Feeling The Flip: Investigating Senior High School Students' Satisfaction with Blended Learning

DR. MICHAEL TOMAS SEBULLEN, LPT, CFP, PHD

Abstract- This study aimed to determine the level of implementation of blended teaching-learning modality and level of student satisfaction among senior high school students in Baguio City from the school year 2020-2021. Descriptive-evaluative and descriptive comparative research design were employed to analyze the data gathered from 68 teachers and 168 senior high school students. The results of the study revealed that blended teaching-learning modality was implemented with certain degree of effectiveness and both teachers and students expressed moderate satisfaction on the modality. Blended teaching-learning is a type of education whereby classrooms are physically present and online elements and activities are incorporated into the learning process. Results showed that both the students and teachers feel moderately satisfied with the blended modality, with the majority of the participants having expressed that they preferred this to a more traditional class setting. Further, both groups also reported that their abilities in computer use improved due to this teaching-learning platform. These results demonstrate that the blended teaching-learning modality can be effective for senior high school students and teachers, providing an engaging and modern learning environment. The findings should serve as strong basis for possible future modifications and research in the area of blended teaching-learning modality.

Indexed Terms- Learning Satisfaction, Blended Learning, Flipped Classroom, ICT, TPACK, Senior High School

I. INTRODUCTION

The COVID-19 pandemic, which started in December 2019, has a major impact on the functioning of basic education institutions in the country and around the world. According to UNESCO's 2020 Global Education Monitoring Report (GEM) this COVID-19 pandemic led schools to shift toward more inclusive education and required to meet the challenges and opportunities of this new normal. The future of education is all the more important following the COVID-19 pandemic health protocols, which further widened and put a spotlight on inequalities and failure to act which hinder the progress of societies as reported in UNESCO (2020).

The COVID-19 pandemic has pushed educational systems across the globe to rethink the current practices and embrace new and innovative ways of delivering quality education. According to World Bank Group Education Strategy (2020) and UNICEF's annual report of 2020, the pandemic has presented educators with an opportunity to discover alternate methods of learning. However, this has been a financial burden to many parents, as access to online learning resources often requires a substantial investment. Moreover, the report from International Federation of Red Cross and Red Crescent Societies (IFRC), UNICEF, and the World Health Organization (2020) called for emergency plans for educational facilities to ensure the safety of learners. To prevent further disruption of learning, UNESCO recommends utilizing distance learning and open educational applications. In the Philippines, due to the sudden closures of educational institutions, remote learning was adopted as an alternative for delivering quality education.

The shift to online learning due to the pandemic led to debates on its suitability in comparison to the traditional face-to-face classes as it involves difficulties with access to resources. Pappas (2015) highlighted the importance of high-speed internet connection and verbal communication skills in online learning while Bender (2020) stressed on the need for collaboration and social skills for successful transactions. In contrast, Almusharraf et al. (2020) discussed the difficulty of motivating learners in blended and modular learning as it requires self-discipline and strong time management skills.

However, educators are often challenged to motivate students to achieve quality student work during a non-face to face teaching and learning. Interestingly, student learning satisfaction can be viewed both as an outcome of the learning process and a requirement for successful learning experience (Booker and Rebman, 2005) whether it is face to face encounter or due online, blended learning and modular platform. The use of reading material and other printed learning resources reinforces educational effectiveness and increases learning satisfaction of students which became a major topic in the last decade in education. The study of Allen and Seaman (2010) speculated the effect of flexible learning to students' learning outcomes. It found that distant learning boosts students' satisfaction towards learning. In addition, the study of Sweeney and Ingram (2001) showed that student learning satisfaction in a traditional learning environment incorporates online elements. Moreover, Adonis (2020) defined satisfaction as the perception of enjoyment and accomplishment in the learning environment specifically in online learning, blended learning and modular learning platforms. Given such definition, Wu et al. (2010) post a gap on the sum of a student's behavioural beliefs and attitudes that result from aggregating all the benefits that a student receives from using different blended teaching-learning modality.

At present, the state of Philippine schools seems to be challenging due to the initial enrollment of just over half from 2019's 27.7 million students. Financial conditions and internet availability have prevented many from enrolling, as well as posed threats to the closure of over 400 private schools due to a lack of enrollees as reported by the Coordinating Council of Private Educational Associations (Magsambol, 2020). HOUSE Bill 4813 has created the Bureau of Private Schools (BPS) to regulate the conduct of educational programs of private basic education institutions according to DepEd standards. During this pandemic crisis, the position of private basic education institutions in the Philippines is critical in educating young Filipinos (Acidre, 2019). This study looks into the problems faced by these schools due to COVID-19 and the needed support from the stakeholders. It also examines learning satisfaction among students and how private schools are dealing with blended teaching-learning methods (Carcamo, 2014).

