

# LEARNING STRATEGIES AND READINESS TOWARDS BLENDED LEARNING IN ENGLISH SUBJECTS AS PREDICTORS OF STUDENTS' SATISFACTION DURING THE COVID-19 PANDEMIC

---

## ABSTRACT

This study aimed to determine the learning strategies and readiness towards blended learning in English subjects and their relationship with the satisfaction of senior high school learners during the COVID-19 pandemic. Using a descriptive-correlational research design, a total of 174 senior high school students of a secondary education institution in Davao City, Philippines, were surveyed using standardized questionnaires. In retrospect to the mandate of the IATF on the classification of Davao City, whereby physical and/or face-to-face survey conduct is not feasible, the researcher conducted an online survey. The data was analyzed using the mean, standard deviation (SD), Pearson product-moment correlation, and simple and multiple linear regression. The findings revealed that the level of learning strategies, readiness towards blended learning, and satisfaction of learners was high. Both learning strategies and blended learning readiness are significantly ( $p=0.000$ ) positively correlated with student satisfaction. Students who have better learning strategies and are more prepared for blended learning tend to be more satisfied with it. Both factors also individually have a significant ( $p=0.000$ ) positive influence on satisfaction. This suggests that each factor on its own contributes to higher satisfaction. Even when considered together, both factors still significantly ( $p=0.000$ ) influence satisfaction. This indicates that they both play independent roles in determining student satisfaction.

*Keywords: Learning strategies; Readiness; Blended learning; English; Students' satisfaction; COVID-19 pandemic; Philippines.*

## 1. INTRODUCTION

The coronavirus disease 2019 (COVID-19) has caused most education institutions worldwide to close in late March 2020 to avoid its transmission [1]. Because of this closure, blended learning approaches have been adopted, and instruction delivery to students has been greatly reshaped [2]. However, adopting blended learning posed challenges to various education sectors, including basic education, especially in teaching English subjects [3].

While blended learning is not a new pedagogical method used for many years in various fields, basic education institutions are still not ready to implement blended learning platforms [4]. In Asian countries such as Saudi Arabia, blended learning is not widely implemented across the school systems [5]. In Southeast Asia, blended learning is not generally embraced as one of the primary approaches in delivering instruction [6].

In teaching English subjects, blended learning has been a common mode of instruction in English as a Second Language (ESL) courses [7]. These courses are offered online to students in non-native English-speaking and developed countries such as China, Japan, and South Korea [8]. However, English subjects are normally taught face-to-face in basic education institutions in less economically developed countries such as the Philippines [9].

Studies show learners still have poor English literacy skills [10, 11]. This daunting concern, coupled with the unprecedented changes in the learning delivery because of the COVID-19 pandemic, warrants further study to determine appropriate strategies and devise educational programs to address English learning and teaching difficulties, especially during the era of COVID-19.

At the onset of the COVID-19 pandemic in the Philippines, teachers were given limited blended learning options, including live lectures, recorded video lectures, voice-over demonstrations, and picture-in-picture presentations to deliver the rest of their required instruction [12]. With the latest growth in online learning and integrating technology in teaching in the Philippines, exploring what underpins the students' readiness to integrate blended learning and their satisfaction level towards blended learning delivery is indispensable.

Research has identified numerous critical challenges thought to affect blended learning. Such challenges include teachers' assessments of learners' academic integrity, cyberstalking and cyberbullying, lack of internet access, low quality of online instructional delivery, cost control, individual learning, lack of professional technological training, tool inaccessibility, and technical issues [13]. Additional challenges are related to the teachers' adaptability skills to customize lectures for online learning, learn to monitor learners' synchronous or asynchronous collaboration, and design authentic online assessment tools that accompany the transition to the online platforms from face-to-face sessions [14]. Thus, blended learning delivery necessitates various skills, including pedagogical, design, technical, and communication skills [15]. Existing literature shows that case studies, storytelling, streamed videos, discussion groups, and bulletin boards are examples of effective communication techniques and are the critical foundation of blended learning [16].

Research has shown approaches to cope with distance learning more efficiently, including preferences of instruction and multidimensional approaches [17]. These approaches manage cognitive and emotional difficulties such as readiness and satisfaction. A series of recent studies have indicated that most learners perceive customized or personalized video lectures as useful resources that supplement their learning—these results aid teachers in comprehending how to use video to guide learners' development [18,19]. The inclusion of various technological tools plays a significant role in stimulating the blended learning environment and encouraging critical thinking in collaborative interaction [20]. The learners' preferences in instruction using these tools have been shown to influence the level of satisfaction towards blended learning [21]. Meanwhile, the students' readiness to utilize varied blended learning tools directly affected how learners were satisfied with the different blended learning options offered by the school [22].

