portion of responses expressed frustration with their poor self-regulation regarding completing their learning modules. Some students (n=5) reported that they lack discipline, and some (n=3) disclosed that they are not motivated even to begin working out the activities in the modules due to the absence of a deadline. Several students (n=6) found it challenging to manage their learning time effectively and execute their tasks. Some students (n=5) mentioned that they lack focus on the

assigned task, resulting in their failure to complete the tasks on time. One student commented that cramming the lessons resulted in failure to finish the activities and difficulty while taking the posttest. Here are the sample comments:

> "The biggest challenge was to have any motivation to do work, mainly because there was no deadline set for work, on the other hand the activities set during the live work had deadlines."
> "There is no scheduled date when you can read your modules. I have difficulty in understanding the lesson because I can't focus."
> "The biggest challenge was using my willpower to start learning the lessons."
> "Sometimes I feel lazy doing the exercises on the module."

Since the learners were given full autonomy in an online text-based module, a significant number of students could not complete the assigned task efficiently. This can be explained by their poor time management skills, lack of motivation, procrastination, and prioritization to complete the task without deadlines. Many students also admitted that they lack self-discipline and drive to study. The findings agree with the study of Faisal et al. (2014) and Aduke (2015). Both studies claimed that the students' procrastination and prioritization were strong indicators of their academic performance and are common challenges to asynchronous learning formats like the one used in this study. This is also consistent with the study of Jossberger et al. (2010) that poor self-regulated learners are likely to pose difficulties learning and workplace simulations while students' goal orientation and academic self-regulation are positive predictors of students' academic achievement (Cho & Shen, 2013). This may be the contributing factor to the low performance in their posttests. Faisal et al.(2014) added that last-minute cramming has caused a huge interruption for the students and is often the cause of low academic performance.

Although literature suggests that self-regulatory learning skills can be enhanced by computer-based instruction found in the online and blended learning environments (Barnard et al., 2009), the finding of this study imply that students still struggle with the balance between the freedom of autonomy and the self-regulation skills necessary to be successful in an asynchronous learning environment.

Theme 2: Self-Learning Ability and Learning Style Preferences

Although literature claimed that self-paced learning modules have benefits in the self-directed learning ability of the students (Mentz, 2018), a substantial portion of comments noted that difficulty adjusting learning styles and limited capacity for self-learning in using the online text-based learning modules. This resulted in a poor understanding of the lessons. A significant number of students (n=14) are having difficulty understanding the topics independently. Also, some students (n=3) claimed that they could not grasp the concept quickly when studying on their own. One student reported that he is a visual learner. One commented that the online text-based module as a learning modality does not benefit his learning as he prefers synchronous classes. Moreover, one student mentioned that understanding the lesson is hard because there are no live instructions and demonstrations. Sample comments:

> "It is hard to understand the topic by yourself. Also, it is difficult to explain each detail by your own understanding only."
> "The biggest challenge is that I am a visual learner and I am a type of person who learns when someone explain it to me so I had a hard time in modules."
> "..it is hard for me to understand the lesson because there is no live instructions and demonstrations."

The findings of this study suggest that students are struggling with their self-learning ability and preference to learn when using the online text-based. This could be explained by their unfamiliarity on the self-paced learning mode and observed differences in their self-assessment capacity. Stewart (2007) claimed that the self-directed learning ability of the students is directly related to the learning outcomes in online learning setup. With low self-directed learning ability, students may struggle in understanding and communicating the concepts taught in the online text-based learning module and might needed more hours to grasp information in the current set-up.

The school implemented online modular learning only this year. Most students are used to face-to-face learning, where there is a constant interaction between students and teachers. The study also suggest that the abrupt shift in the mode of curriculum delivery had been difficult for the students due to the simultaneous adjustment in their learning styles. In the utilization of online text-based learning modules, visual learners

and auditory learners, as mentioned by Fleming and Mills (1992), would be expected to experience learning difficulties. The single mode of learning might explain why students perform low in the posttest.

On the other hand, a study reported on student satisfaction in attending videoconferencing sessions, which offers a variety, differentiated learning task and offers more potential collaborative work with the advanced features of Google meet (Correia et al., 2020), resulting to an improved learning process and learning outcomes. Also, in videoconferencing set-up, immediate feedback, guidance, and support are made available to the students to execute tasks (Mariano et al. 2004).