Measuring student learning satisfaction in blended programs is an important indicator of the success of the methods. Buzzetto-More (2008) found that students prefer online tools to face-to-face discussions. Levy (2007) and Smart and Cappel (2006) highlighted the need to evaluate and identify variables that affect student satisfaction within online learning. McDonald (2002) and the Office of Innovation and Improvement (2018) called for blended teaching-learning pedagogies to be held responsible for results and success. Beyth-Marom et al. (2011) outlined the desire for flexible learning environments, and Burgess and Russell (2003), Halter et al. (2006) and Salas et al. (2002) indicated there is a need for more research to measure the use of learning modalities and student satisfaction.

On the other hand, Oliver (1999) defined student learning satisfaction as the total individual subjective evaluation and experience of a service, and the gap between what was expected and what was received from teachers. The complexity of a student's learning experience dictates the need for researcher to develop an understanding of the factors that affect student satisfaction in the conduct of blended teaching-learning (Jurkowitsch, Vignali, and Kaufman, 2006). This research is needed to identify the student learning satisfaction in the conduct of the blended teaching-learning modality in school to learn how to better serve their clientele (Appleton–Knapp and Krentler, 2006). Kara and DeShields (2004) indicated that evaluating the expectations and needs of students will improve student learning satisfaction.

The findings of this study will be important because may serve as scientific ground for the stakeholders, curriculum planners and designers in curricular programs assessment and evaluation. This study also aims to provide information on how the stakeholders help in the conduct of the blended teaching-learning this time of pandemic. Finally, it will be beneficial to the basic education because it can add to the growing researches regarding the level of learners' learning satisfaction, degree of seriousness of challenges met of learners in the blended teaching-learning and the extent of stakeholders support in blended teaching-learning modality this time of COVID-19 pandemic. From there, Educational planners are encouraged to

further conduct researches of similar nature but with broader depth and breadth.

II.   REVIEW OF RELATED LITERATURE

The Department of Education (DepEd) has mandated that Philippine education institutions must both develop a Learning Continuity Plan (LCP) to respond to the challenges posed by the Covid-19 pandemic and come up with a school plan that will meet the minimum health standards as determined by DOH's risk-based public health standards (DOH AO No.0015, 2020). This initiative is part of an effort to protect the safety of students, staff, and school employees and is in line with the DOH and WHO's health protocols (DepEd Order Nos. 2, 2020). All of this must be fulfilled for the successful opening of the 2020-2021 school year (DepEd Order No. 14, 2020).

- Learning Continuity Plan

Per DepEd Order Nos. 12 and 13 s. 2020, the LCP contains two major parts: the rationale and the operationalization home-based learning through modular, blended or a combination of modular and online (synchronous and asynchronous learning platform). The rationale indicates the nature of the school which include government recognition or permit number, accreditation, and its classification whether small, medium or big school. The numbers of currently enrolled students are included. This part shows the drastic decrease on the number of current enrolment in most of the private basic education institutions as compared to the data of the past two years. This is because most of the students transferred to the public schools. It was clearly stated by DepEd Secretary Briones in the interview conducted by Rappler on 08 July 2020 that the transfer of students to public schools is due to the economic downturn. Parents who used to send their child in the private schools have lost their jobs during the pandemic. In addition, almost 200,000 students from private schools had transferred to public schools.

- Flexible Teaching-Learning Modality (Platform)

In the light of the new normal, the second part of the Learning Continuity Plan is the operationalization of home-based learning (Nardo, 2020). This has necessitated an overhaul of the learning delivery mode to incorporate digital learning environments.

However, many academic institutions lack the resources required, thus necessitating a blended approach (Lawless, 2019) a combination of synchronous and asynchronous teaching and learning modality and/or modular learning. According to the Commission on Higher Education (CHED), this approach "ensures the continuance of inclusive and accessible education when traditional modes of teaching are not practicable, such as in national emergencies" (Magsambol, 2020). This radical transition to online classes or offline classes at home is challenging for the students accustomed to face to face teaching. To make the change easier, these learners require proper orientation and familiarization to the new system (Magsambol, 2020). Additionally, parents and/or guardians are called upon to act as "para-teachers" to aid their children in adjusting to the new learning modality, understanding the lessons using their own pace (Nardo, 2020).

- Blended Learning

Independent learning that is based on constructivism theory, where students construct their own knowledge, is one way of teaching. Students in independent learning are given learning materials like modules, worksheets, and textbooks that support this process. This teaching modality is beneficial for those who are unable to attend regular face-to-face classes regularly (Finol, 2020; Elliott, 2000). Similarly, the blended learning approach that combines online and traditional teaching strategies allows a greater level of autonomy and trust for students (Gardiner, 2020). Through blended learning, teachers are able to provide educational content to students, whether they have access to the internet or not. Administrators can also create email accounts for students to facilitate communication. Effective implementation of this approach, however, requires a well-crafted syllabus record, as well as effective communication with students (Gardiner, 2020). This adaptation works especially well during the COVID-19 pandemic, which has led to it becoming the "new normal".