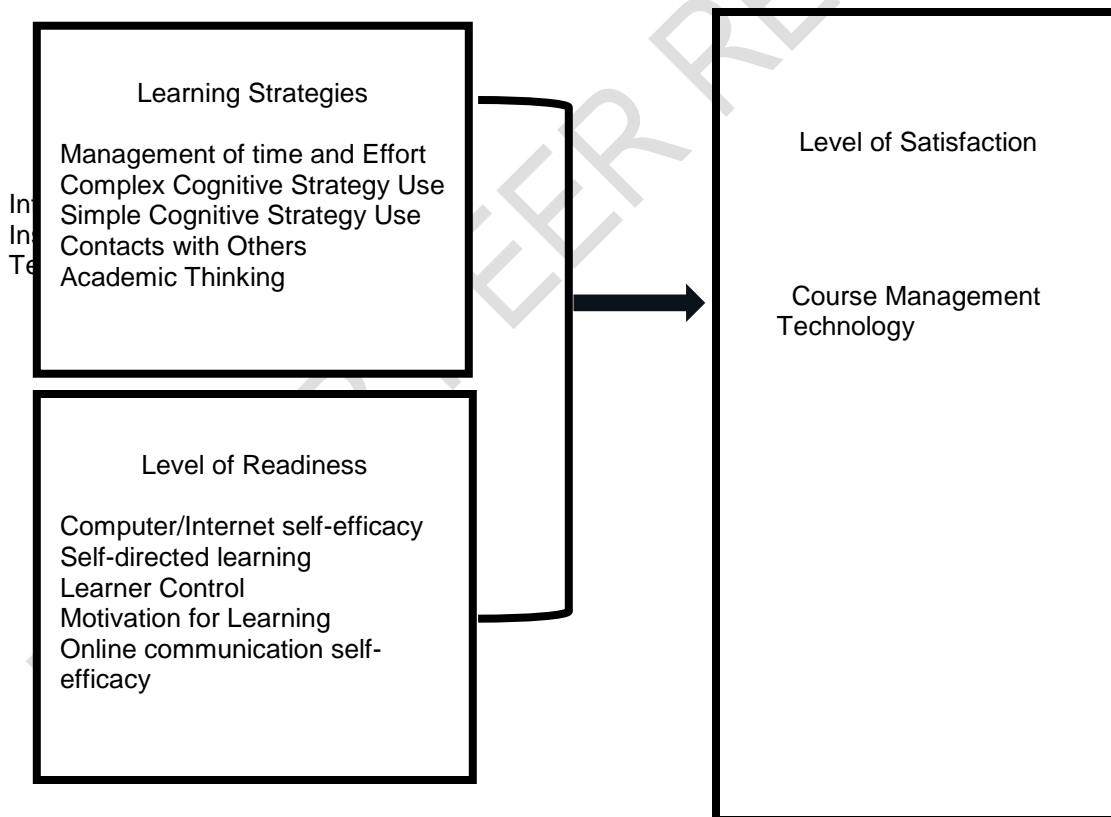
In order to improve the satisfaction of the learners in the implementation of blended learning amidst the pandemic, the Department of Education (DepEd) is fully engaged in readying its operations based on the Basic Education-Learning Continuity Plan (BE-LCP), from the Central Office down to the school level. Hence, blended learning delivery modes are continuously applied to continue the delivery of instruction among learners [12].

Researchers have defined blended learning as any instruction combining classroom and online learning [23, 24]. Graham [25] describes blended learning as models combining face-to-face and computer-mediated instruction. Recent studies also prove blended learning is superior to traditional methods in delivering specific course outcomes. This is why the Department of Education has fully embraced digital education by educating, simplifying, and monitoring to enhance the current status of classroom instruction. Some imminent challenges the DepEd may encounter when implementing its blended learning program

include developing technological capacity, allocating financial resources, adjusting institutional contexts accordingly, and changing educators' and students' mindsets and behaviors.

English is one of the difficult subjects at both the elementary and secondary levels of education in the Philippines. Even before the pre-COVID-19 era, this subject has been the source of teaching and learning difficulties in educational institutions. Previous studies demonstrated that teachers' preferences for English instruction play a major role in honing students' abilities in learning English. Being an English teacher in a senior high school in Davao City, the researcher is in a dilemma of determining what effective learning options would suit every learner that would sustain their satisfaction despite the absence of a traditional face-to-face teaching method. Therefore, the researcher developed this study to determine the learning strategies and readiness towards blended learning in English subjects and their relationship with the satisfaction of senior high school students during the COVID-19 pandemic.

## 1.2 Conceptual Framework



**Figure 1 – Conceptual Framework of the Study**

The schematic diagram presented in Figure 1 demonstrates the interplay between variables. The study aimed to determine learning strategies and readiness towards blended learning in English subjects and their relationship with the satisfaction of senior high school students

during the COVID-19 pandemic. The independent variables of the study were the learning strategies in terms of management of time and effort, complex cognitive strategy use, simple cognitive strategy use, contacts with others, and academic thinking; and readiness towards blended learning in English subjects in terms of computer/Internet self-efficacy, self-directed learning, learner control, motivation for learning, and online communication self-efficacy. Meanwhile, the dependent variable included learners' satisfaction levels in terms of interaction, instruction, teacher, course management, and technology. It was hypothesized in the paper that learning strategies and readiness towards blended learning in English subjects are related to the satisfaction of senior high school students during the COVID-19 pandemic

## **2. METHODOLOGY**

### **2.1 Research Design**

This quantitative study explored senior high school students' learning strategies, readiness for blended English learning, and their satisfaction during the COVID-19 pandemic. Using a non-experimental survey design, questionnaires assessed self-reported strategies, blended learning readiness, and satisfaction. A descriptive-correlational approach then examined relationships between these variables. The study was conducted in a private secondary school annex in Davao City during the 2020-2021 school year.

### **2.2 Research Respondents**

A total of 174 senior high school students were included in the secondary education institution under study. This sample size was calculated using Slovin's formula with 316 population size, 95% confidence interval, and 5% margin of error. The inclusion criteria were used to make the sample as homogeneous as possible. First, the student must be enrolled in the secondary education institution for School Year 2020-2021. Second, the student must have at least one enrolled English subject. All selected students were trained on the use of blended learning modalities before the start of the school year. Stratified random sampling was used in this study, which involves dividing a population into smaller sub-groups formed based on members' shared attributes or characteristics. Since the population under study has varied characteristics, this sampling technique will obtain a sample that best represents the studied population. In this study, the population can be divided into two phases. Phase 1 will allow the students to be divided into Grade 11 and Grade 12 levels. Phase 2 will further divide each student into four academic strands: the ABM, HUMSS, STEM, and TVL. These two phases of sample division are necessary to ensure an equal representation of samples in each academic strand per grade level. As the study focused on senior high school students, only students in Grades 11 and 12 were included. Lower-grade students were excluded because they are considered junior high school students. Table 1 represents the distribution of respondents by grade level and strand.