Theme 3: Lack of Immediate Support and Feedback

Online modular learning is designed ultimately for learners to take full responsibility to claim control of their own learning (Mentz et al., 2018). However, a substantial portion of the comments mentioned the lack of immediate feedback and support when learning through online text-based modules. Several students (n=7) stated that learning independently is difficult because nobody would explain the concepts to them. When confused with the lessons, some could not receive immediate feedback from the teacher and guidance to eliminate misunderstanding. Moreover, some students (n=4) complain that no teacher will guide them when finding solutions and no one immediately check their answers. Sample comments:

> *"There are some parts of the module that I can't understand and I don't know who I should ask to enlighten me about the lessons and it is so frustrating."*
> *"The challenges I encountered while learning through an online module were a lack of input when the lesson was so difficult that I could not understand."*
> *"It is the complete understanding of most of the formulas without anyone to check if it was right or wrong."*

Interaction plays an important role in the success of distance learning (Chou, 2002). Though some students may benefit from the flexible learning environment offered by online text-based modular learning, other students may struggle for its lack of real-time support and immediate feedback (Wang et al., 2007). In this learning set-up, students ask queries by posting them in the stream of the Google classroom, then wait for the teacher's feedback. Some students opted to send questions thru Facebook messenger, while some requested assistance through e-mail messaging. Although the instructor responds to it once it has come to her attention and during the designated time, there is no real-time communication between the students and teacher. Unlike synchronous sessions, students receive instantaneous feedback from peers and teachers through videoconferencing, instant messaging, or chat (Tallent-Runnels et al., 2006). In asynchronous learning, communications are often delayed and often have miscommunications (Wang et al., 2007).

Hence, to improve learning outcomes, providing support and immediate feedback is necessary. The study conducted by Wang et al. (2020) and Anderson (2017) emphasize the importance of immediate feedback brought by frequent interactions between students and teachers in reinforcing students' knowledge construction. Shelton et al. (2017) claimed that lack of interaction in asynchronous mode might predict students' failure in any course. Instructors' prompt feedback and direct involvement in online activities influenced learners' positive learning experiences.

Theme 4: Technological Sufficiency Challenges

In the Philippines, online modular learning is a challenge by the insufficient access of the students to technological resources (Ancheta, 2020). In this study, some students (n=5) state that they are having a problem with downloading the files from the internet due to poor connectivity. Only 1 student said that he has no personal gadget to use to view the material, and one student finds it difficult to focus because he is just using his cellphone when reading the module. Sample comments:

> *"There are times that my internet connection is unstable."*
> *"I can't easily focus because I'm just using cellphone when I'm reading the modules."*
> *"Lack of proper gadgets."*

Due to poor internet connectivity across the country, and not all students can afford and have the means to attend classes delivered in full online modality (Pastor, 2020), majority of learning institutions in basic education curriculum resolved to the adoption of blended learning (Tupas and Linas-Laguada, 2020) . This made education accessible to most Filipino students, if not all. PSU-Senior High School adopted the same

learning modes to cater to students situated mostly in lockdown areas and with varying socio- economic statuses. Despite the flexibility benefits of modular online learning in students' performance, the issue of poor internet connectivity and lack of proper gadgets are still prevalent (Dridi et al., 2020). The authors claimed that poor internet connectivity presented severe limitations of both instructional design and field classroom implementation when online learning was being implemented. Wildavsky (2017) stated that poor internet connection is challenging in finding the most appropriate technology for online learning. Moreover, some students noted that using a smartphone is not enough because some files are too large to handle (Alvarez, 2020). Students may not benefit from the flexibility of learning and other instructional benefits of modular learning when they cannot easily access the learning resources due to poor internet connection and limited access or lack of proper gadgets.

Conclusion and Recommendation
As the Philippines ventures into a new mode of learning, several challenges arise and need to be addressed. This current study joins the existing reports about online learning difficulties encountered by high school students. As the findings revealed, each learning modality has unique learning challenges as perceived and identified by the students. Technological sufficiency challenges, social anxiety, household barriers, technology fatigue, and online multitasking behavior are the perceived challenges in interactive videoconferencing while self-regulation challenges, self-learning ability and learning style preferences, lack of immediate support and feedback, and technological sufficiency challenges are identified for online text-based module. Understanding these challenges may help educators in identifying initiatives that will help improve the implementation of each modality in order to increase the students' learning outcomes in these new modalities. Further investigation is highly recommended to shed more light on the issues.

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