- Technological,   Pedagogical,   and   Content Knowledge (TPACK) Model

Although the incorporation of digital and networked technologies could substantially alter the blended teaching-learning modality, limited teacher expertise in this arena has resulted in the use of technology

principally for "efficiency of aids and extension devices" (McCormick and Scrimshaw, 2021). Shulman (2001) recognized appropriate flexible teaching-learning techniques must be developed to effectively teach a subject and proposed pedagogical content knowledge (or PCK) as an amalgamation of content and pedagogy. Mishra and Koehler (2011) built on this concept by introducing the technological, pedagogical, and content knowledge (TPACK) framework, which consists of content knowledge, pedagogical knowledge, and knowledge of technology. Research has established the efficacy of this framework across multiple teaching environments such as online and blended instruction and face to face learning (McCormick and Scrimshaw, 2021).

- Student Learning Satisfaction

The need to implement safety protocols due to the COVID-19 pandemic has led to the implementation of blended teaching-learning approaches globally (Taha et al, 2021). The literature reflects the numerous advantages such methodologies offer, such as providing convenient access to knowledge, maintaining content standards, allowing for personalized instruction, and providing an interactive experience for learners (Cardozo, 1965; Garratt-Reed, 2016). Learning satisfaction theory suggests that students are consumers of education, and are entitled to select the educational institution they prefer (Sibanda et al., 2015). Besides, such theory identifies factors which may favour academic performance such as support from external and internal stakeholders (DeBourgh, 2003; Lado et al., 2003), the availability of learning resources (Fredericksen et al., 2000), the interactions between students, school administration and the community (Malik et al., 2010; Martínez-Argüelles et al., 2016).

Interestingly, Kara, Deshields and Kaynak (2014) used Herzberg's Two-Factor Theory of Motivation to determine learning satisfaction of students and found out that there is a direct relationship between the motivation and satisfaction of students. Likewise, satisfied students tend to be more productive, creative and committed to their school tasks whether face to face or virtual requirements (Bolliger, 2021). In addition, considering student learning satisfaction in a traditional learning environment, Cao, Griffin and Bai (2009) linked constructivism wherein learning occurs

through interaction which interaction had a strong effect on student learning satisfaction especially in virtual classes with synchronous platforms accessing online tools, asynchronous platforms through offline resources and modular in the context of printed materials (Wang, 2020).

Moreover, Bandura's (2012) social cognitive theory also linked in the student learning satisfaction because of its self-regulated process in blended teaching-learning. This is confirmed in the study conducted by Zimmerman and Schunk in 2011 which states that self-regulated learning helps learners to systematically and actively attain their personal goals and increase satisfaction towards learning. As such, it involves an individual's use of cognition, behaviour, and affects to sustain this pursuit. Nonetheless, the social cognitive theory explains individual learning, development, acquisition of knowledge, and self-regulated competency within a social context, in which parents, peers, and teachers play a significant role as social models. Social cognitive theory research has been of interest to educators, parents, and policymakers because of its explanatory power in understanding human development, its practicality, and its applicability to learning.

Similarly, Thurmond and Wambach (2004) used SERVQUAL marketing theory to measure student satisfaction. A similar marketing approach is taken by that describes student learning satisfaction as a concept that reflects outcomes and reciprocity that occur between students and teachers. This is associated because the students are compared to a customer that is being treated by the teacher as service provider. In this study, it adopts the definition of student learning satisfaction as the perception of enjoyment and accomplishment in the learning environment (Sweeney & Ingram, 2001) such that satisfaction is perceived to result from a generally easy access and navigation through different well-supported and well-provided learning resources whether synchronous, asynchronous or modular learning modalities that are enriching and relevant in the acquisition of knowledge and allows enjoyment through self-engaging learning activities.

III.   METHODOLOGY

A descriptive-evaluative design of research via a quantitative approach was used to describe, document, analyze, and interpret concepts about the implementation of the blended teaching-learning modality and students' contentment. Stratified random sampling was employed in this investigation, selecting four private schools in Baguio City and equally distributing 84 respondents between Grade 11 and 12 students. Of the participants, there were 83 males and 85 females, all of whom are in their senior high school years as it is the time when they are most accustomed to the blended teaching-learning modality which makes use of both online and offline learning materials. The survey questionnaire used in this study was adapted from that of Mishra and Koehler (2011).

IV.   RESULTS AND DISCUSSIONS

This study reveals that senior high school students are generally almost satisfied in their level of learning satisfaction when grouped according to sex in learning experience

Table 1. Level of Learning Satisfaction of Senior High School Students According to Sex in Learning Experience