**Table 1.**Distribution of Respondents by Grade Level and Strand

| Grade Level | Academic Strand | N   | %    | Desired Sample Size |
|-------------|-----------------|-----|------|---------------------|
| Grade 11    | ABM             | 32  | 10%  | 18                  |
|             | HUMSS           | 29  | 9%   | 16                  |
|             | STEM            | 69  | 22%  | 38                  |
|             | TVL             | 12  | 4%   | 7                   |
| Grade 12    | ABM             | 39  | 12%  | 21                  |
|             | HUMSS           | 25  | 8%   | 14                  |
|             | STEM            | 84  | 27%  | 46                  |
|             | TVL             | 26  | 8%   | 14                  |
| TOTAL       |                 | 316 | 100% | 174                 |

### 2.3 Research Instrument

The study utilized standardized **adapted** questionnaires to gather data based on the problem statements. The questionnaire is composed of three parts. The first part determined the learning strategies of the respondents. The items were taken from the Motivated Strategies for Learning Questionnaire (MSLQ) developed by Meijs et al. [29] and applied to blended learning students. Moreover, the second part measured the respondents' readiness towards blended learning. The items were taken from the Learner Readiness for Blended Learning Scale developed by Hung et al. [30]. Additionally, the third part of the questionnaire measured the students' satisfaction with blended learning delivery during the COVID-19 pandemic. The items were taken from the Student Satisfaction with Blended Learning Scale developed by Abou Naaj et al. [31].

The survey questionnaire was submitted to the five validators for comments, suggestions, and improvement both in content and format. After the experts reviewed the questionnaire, this was finalized, incorporating the corrections made. After the survey questionnaire was finalized, it underwent pilot testing to identify and rectify problems prior to the study's conduct and to provide an indication of the response rate. **A Cronbach's alpha of 0.891 was obtained after the pilot test, indicating excellent internal consistency and suggesting reliability of the tool. After the pilot test, the study underwent minor modifications to better align with its objectives and target respondents. For example, certain items deemed inapplicable to the local setting were adapted to ensure contextual relevance.**

### 2.4 Data Gathering

In retrospect to the mandate of the IATF on the classification of Davao City, whereby physical and/or face-to-face survey conduct is not feasible, the researcher conducted an online survey.

In conducting an online survey, the respondents were informed of the purpose of the study, the risks and benefits of participation, and the method of collecting data that would uphold utmost confidentiality and anonymity. In online surveys, it is deemed that if respondents proceed to the survey and complete it, it constitutes consent already. In case the respondents needed a soft copy of the informed consent, they were given an informed consent form via email.

The questionnaires were sent to the respondents of the participating secondary education situation and these were retrieved online via Google Forms. An individual email was sent

containing the link to the online survey. The respondents were able to access the questionnaire directly. Only the researcher will have access to the password-protected online survey questionnaire to ensure utmost confidentiality. One-hundred percent of the respondents answered the questionnaire delivered electronically.

A debriefing method was ensured after the respondents had completed the survey. This was done by showing a debriefing page which includes a word of gratitude from the researcher; the researcher's contact information for possible queries and/or clarification from the respondents; an option for the respondents' right to withdraw from participation; and a final option to give voluntary participation and use of data by clicking the page's options "I agree button" and "submit data online". The debriefing method also serves to confirm that students completed the questionnaires independently and without undue influence from others, such as their parents at home.

Data in laptops was also backed up daily to secure against loss. The laptop used in this project should install antivirus software to secure access to data. As for data sharing, the raw data generated was confined to the researcher's sole authority, and non-disclosure of the respondents' identities was ensured. After obtaining the necessary data, they were analyzed appropriately using statistical tools.

## 2.5 Data Analysis

This study utilized various statistical tools to analyze different aspects of the research. Firstly, the Mean was employed to determine the level of learning strategies, readiness towards blended learning in English subjects and to determine the students' satisfaction during the COVID-19 pandemic. Secondly, the Pearson Product-Moment Correlation was used to determine the significant relationship between learning strategies, readiness towards blended learning in English subjects and students' satisfaction with the delivery of blended learning during the COVID-19 pandemic. Lastly, Simple and Multiple Linear Regression were used to determine the significance of the singular and combined influence of learning strategies in English subjects and readiness in integrating blended learning delivery on the satisfaction towards blended learning. All interpretations were based at  $\alpha = 0.05$  level of significance using a two-tailed test. SPSS Version 23 was used to analyze the collected data.

## 3. RESULTS AND DISCUSSION

### 3.1 Level of Learning Strategies of Students in English Subject

**Table 2.** *Level of Learning Strategies of Students in English Subject*

| <b>Learning Strategies</b>     | <b>SD</b>   | <b>Mean</b> | <b>Descriptive Level</b> |
|--------------------------------|-------------|-------------|--------------------------|
| Management of Time and Effort  | 0.53        | 3.88        | High                     |
| Complex Cognitive Strategy Use | 0.64        | 4.10        | High                     |
| Simple Cognitive Strategy Use  | 0.73        | 4.01        | High                     |
| Contacts with Others           | 0.67        | 3.94        | High                     |
| Academic Thinking              | 0.62        | 3.98        | High                     |
| <b>Overall</b>                 | <b>0.52</b> | <b>3.98</b> | <b>High</b>              |

Table 2 shows the mean distribution with SD and interpretation of the indicators of the level of learning strategies in English subjects. As shown, the overall mean of this variable is

3.98, which means that senior high school students have a high level of learning strategies in English subjects. All indicators of learning strategies were also rated high by the respondents.

Gardner emphasizes learning strategies for language acquisition and academic success [32]. Effective strategies include time/effort management, collaboration, complex cognitive strategies, and simple cognitive strategies [33, 34, 35]. Complex strategies involve planning, monitoring, and evaluating while reading [36, 37, 38]. Simple strategies are deliberate actions like underlining or rereading [39]. Collaborative learning promotes interaction and knowledge sharing, enhancing language skills [40, 41]. Academic thinking strategies like analysis and argumentation improve comprehension and performance [42, 43].

### 3.2 Level of Readiness in Integrating Blended Learning Delivery of the Students

**Table 3.** *Level of Readiness in Integrating Blended Learning Delivery of the Students*

| <b>Readiness in Integrating Blended Learning</b> | <b>SD</b>   | <b>Mean</b> | <b>Descriptive Level</b> |
|--|-------------|-------------|--------------------------|
| Computer/internet Self-efficacy                  | 0.69        | 4.06        | High                     |
| Self-Directed Learning                           | 0.70        | 3.88        | High                     |
| Learner Control                                  | 0.65        | 3.68        | High                     |
| Motivation for Learning                          | 0.68        | 4.12        | High                     |
| Online Communication Self-efficacy               | 0.75        | 3.81        | High                     |
| <b>Overall</b>                                   | <b>0.55</b> | <b>3.91</b> | <b>High</b>              |

Table 3 shows the mean distribution with SD and interpretation of the indicators of level of readiness in integrating blended learning delivery. As shown, the overall mean of this variable is 3.91, which means that senior high school students have a high level of readiness to integrate blended learning delivery. All indicators of readiness in integrating blended learning were also rated high by the respondents.

Effective blended learning demands student readiness, as highlighted by Graham's work [44] on digital literacy, self-directed learning, motivation, and communication skills. By offering personalized and flexible experiences [44, 45], blended learning requires students to possess confidence in using digital tools (computer/network self-efficacy) [46], ownership of their learning process (self-directed learning) [47, 48], persistent engagement fueled by motivation [49], and the ability to interact meaningfully online (online communication self-efficacy) [50]. Self-directed learners take initiative, set goals, and choose learning strategies [50, 51, 52], further empowered by web-based learning's flexibility in pace, sequence, and content choice [53, 54]. This learner control can enhance learning, as evidenced by theories like the Component Display Theory and the Elaboration Theory [55, 56, 57]. Motivation, a key factor in learning itself [49, 58, 59], underscores the importance of assessing student readiness to optimize blended learning outcomes.

### 3.3 Level of Satisfaction towards Blended Learning of the Students

**Table 4.** *Level of Satisfaction towards Blended Learning of the Students*

| <b>Satisfaction towards Blended Learning</b> | <b>SD</b>   | <b>Mean</b> | <b>Descriptive Level</b> |
|--|-------------|-------------|--------------------------|
| Interaction                                  | 0.63        | 3.57        | High                     |
| Instruction                                  | 0.55        | 3.68        | High                     |
| Teacher                                      | 0.62        | 3.84        | High                     |
| Course Management                            | 0.70        | 4.16        | High                     |
| Technology                                   | 0.71        | 4.11        | High                     |
| <b>Overall</b>                               | <b>0.54</b> | <b>3.87</b> | <b>High</b>              |

Table 4 shows the mean distribution with SD and interpretation of the indicators of the level of satisfaction towards blended learning. As shown, the overall mean of this variable is 3.87, which means that senior high school students have a high level of satisfaction with blended learning. All indicators of satisfaction towards integrating blending learning were also rated high by the respondents.

Blended learning benefits senior high school students by fostering interaction, collaboration, and active learning, leading to deeper understanding and a positive learning climate [44]. Learner-centered approaches, teacher support, efficient course management, and technology integration further enhance satisfaction and performance [44, 47, 61]. Collaborative tools and social interaction within these environments create meaningful learning experiences [62, 63, 64]. Student satisfaction correlates with better learning outcomes, completion rates, and grades [65, 66]. Notably, student satisfaction and academic achievement are independent of the delivery mode, showing similar results for both on-site and hybrid courses [67].

Studies indicate that teachers are the crucial element in student satisfaction with blended learning, particularly their availability, responsiveness, and flexibility in teaching [68, 69, 70, 71]. Beyond instruction, they serve as motivators and provide essential feedback, which should be prompt to keep students engaged [68, 72]. Additionally, research by Bonk and Graham [73] and Garrison and Vaughan [74] highlights the importance of well-organized course structures, clear communication channels, and effective assessment practices for student engagement and satisfaction. Furthermore, researchers [71] emphasize the necessity of administrative support and access to resources like textbooks, libraries, and technical support for online learners in blended settings. Effective course management plays a key role in optimizing student experience by ensuring content organization, navigation, communication channels, assessments, and feedback mechanisms are well-structured. This allows students to easily access materials, track progress, and interact with instructors and peers, ultimately fostering active participation and continuous improvement [74]. While technology offers unique learning opportunities in blended environments, access to reliable equipment and familiarity with the specific technology used are crucial for student satisfaction [65, 75]. Limited access or frustration with technology due to lack of familiarity or inadequate support can significantly hamper learners' success [76, 77].