LEVEL OF LEARNING SATISFACTION	Sex				T-value	Prob.
	Male	DE	Female	DE		
LEARNING EXPERIENCE						
1. My teachers developed my problem-solving skills through blended learning modality.	5.41	SS	5.68	AS	-1.5153^{ns}	0.1316
2. My teachers provided opportunities to ask questions in our learning packets and at the end of the recorded audio clip/ lecture videos, live lectures, printed text, virtual classroom, modules which we can easily access.	6.15	AS	6.36	AS	-1.5324^{ns}	0.1273
3. My teachers treated me with respect as I observed in our recorded videos, audio clips, printed learning packets, live lectures/webinars, and virtual classroom.	6.26	AS	6.33	AS	-0.4249^{ns}	0.6715
4. The way I was assessed was a fair test of my skills through the live/recorded webinars, video conferencing, virtual classroom, instant messaging and printed text (modules)	5.76	AS	6.20	AS	-2.7569^{**}	0.0065
5. My teachers communicated the subject content effectively through the recorded/ live lecture videos, and audio clips as well as in our learning packets.	6.06	AS	6.28	AS	-1.7213^{ns}	0.0871
6. My teachers had a thorough knowledge of the subject content based on the printed text and/or recorded lecture videos, webinars, live lectures, virtual classrooms which we can easily adapt and apply in our day-to-day tasks.	6.12	AS	6.28	AS	-1.0669^{ns}	0.2877
7. My teachers understood my learning needs by providing tasks that can be easily access in the live lectures, webinars, virtual classrooms, recorded lecture videos and audio clips and printed learning packets and can be accomplished on time.	5.88	AS	5.99	AS	-0.6991^{ns}	0.4855
8. The lesson content in the recorded/live lecture video, emails, virtual classrooms, audio clips and in learning packets (modules) are relevant, interesting and can be accessed anytime, anywhere.	6.06	AS	6.01	AS	0.3018^{ns}	0.7632
9. There are interesting lesson contents to work with different online/offline technologies which include live/ recorded video, video conferencing (Zoom/ Google Meet), live streaming (Facebook live, YouTube live etc.), in printed learning packets (modules).	5.73	AS	5.97	AS	-1.4158^{ns}	0.1587
10. There are sufficient contents in the different online/offline technologies which include live/ recorded video, video conferencing (Zoom/ Google	5.83	AS	6.00	AS	-1.1998^{ns}	0.2320

Meet), live streaming (Facebook live, YouTube live etc.), in printed learning packets (modules) which allows me to fully understand and connect with the lesson and apply it in the real life.

		OVERALL WEIGHTED MEAN (OWM)	5.93	AS	6.11	AS	-1.4562[ns]	0.1473

Legends: **ns**- not significant   *-significant at 5%   **- highly significant at 1%

Statistical Limit:

Numerical Rating	Descriptive Rating	
6.50-7.00	Completely Satisfied	CS
5.50-6.49	Almost Satisfied	AS
4.50-5.49	Somewhat Satisfied	SS
3.50-4.49	Neither Satisfied Nor Dissatisfied	N
2.50-3.49	Somewhat Dissatisfied	SD
1.50-2.49	Almost Dissatisfied	AD
0.00- 1.49	Completely Dissatisfied	CD

with overall weighted means of 5.93 for males and 6.11 for females. This means that the students felt that they have acquired some skills and knowledge that are just above the requirement. A closer look at the table shows that there is no bearing on the significance of the difference between male and female on learning experience with a t-value of -1.4562. This implies that male and female do not significantly differ in the level of student satisfaction in learning experience. Interestingly, it is notably seen that female students, have the highest level of learning satisfaction their learning of how they were assessed in a fair test of their skills utilizing live/recorded webinars, video conferencing, virtual classroom, instant messaging, and printed texts (modules).

Similarly, on the learning experience indicator for the level of learning satisfaction of male, it shows that male students are somewhat satisfied when their teachers developed problem-solving skills through blended learning modality with a mean of 5.41 lower than female which is 5.68. This result is interesting, and indicates that although females tended to have a higher level of perception in the way they are being assessed, such perception didn't seem to lead to an increased feeling of perceived level of learning satisfaction of the blended teaching-learning. Females achieved higher learning experience than males because they were more persistent and committed than males (Avila and Genio, 2020). Females had stronger self-regulation than males in terms of problem-solving skills in blended learning, which also led to higher learning experience than males (Casey and Wilson, 2005).

Also, the table reveals that female students have higher level of satisfaction than males with the highest mean of 6.36 in the indicator, 'teachers provide opportunities to ask questions in the students learning packets and at the end of the recorded audio clip/ lecture videos, live lectures, printed text, virtual classroom, modules which can be easily accessed by the students'. This implies that female students are more engaging and want to be more interactive. In contrast to the idea that female students were more reflective in their learning, and they appear less hesitant to engage in the blended learning classroom is the opposite because they felt they had more control over their learning and found a positive experience compared to face to face learning in similar academic setting. Similarly, in a study of Park and Bonk (2007) among 406 university students aged 18 to 39, it was shown that female students were more responsive to online learning than male students. This is true in the study of Kara, Deshields and Kaynak that women are more academically effective in the implementation of blended teaching-learning than men, and women are more interested in blended learning than males.