### **3.4 Significance on the Relationship between variables**

**Table 5.** *Significance on the Relationship between variables*

| Variables   | r-value | Degree of Correlation | p-value | Decision (Ho) |
|---|---------|-----------------------|---------|---------------|
| Learning Strategies and Satisfaction towards Blended Learning                       | .689    | Moderate              | .000    | Reject        |
| Readiness in Integrating Blended Learning and Satisfaction towards Blended Learning | .724    | Moderate              | .000    | Reject        |

Studies investigating factors contributing to satisfaction with blended learning in English subjects found significant, moderate correlations with both learning strategies and readiness for blended learning delivery. Higher reported use of learning strategies correlated with increased satisfaction ( $r=0.689$ ,  $p=0.000$ ), echoing findings of Bailey [78] on student satisfaction in online courses. Similarly, increased readiness for blended learning delivery aligned with higher satisfaction ( $r=0.724$ ,  $p=0.000$ ), corroborating Topal's research [79] with university students. These results suggest that successful blended learning experiences may be fostered by equipping students with effective learning strategies and cultivating their readiness to integrate this learning approach.

### 3.5 Significance of the Single Influence of the variables

Table 6. Significance of the Single Influence of the variables

| Variables   | Model      | Sum of Squares | DF  | Unstandardized Beta ( $\beta$ ) Coefficient | R-square | p-value | Decision |
|---|------------|----------------|-----|---|----------|---------|----------|
| Learning Strategies in English Subject on the Satisfaction towards Blended Learning | Regression | 24.779         | 5   |   |          |         |          |
|   | Residual   | 25.129         | 168 | .716  | .490     | .000    | Reject   |
|   | Total      | 49.908         | 173 |   |          |         |          |
| Readiness in Integrating Blended Learning Delivery On                               | Regression | 27.872         | 5   |   |          |         |          |
|   | Residual   | 22.035         | 168 | .714  | .563     | .000    | Reject   |

|   |       |        |     |
|---|-------|--------|-----|
| the<br>Satisfaction<br>towards<br>Blended<br>Learning | Total | 49.908 | 173 |
|---|-------|--------|-----|

Both learning strategies in English subjects and readiness to integrate blended learning delivery significantly influenced senior high school students' satisfaction with this method ( $p < 0.001$ ). Students with strong English learning strategies and a positive attitude towards integrating technology into their learning reported higher satisfaction with blended learning. Similar to previous research, these findings highlight the importance of both cognitive and affective factors in shaping student experiences within blended learning environments [80, 81].

### 3.6 Significance of the Combined Influence of the variables

**Table 7.** Significance of the Combined Influence of Learning Strategies in English Subject (learning) and Readiness in Integrating Blended Learning Delivery (readiness) on the Satisfaction towards Blended Learning

| Model      | Sum of Squares | DF  | Unstandardized Beta ( $\beta$ ) Coefficient | R-square | p-value | Decision |
|------------|----------------|-----|---|----------|---------|----------|
| Regression | 29.221         | 2   | .522<br>(constant)                          |          |         |          |
| Residual   | 20.687         | 171 | .341<br>(learning)                          | .617     | .000    | Reject   |
| Total      | 49.908         | 173 | .487<br>(readiness)                         |          |         |          |

Table 7 shows that both learning strategies in English subjects and readiness in integrating blended learning delivery significantly influenced satisfaction with blended learning ( $p < 0.001$ ). Students with higher levels of these factors were more satisfied, while lower levels were associated with lower satisfaction. The study identified these factors as significant influences on satisfaction with blended learning among senior high school students. Studies have shown that effective learning strategies contribute to students' language proficiency and academic success, while readiness to utilize digital technologies enhances engagement and access to learning resources [44]. Blended learning environments, which combine face-to-face instruction with online components, provide students with diverse learning opportunities and foster active participation, resulting in increased satisfaction and positive learning outcomes [46, 60].

## 4. CONCLUSION

In summary, senior high school students have a high level of learning strategies in English subjects in terms of management of time and effort, complex cognitive strategy use, simple cognitive strategy use, contacts with others, and academic thinking. It means that the respondents often preferred the mentioned learning strategies in English subjects. Moreover, the senior high school students have a high level of readiness towards blended learning in English subjects in terms of computer/Internet self-efficacy, self-directed learning, learner

control, motivation for learning, and online communication self-efficacy. It means that the respondents were often ready to implement blended learning. Furthermore, senior high school students have a high level of satisfaction with learners in terms of interaction, instruction, teacher, course management, and technology. It means that the respondents were oftentimes satisfied with the delivery of blended learning during the COVID-19 pandemic.

The correlation between learning strategies in English subjects and satisfaction with blended learning obtained an r-value of 0.689, which is significant ( $p=0.000$ ) at a 0.05 alpha level of significance. Therefore, the null hypothesis is rejected. Meanwhile, the correlation between readiness in integrating blended learning delivery and satisfaction towards blended learning obtained an r-value of 0.724 which is significant ( $p=0.000$ ) at 0.05 alpha level of significance. Therefore, the null hypothesis is rejected. When the singular influence of the independent variables on the dependent variable was determined, learning strategies in English subjects ( $\beta=0.716$ ,  $p=0.000$ ) significantly influenced satisfaction towards blended learning. The level of readiness in integrating blended learning delivery ( $\beta=0.714$ ,  $p=0.000$ ) also significantly influenced satisfaction towards blended learning. When the combined influence of the independent variables on the dependent variable was determined, both the level of learning strategies in English subject ( $\beta=0.341$ ,  $p=0.000$ ) and the level of readiness in integrating blended learning delivery ( $\beta=0.487$ ,  $p=0.000$ ) significantly influenced satisfaction towards blended learning.

## **5. RECOMMENDATIONS**

Recommendations were created based on the findings and conclusions of the study. The students should be encouraged to utilize the mentioned learning strategies in English subjects to increase their satisfaction with blended learning. Moreover, the teachers of English subjects should use varied teaching-learning activities to cater to the diverse learning strategies of the students. In addition, they should initiate programs that will increase the students' readiness in the blended learning environment. Furthermore, the parents should participate in their child's education, especially in the utilization of appropriate learning strategies in English subjects. In addition, they should prepare their child for blended learning by providing the necessary resources to maximize their potential. Additionally, school administrators should support English subject teachers in the delivery of blended learning by conducting virtual seminars to enhance their teaching methodologies. By doing so, the students and parents will be satisfied with the delivery of blended learning during the COVID-19 pandemic, as the teacher is one of the crucial factors influencing their learning satisfaction. Lastly, future researchers should conduct similar studies exploring the learning strategies and readiness towards blended learning in English subjects and their relationship with the satisfaction of senior high school learners during the COVID-19 pandemic with more control over the research settings. In addition, future researchers should include other schools in the study to increase the generalizability of the study results.

## **CONSENT AND ETHICAL APPROVAL**

Prior to data collection, the researcher sought ethical approval from the Institutional Research Ethics Committee (REC). Following the receipt of ethical clearance from the REC, the researcher sent formal written permissions to the school division superintendent and the

administrators of the secondary education institution under the study. After the approval was sought, the researcher proceeded with disseminating the questionnaire.

## REFERENCES

1. Esposito S, Principi N. School closure during the coronavirus disease 2019 (COVID-19) pandemic: an effective intervention at the global level?. *JAMA pediatrics*. 2020 Oct 1;174(10):921-2.  
Available: <https://jamanetwork.com/journals/jamapediatrics/fullarticle/2766114>
2. Generalao J, Maruhom S, El-Hayek A, Calunod I, Pregoner JD, Alipio M. Stressors of Undergraduate Radiography Students during the COVID-19 Pandemic: Basis for Action Plan. *IMCC Journal of Science*. 2023 Jun 15;3(1):66-75.  
Available: <https://hal.science/hal-04240120/>
3. Torres R, Alipio M, Sudaria RE. Organizational, Teacher, and Administrative Determinants of Quality Improvement Implementation during COVID-19 Pandemic: Insights from a Higher Education Institution in Iligan City, Philippines. *IMCC Journal of Science*. 2021 Nov;1(Special):1-4.  
Available: [https://myjournal.imcc.edu.ph/publication/volume-1-special-issue-2021/1\\_torres-et-al-2021/](https://myjournal.imcc.edu.ph/publication/volume-1-special-issue-2021/1_torres-et-al-2021/)
4. Agung AS, Surtikanti MW, Quinones CA. Students' perception of online learning during COVID-19 pandemic: A case study on the English students of STKIP Pamane Talino. *SOSHUM: Jurnal Sosial Dan Humaniora*. 2020 Jul 31;10(2):225-35.  
Available: <https://ojs.pnb.ac.id/index.php/SOSHUM/article/download/1316/1456>
5. Linjawi AI, Alfadda LS. Students' perception, attitudes, and readiness toward online learning in dental education in Saudi Arabia: a cohort study. *Advances in medical education and practice*. 2018 Nov 22:855-63.  
Available: <https://www.tandfonline.com/doi/full/10.2147/AMEP.S175395>
6. Pasaribu TA, Dewi N. Indonesian EFL Students' Voices on Online Learning during COVID-19 through Appraisal Analysis. *LEARN Journal: Language Education and Acquisition Research Network*. 2021;14(1):399-426.  
Available: <https://files.eric.ed.gov/fulltext/EJ1284575.pdf>
7. Zhu N, Zhang D, Wang W, Li X, Yang B, Song J, Zhao X, Huang B, Shi W, Lu R, Niu P. A novel coronavirus from patients with pneumonia in China, 2019. *New England journal of medicine*. 2020 Feb 20;382(8):727-33.  
Available: <https://www.nejm.org/doi/full/10.1056/nejmoa2001017>
8. Abourizk R. *A Phenomenological Study of the Perceptions of ESL/EFL Students on Teacher Written Feedback* (Doctoral dissertation, Northcentral University).  
Available:  
<https://search.proquest.com/openview/0b38c5c095a4073a3173af076189e5fe/1?pq-origsite=gscholar&cbl=18750&diss=y>
9. Tupas FP, Linas-Laguda M. Blended Learning—An Approach in Philippine Basic Education Curriculum in New Normal: A Review of. *Universal Journal of Educational Research*. 2020;8(11):5505-12.  
Available: [https://www.academia.edu/download/64871627/UJER54\\_19517549.pdf](https://www.academia.edu/download/64871627/UJER54_19517549.pdf)