Table 2 shows that senior high school students are generally almost satisfied in their level of learning satisfaction when grouped according to sex in accessibility of learning resources with overall weighted means of 5.82 for male and 5.93 for female. This means that students were satisfied to have acquired skills and knowledge that are just above the requirement in terms of accessing learning resources. In this generation, students are very familiar to technology where they can learn on their own at their own pace. With blended learning, it made them almost satisfied because it reinforces their use of technology and allows them to discover their technological skills as they do their school requirements. Specifically, the

table shows that female students had the greatest mean of 6.23. This indicates that the teacher permits them to solve any technological issues they may have in accessing and utilizing recorded videos, email, blogs, and other e-learning platforms, as well as completing their

Table 2. Level of Learning Satisfaction of Senior High School Students According to Sex in the Accessibility of Learning Resources

LEVEL OF LEARNING SATISFACTION	Sex				T-value	Prob.
	Male	DE	Female	DE		
ACCESSIBILITY OF LEARNING RESOURCES						
11. I am fully aware and knowledgeable to use the different online and offline technological tools to aid me in studying the different lessons in our virtual classroom, live/ recorded videos, or even in our printed learning packets.	6.11	AS	5.88	AS	1.1781ns	0.2412
12. The different learning online or offline technology tools and printed learning packets (modules) helped me to develop the ability to plan my own work/ study in a way that I want to.	5.93	AS	6.15	AS	-1.3307ns	0.1851
13. The different learning modalities of my teacher allows me to solve any technical problems I may encounter in accessing and using the recorded videos, email, blogs and other e-learning platforms and in accomplishing our printed learning packets (modules)	5.93	AS	6.23	AS	-2.0143ns	0.0456
14. There are sufficient opportunities to work with different online technologies which include live/ recorded video, video conferencing (Zoom/ Google Meet), live streaming (Facebook live, YouTube live etc.), in printed learning packets (modules) that I can easily access anytime.	5.68	AS	5.89	AS	-1.3415ns	0.1804
15. As a result of these learning modalities, I feel more confident about tackling unfamiliar problems that I may encounter.	5.44	SS	5.49	SS	-0.2956ns	0.7679
OVERALL WEIGHTED MEAN (OWM)	5.82	AS	5.93	AS	-0.7596ns	0.4487

Legends: **ns**- not significant   *-significant at 5%   **- highly significant at 1%

Statistical Limit:

Numerical Rating	Descriptive Rating	
6.50-7.00	Completely Satisfied	CS
5.50-6.49	Almost Satisfied	AS
4.50-5.49	Somewhat Satisfied	SS
3.50-4.49	Neither Satisfied Nor Dissatisfied	N
2.50-3.49	Somewhat Dissatisfied	SD
1.50-2.49	Almost Dissatisfied	AD
0.00- 1.49	Completely Dissatisfied	CD

printed learning packets (modules) almost satisfy the respondents. This implies female students love to have the freedom to solve any technological issue as they access their learning packets in the different learning platforms. In the study of Muller et. al (2018) mentioned that female students have more exposures to the different learning resources as manifested in their time allotted in the accessing these resources. In addition, Dubey and Piroska (2019) highlighted that female students were more confident online than in face-to-face environments, were more willing to learn from other students, seek support, were more self-directed than men, and had a strong desire to be academically engaged. As a result, they tend to maximize the use of different online tools by accessing them more frequently than their male counterparts.

On the other hand, male students have the lowest means of 5.44 in the accessibility of learning resources specifically in the indicator that they feel more confident about tackling unfamiliar problems that they may encounter during the conduct of blended teaching-learning modality. This means that they are

somewhat satisfied and find resolving unfamiliar problems as enriching. This implies that male students are wired to specific pattern of study habits (Face to face study patterns) that gives them an impression to be confused in the study patterns in a blended teaching-learning classroom. This corroborates in the study Tuner (2020) that because male students are used to face-to-face learning, where teachers and learning materials interact directly, they found it more thought-provoking to use learning technology for class participation than their female counterparts. Although, male students are more inclined to adopt learning technology than female students, and this disparity is ascribed to the lack of a sex inclusive curriculum in the conduct of blended teaching-learning modality.

Table 3 shows the summary of the level of learning satisfaction of senior high school students according to sex. The hypothesis that there is no significant difference of students when grouped according to sex in the level of learning satisfaction is accepted. Comparing statistical results, it shows that there is no significant difference in the level of learning satisfaction of male and female students in senior high school in most of the indicators except for the way of assessment as a fair test of student skills through live/recorded webinars, video conferencing, virtual classroom, instant messaging, and

Table 3. Summary of the Level of Learning Satisfaction of Senior High School Students According to Sex

Level of Learning Satisfaction	Sex					
	Male	DE	Female	DE	F-Value	Prob.
Learning Experience	5.93	AS	6.11	AS	-1.4562[ns]	0.1473
Accessibility of Learning Resources	5.82	AS	5.93	AS	-0.7596[ns]	0.4487

Legend: **ns**- not significant *-significant at 5% **- highly significant at 1%

printed text (modules) which is highly significant at 1%. This implies that sex is not significant in influencing the level of learning satisfaction of students in their learning experience and their accessibility of learning resources.

As shown in the results, students' (no matter males or females) perceived level of learning experience and their accessibility of learning resources toward the blended class could significantly influence their level of learning satisfaction. Because of the reduced face-to-face class meeting time and use of blended learning, it is common to expect that students need to take more effort to get familiar with and make effective use of the blended learning environment. Male students overcome their initial low perception of learning experience and accessibility of learning resources compared from female students through a strong commitment in learning, thus leading to the same level or even better performance than female students (Amadora, 2020). Consistently, Adonis (2020) found that female students' level of learning satisfaction were slightly higher than males', for the reason of higher exposures to blended learning activities like computer usage.