10. Prieto-Arranz JI, Jacob K. A Transcultural Approach to EIL teaching and its impact on learners' national identities. *Atlantis*. 2019 Dec 1;41(2):11-34.  
Available: <https://www.atlantisjournal.org/index.php/atlantis/article/view/563/295>
11. Saavedra A. Gender and Socio-economic Status: Revisiting its role on the English language Learning Motivation among Secondary Language-Specialized Students. Available at SSRN. 2022.  
Available: <https://journalppw.com/index.php/jpsp/article/download/3734/2436>
12. Adoption of the basic education learning continuity plan for school year 2020-2021 in the light of COVID-19 public health emergency [Internet].  
Available: <https://depedrizal.ph/2020/09/21/deped-order-no-12-s-2020/>
13. Rasheed RA, Kamsin A, Abdullah NA. Challenges in the online component of blended learning: A systematic review. *Computers & Education*. 2020 Jan 1;144:103701.  
Available:  
<https://medu.bjmu.edu.cn/cms/resource/100000/file/20211022%E6%96%87%E7%8C%AE1.pdf>
14. Boelens R, De Wever B, Voet M. Four key challenges to the design of blended learning: A systematic literature review. *Educational Research Review*. 2017 Nov 1;22:1-8.  
Available: <http://biblio.ugent.be/publication/8526490/file/8526491.pdf>
15. Albiladi WS, Alshareef KK. Blended learning in English teaching and learning: A review of the current literature. *Journal of Language Teaching and Research*. 2019 Mar 1;10(2):232-8.  
Available: <http://www.academypublication.com/issues2/jltr/vol10/02/jltr1002.pdf#page=20>
16. Allan B. *Blended learning: Tools for teaching and training*. Facet Publishing; 2007.  
Available: <https://westminsterresearch.westminster.ac.uk/item/91w3x/blended-learning-tools-for-teaching-and-training>
17. Hampton D, Pearce PF, Moser DK. Preferred methods of learning for nursing students in an on-line degree program. *Journal of Professional Nursing*. 2017 Jan 1;33(1):27-37.  
Available: <https://www.sciencedirect.com/science/article/pii/S8755722316301193>
18. Broadbent J. Comparing online and blended learner's self-regulated learning strategies and academic performance. *The Internet and Higher Education*. 2017 Apr 1;33:24-32.  
Available: <https://www.sciencedirect.com/science/article/pii/S1096751617300398>
19. Zhang M, Zhu J, Wang Z, Chen Y. Providing personalized learning guidance in MOOCs by multi-source data analysis. *World Wide Web*. 2019 May 15;22:1189-219.  
Available: <https://link.springer.com/article/10.1007/s11280-018-0559-0>
20. Al-Samarraie H, Saeed N. A systematic review of cloud computing tools for collaborative learning: Opportunities and challenges to the blended-learning environment. *Computers & Education*. 2018 Sep 1;124:77-91.  
Available: <https://desarrollodocente.uc.cl/wp-content/uploads/2020/03/1-s2.0-S0360131507000565-main.pdf>

21. Nortvig AM, Petersen AK, Balle SH. A literature review of the factors influencing e-learning and blended learning in relation to learning outcome, student satisfaction and engagement. *Electronic Journal of E-learning*. 2018 Feb 1;16(1):pp46-55.  
Available: <https://academic-publishing.org/index.php/ejel/article/download/1855/1818>
22. Ghaith O. *The impact of blended learning on female student-teachers in Kuwait* (Doctoral dissertation, Brunel University School of Sport and Education PhD Theses).  
Available: <https://bura.brunel.ac.uk/bitstream/2438/7628/1/FulltextThesis.pdf>
23. Friesen N, Lowe S. The questionable promise of social media for education: Connective learning and the commercial imperative. *Journal of Computer Assisted Learning*. 2012 Jun;28(3):183-94.  
Available: <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1365-2729.2011.00426.x>
24. Kaur M. Blended learning-its challenges and future. *Procedia-social and behavioral sciences*. 2013 Oct 21;93:612-7.  
Available: <https://cyberleninka.org/article/n/476850.pdf>
25. Graham CR, Borup J, Pulham E, Larsen R. K–12 blended teaching readiness: Model and instrument development. *Journal of Research on Technology in Education*. 2019 Jul 3;51(3):239-58.  
Available: <https://www.tandfonline.com/doi/abs/10.1080/15391523.2019.1586601>
26. Al Kuhayli H, Pilotti M, El Alaoui K, Cavazos SE, Hassan SA, Al Ghazo R. An exploratory non-experimental design of self-assessment practice. *The International Journal of Assessment and Evaluation*. 2019;26(1):49.  
Available:  
<https://search.proquest.com/openview/3d949647bd289fbb721acb26a30592d6/1?pq-origsite=gscholar&cbl=5528231>
27. Thompson SK. *Sampling*. John Wiley & Sons; 2012 Mar 13.  
Available: <https://cir.nii.ac.jp/crid/1361699995860833920>
28. Daniel J. Peer Tutoring on Facebook to Engage Students with Flipped Classes: A Correlational Experiment on Learning Outcomes. Talaei-Khoei, A., & Daniel, J.(2016). Peer tutoring on Facebook to engage students with flipped classes: A correlational experiment on learning outcomes. Paper presented at the AMCIS. 2016.  
Available: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3733683](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3733683)
29. Meijs C, Neroni J, Gijsselaers HJ, Leontjevas R, Kirschner PA, de Groot RH. Motivated strategies for learning questionnaire part B revisited: New subscales for an adult distance education setting. *The internet and higher education*. 2019 Jan 1;40:1-1.  
Available: [https://research.ou.nl/files/62881292/1\\_s2.0\\_S1096751617302166\\_main.pdf](https://research.ou.nl/files/62881292/1_s2.0_S1096751617302166_main.pdf)
30. Hung ML, Chou C, Chen CH, Own ZY. Learner readiness for online learning: Scale development and student perceptions. *Computers & Education*. 2010 Nov 1;55(3):1080-90.  
Available: <https://www.sciencedirect.com/science/article/pii/S0360131510001260>
31. Abou Naaj M, Nachouki M, Ankit A. Evaluating student satisfaction with blended learning in a gender-segregated environment. *Journal of Information Technology Education: Research*. 2012 Jan 1;11(1):185-200.  
Available: [https://www.learnlib.org/p/111500/article\\_111500.pdf](https://www.learnlib.org/p/111500/article_111500.pdf)