This corroborates with the study of Quinones (2020) that since blended teaching-learning encourages self-directed learning among students regardless of sex, the students have a greater control over their learning through a variation of learning approaches and interactions which makes them satisfied about their learning. Moreover, Wang (2020) stated that in the conduct of blended teaching-learning, students regardless of sex (male or female) were observed to have higher level of learning satisfaction compared to face to face learning because it is more of learner-centered, and support's the learner's increasing freedom and autonomy over learning. Notwithstanding with the suggested activities in the level of learning satisfaction, Alghamdi and Lepp (2020) espoused that there is no significant difference that have offset the sex in the learning experience and accessibility of learning resources in the senior high school, which lead to no significant sex differences revealed in the level of learning satisfaction of students.

- Level of Student Learning Satisfaction According to Grade Level

Table 4 reveals that senior high school students are generally almost satisfied in their level of learning

satisfaction when grouped according to grade level in learning experience with overall weighted means of 6.05 for Grade 11 and 5.96 for Grade 12. This means that as the students are content because blended learning let them acquired some skills and knowledge that are just above the requirement. This implies that regardless of grade level (Grade 11 and Grade 12) the level of learning satisfaction of the respondents are practically satisfied. As gleaned from the table, Grade 11 has a higher mean than Grade 12 with t-value of 2.3910 at 0.05 level of significance in the indicator, the lesson content in the recorded/live lecture video,

emails, virtual classrooms, audio clips and in learning packets (modules) are relevant, interesting and can be accessed anytime and anywhere. This means that Grade 11 students perceived they are more satisfied with the lesson content in the recorded/live lecture video, emails, virtual classrooms, audio clips and in learning packets (modules) embanking teachers' knowledge and skills in the delivery of these lesson contents. Nyerere, Gravenir and Mse (2012) elaborated that the knowledge teachers hold is enhanced through the use of various educational

Table 4. Level of Learning Satisfaction of Senior High School According to Grade Level in Learning Experience

LEVEL OF LEARNING SATISFACTION	Grade Level				T-value	Prob.
	Grade 11	DE	Grade 12	DE		
LEARNING EXPERIENCES						
1. My teachers developed my problem-solving skills through blended learning modality.	5.56	AS	5.50	AS	0.3265^{ns}	0.7444
2. My teachers provided opportunities to ask questions in our learning packets and at the end of the recorded audio clip/ lecture videos, live lectures, printed text, virtual classroom, modules which we can easily access.	6.31	AS	6.18	AS	0.9436^{ns}	0.3467
3. My teachers treated me with respect as I observed in our recorded videos, audio clips, printed learning packets, live lectures/webinars, and virtual classroom.	6.40	AS	6.18	AS	1.2775^{ns}	0.2033
4. The way I was assessed was a fair test of my skills through the live/recorded webinars, video conferencing, virtual classroom, instant messaging and printed text (modules)	5.95	AS	5.96	AS	-0.0727^{ns}	0.9421
5. My teachers communicated the subject content effectively through the recorded/ live lecture videos, and audio clips as well as in our learning packets.	6.21	AS	6.11	AS	0.8447^{ns}	0.3996
6. My teachers had a thorough knowledge of the subject content based on the printed text and/or recorded lecture videos, webinars, live lectures, virtual classrooms which we can easily adapt and apply in our day-to-day tasks.	6.17	AS	6.20	AS	-0.1592^{ns}	0.8737
7. My teachers understood my learning needs by providing tasks that can be easily access in the live lectures, webinars, virtual classrooms, recorded lecture videos and audio clips and printed learning packets and can be accomplished on time.	5.99	AS	5.87	AS	0.7894^{ns}	0.4310
8. The lesson content in the recorded/live lecture video, emails, virtual classrooms, audio clips and in learning packets (modules) are relevant, interesting and can be accessed anytime, anywhere.	6.24	AS	5.84	AS	2.3910^{*}	0.0179
9. There are interesting lesson contents to work with different online/offline technologies which include live/recorded video, video conferencing (Zoom/Google Meet), live streaming (Facebook live, YouTube live etc.), in printed learning packets (modules).	5.82	AS	5.86	AS	-0.2045^{ns}	0.8382

10. There are sufficient contents in the different online/offline technologies which include live/recorded video, video conferencing (Zoom/Google Meet), live streaming (Facebook live, YouTube live etc.), in printed learning packets (modules) which allows me to fully understand and connect with the lesson and apply it in the real life.	5.88	AS	5.93	AS	-0.3332^{ns} 0.7394
OVERALL WEIGHTED MEAN (OWM)	6.05	AS	5.96	AS	0.7248^{ns} 0.4696

Legends: ns- not significant   *-significant at 5%   **- highly significant at 1%

Statistical Limit:

Numerical Rating	Descriptive Rating	
6.50-7.00	Completely Satisfied	CS
5.50-6.49	Almost Satisfied	AS
4.50-5.49	Somewhat Satisfied	SS
3.50-4.49	Neither Satisfied Nor Dissatisfied	N
2.50-3.49	Somewhat Dissatisfied	SD
1.50-2.49	Almost Dissatisfied	AD
0.00- 1.49	Completely Dissatisfied	CD

technologies in delivering lesson contents in a blended teaching-learning classroom, emphasizing that in addition to assimilating academic knowledge, student teachers must also incorporate knowledge derived from experiential and practical experiences. In addition, Naik (2018) stated that variations in 'learning experience' among students is in the teachers' preparation of the lesson content with the use of different technologies are related to differences in student learning satisfaction which further affirmed by Warden et al (2013) that teachers from countries that are top performers in PISA and TIMSS tend to have more opportunities to learn contents, pedagogical contents and general pedagogies.

Further, the table reveals that Grade 12 students had the lowest mean of 5.50 in the indicator the teacher develops their problem-solving skills through blended learning modality. While lower in mean, Grade 12 still are satisfied in the provided activities to develop their problem-solving skills as part of their learning experience. In the study of Llego (2020), it was found out that lesson contents of Grade 11 in a blended learning classroom uses apps, games, or measurable programs to teach concepts congruent to content standards and performance tasks and allows students to engage the material at their own pace which makes it interesting and relevant for their grade level.

Comparing it with the learning contents of the Grade 12 that is research-based, students carry out researches in their progressions independently and with an open outcome and in turn develop their problems solving skills. Moreover, these learning experiences help the Grade 12 students to internalize and practice research conducts and methods, skills such as formulating a precise question and processing and monitoring a research process as required in most of their applied and specialized subjects (Nouri, 2019).

Also, as can be expected, Grade 11 subject content is more generalized while Grade 12 is more individualized. This can be attributed to the DepEd CAR Regional Memoranda No. 159 (2019) which explains the guidelines on the implementation of synchronized subject offerings in senior high school. As the memoranda discusses, Grade 11 learning contents are more focused in general core subjects unlike Grade 12 which draws more attention in the applied and specialized subject that make the learning contents less interesting for Grade 12 students.

Table 5 shows that senior high school students are almost satisfied in their level of learning satisfaction when grouped according to grade level in accessibility of their learning resources with overall weighted means of 5.88 for Grade 11 and 5.86 for Grade 12. Although, the level of learning satisfaction of students is generally almost satisfied, Grade 12 students have a lesser perception in the accessibility of learning resources with the lowest means of 5.37 specifically in having confidence in tackling unfamiliar problems that they may encounter than that of Grade 11 students (5.56). It implies that accessibility of learning resources as an indicator to level of learning satisfaction is still apt for Grade 12 students and it does not satisfy them to resolve unfamiliar problems regarding blended learning. Similarly, students are unprepared in terms of technology handling or accessibility issues for blended learning where most of

the academic activities happen via Zoom or Google meet without any dedicated online learning platform. Relative to this, Grade 12 students are exposed to a gigantic measure of pressure that originates from an excessive number of academic activities and execution errands compared to Grade 11 students. The outstanding task at hand is not really the issue; rather it is the constrained measure of time for these necessities to be fulfilled in accessing learning resources vis-à-vis level of learning satisfaction. In corroboration, Copeland (2021) concluded that learners' ages from 13-17 years old normally encounter unfamiliar problems in their age group due to transitional phase of childhood and adulthood. This disparity of access becomes a harbinger of academic stress most specially to Grade 12 students who would

Table 5. Level of Learning Satisfaction of Senior High School According to Grade Level in the Accessibility of Learning Resources

LEVEL OF LEARNING SATISFACTION	Grade Level				T-value	Prob.
	Grade 11	DE	Grade 12	DE		
ACCESSIBILITY OF LEARNING RESOURCES						
11. I am fully aware and knowledgeable to use the different online and offline technological tools to aid me in studying the different lessons in our virtual classroom, live/recorded videos, or even in our printed learning packets.	5.99	AS	6.03	AS	-0.2486^{ns}	0.8040
12. The different learning online or offline technology tools and printed learning packets (modules) helped me to develop the ability to plan my own work/study in a way that I want to.	5.92	AS	6.14	AS	-1.4128^{ns}	0.1596
13. The different learning modalities of my teacher allows me to solve any technical problems I may encounter in accessing and using the recorded videos, email, blogs and other e-learning platforms and in accomplishing our printed learning packets (modules)	6.06	AS	6.07	AS	-0.0811^{ns}	0.9355
14. There are sufficient opportunities to work with different online technologies which include live/recorded video, video conferencing (Zoom/Google Meet), live streaming (Facebook live, YouTube live etc.), in printed learning packets (modules) that I can easily access anytime.	5.87	AS	5.68	AS	1.1925^{ns}	0.2348
15. As a result of these learning modalities, I feel more confident about tackling unfamiliar problems that I may encounter.	5.56	AS	5.37	AS	1.0668^{ns}	0.2876
OVERALL WEIGHTED MEAN (OWM)	5.88	AS	5.86	AS	0.1369^{ns}	0.8913

Legends: **ns**- not significant   *-significant at 5%   **- highly significant at 1%

Statistical Limit:				
			4.50-5.49	Somewhat Satisfied	SS
			3.50-4.49	Neither Satisfied Nor Dissatisfied	N
Numerical Rating	Descriptive Rating		2.50-3.49	Somewhat Dissatisfied	SD
			1.50-2.49	Almost Dissatisfied	AD
6.50-7.00	Completely Satisfied	CS	0.00- 1.49	Completely Dissatisfied	CD
5.50-6.49	Almost Satisfied	AS			

find themselves unable to avail learning resources or submit their assignments and other academic activities.

Table 6 shows the summary of the level of learning satisfaction of senior high school students according to grade level. In comparison, there is no significant difference in the level of student learning satisfaction according to grade level therefore, the hypothesis is accepted. This implies that grade level (Grade 11 or Grade 12) is not significant in influencing the level of learning satisfaction of students in their learning experience and their accessibility of learning resources. This is also consistent with the goals of blended teaching-learning modality which is to shape an independent learner to study at their own pace, own time and own place. The study of Taha et. al. (2021) discussed that all grade levels where flexible teaching-learning is being implemented, shows positive level of satisfaction in their learning. This is so because of the free and always available learning resources which can be accessed anytime and anywhere

Table 6. Summary of the Level of Learning Satisfaction of Senior High School Students According to Grade Level

Level of Learning Satisfaction	Grade Level					
	Gr. 11	DE	Gr. 12	DE	F-Value	Prob.
Learning Experience	6.05	AS	5.96	AS	0.748^{ns}	0.4696
Accessibility of Learning Resources	5.88	AS	5.86	AS	0.1396^{ns}	0.8913

Legend: **ns**- not significant *-significant at 5% **- highly significant at 1%

in favour for the learners in all grade levels. Additionally, it was explored that students' level of learning satisfaction is not grade level related. Thus, there was not a statistically significant difference in the level of learning satisfaction of grade 11 and grade 12 students. However, the descriptive results show that the level of learning satisfaction of grade 11 towards the conduct of blended teaching-learning are slightly higher than that of grade 12 ones. Nevertheless,

Sibanda et. al (2015) found out that the high level of learning satisfaction of students is caused by their self-directed learning by allowing the learners be in control of their own learning. It also implies that, all learners regardless of grade level revel in the different flexible teaching-learning this time of COVID-19 pandemic. The implication of these results redounds to the emphasis on the importance of increasing students' level of learning satisfaction in the conduct of blended teaching-learning modality.

V. FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

- Findings
1. For either group of respondents (teaching experience, subject taught and grade level handled), the extent of implementation of the blended teaching-learning modality in teaching senior high school is found to be moderately implemented. Further, the extent of implementation of blended teaching-learning modality in senior high school when grouped according to subject taught and grade level handled showed no significant difference except for teaching experience.
2. The level of satisfaction of senior high school students when grouped according to grade level and sex is found to be almost satisfied. Moreover, no significant differences in the responses of the students were found to be present for both groups.

- Conclusions
Based on the findings and summary, the following conclusions were drawn:
1. Teachers deemed recognition of blended learning modality, (combination of online learning and modular learning) as most relevant and useful modality in teaching this time of COVID-19 pandemic. Younger teachers as to years of teaching are more dynamic in their extent of implementation of the blended teaching-learning modality along technological knowledge. On the other hand, there is a consistent implementation of the blended teaching-learning across grade level and subjects taught.
2. Generally, senior high school students are almost satisfied in the implementation of teaching-learning modality. Besides, females are more

satisfied in their learning using blended teaching-learning modality than males in terms of assessment of learning. Besides Grade 11 students are more satisfied with the use of recorded and audio-visual materials.

- Recommendation

Based from the findings and conclusions, the following recommendations are respectfully presented:

1. School administrators may perform a needs assessment to determine the teachers' competency in the conduct of blended teaching-learning modality in order to develop appropriate intervention programs for competence.
2. Schools implementing blended teaching-learning modality may adopt a proposed training design to have a better and deeper implementation of blended teaching-learning modality.
3. Schools are encouraged to conduct orientation and training on blended teaching-learning using ICT to students. Modules may be supported by audio-visual recordings.
4. School may also organize an internal accreditor to check and validate learning resources hand-in-hand with the teachers whether in print (modular) or it is accessed online to ensure the quality of learning resources and to lessen the challenges that the students may encounter during the conduct of blended teaching-learning modality. Schools may strengthen linkages with other agencies and support system to maximize the provision of different support in the conduct of blended teaching-learning modality.
5. Teachers may explore innovative methods to use technology-based teaching-learning modalities to engage students in a variety of activities and meet their learning requirements, which can only be satisfied through the use of another blended teaching-learning modality. Technology-based teaching approaches can be used by teachers.
6. Different support systems are encouraged to sustain and strengthen the implementation of blended teaching-learning modality.
7. Further studies on the students learning satisfaction and stakeholders support to blended teaching-learning modality in broader depth and breadth, and different methodology are initiated by other researchers so as to explore and answer besetting

questions about student learning satisfaction and flexible teaching-learning

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