32. Gardner RC. Motivation and second language acquisition: The socio-educational model. Peter Lang; 2010.  
Available: <https://tesl-ej.org/wordpress/issues/volume16/ej62/ej62r2/>
33. Oyarzun B, Martin F, Moore RL. Time management matters: Online faculty perceptions of helpfulness of time management strategies. *Distance Education*. 2020 Jan 2;41(1):106-27.  
Available:  
[https://digitalcommons.odu.edu/cgi/viewcontent.cgi?article=1114&context=stemp\\_fac\\_pubs](https://digitalcommons.odu.edu/cgi/viewcontent.cgi?article=1114&context=stemp_fac_pubs)
34. Di Carlo S. Understanding cognitive language learning strategies. *International Journal of Applied Linguistics and English Literature*. 2017 Jan 4;6(2):114-26.  
Available: <https://journals.aiac.org.au/index.php/IJALEL/article/viewFile/2910/2452>
35. Newell GE, Beach R, Smith J, VanDerHeide J. Teaching and learning argumentative reading and writing: A review of research. *Reading research quarterly*. 2011 Jul 8;46(3):273-304.  
Available:  
<https://search.proquest.com/openview/344bbade664aa1097012054cab99c4b1/1?pq-origsite=gscholar&cbl=577>
36. Marantika JE. Metacognitive ability and autonomous learning strategy in improving learning outcomes. *Journal of Education and Learning (EduLearn)*. 2021 Feb;15(1):88-96.  
Available: <https://files.eric.ed.gov/fulltext/EJ1299455.pdf>
37. Romadhoni RP. *Senior High School Students Strategies in Reading Genre Based Texts* (Doctoral dissertation, Program Studi Pendidikan Bahasa Inggris FBS-UKSW).  
Available;  
[https://repository.uksw.edu/bitstream/123456789/20765/2/T1\\_112016080\\_Full%20text.pdf](https://repository.uksw.edu/bitstream/123456789/20765/2/T1_112016080_Full%20text.pdf)
38. Teng F. The benefits of metacognitive reading strategy awareness instruction for young learners of English as a second language. *Literacy*. 2020 Jan;54(1):29-39.  
Available: <https://onlinelibrary.wiley.com/doi/abs/10.1111/lit.12181>
39. Villanueva JM. Language profile, metacognitive reading strategies, and reading comprehension performance among college students. *Cogent Education*. 2022 Dec 31;9(1):2061683.  
Available: <https://www.tandfonline.com/doi/pdf/10.1080/2331186X.2022.2061683>
40. Vygotsky LS, Cole M. *Mind in society: Development of higher psychological processes*. Harvard university press; 1978.  
Available: <https://cir.nii.ac.jp/crid/1370004237584886272>
41. Slavin RE. Synthesis of research of cooperative learning. *Educational leadership*. 1991;48(5):71-82.  
Available: <https://eric.ed.gov/?id=EJ421354>
42. Alipio M. Predicting academic performance of college freshmen in the Philippines using psychological variables and expectancy-value beliefs to outcomes-based education: a path analysis. *IMCC Journal of Science*. 2021 Nov 15;1(Special):77-86.  
Available: <https://hal.science/hal-04225149/>

43. Chamot AU, O'malley JM. The CALLA handbook: Implementing the cognitive academic language learning approach. Reading, MA: Addison-Wesley Publishing Company; 1994.  
Available: <http://tesl-ej.org/wordpress/issues/volume2/ej07/ej07r5/?wscr=>
44. Graham CR. Blended learning systems. The handbook of blended learning: Global perspectives, local designs. 2006;1:3-21.  
Available:  
<https://media.kenanaonline.com/files/0036/36463/BLENDED%20LEARNING%20SYSTEMS.pdf>
45. Al-Kaabi AF. *Effects of collaborative learning on the achievement of students with different learning styles at Qatar University* (Doctoral dissertation, Brunel University London).  
Available: <https://bura.brunel.ac.uk/bitstream/2438/15137/1/FulltextThesis.pdf>
46. Garrison DR, Kanuka H. Blended learning: Uncovering its transformative potential in higher education. The internet and higher education. 2004 Apr 1;7(2):95-105.  
Available: <https://www.sciencedirect.com/science/article/pii/S1096751604000156>
47. Bandura A. Self-efficacy: The foundation of agency. Control of human behavior, mental processes, and consciousness: Essays in honor of the 60th birthday of August Flammer. 2000 Jun 1;16.  
Available: <https://psycnet.apa.org/record/2000-08381-002>
48. Knowles MS. Self-directed learning: A guide for learners and teachers.  
Available: <https://eric.ed.gov/?id=ED114653>
49. Deci EL, Ryan RM. The general causality orientations scale: Self-determination in personality. Journal of research in personality. 1985 Jun 1;19(2):109-34.  
Available: <https://www.sciencedirect.com/science/article/pii/0092656685900236>
50. Bandura A. Social cognitive theory: An agentic perspective. Annual review of psychology. 2001 Feb;52(1):1-26.  
Available:  
[http://moodle2.cs.huji.ac.il/nu14/pluginfile.php/179670/mod\\_resource/content/1/Bandura\\_2001.pdf](http://moodle2.cs.huji.ac.il/nu14/pluginfile.php/179670/mod_resource/content/1/Bandura_2001.pdf)
51. Compeau DR, Higgins CA. Computer self-efficacy: Development of a measure and initial test. MIS quarterly. 1995 Jun 1:189-211.  
Available: <https://www.jstor.org/stable/249688>
52. Guglielmino LM. Development of the self-directed learning readiness scale. University of Georgia; 1977.  
Available: <https://elibrary.ru/item.asp?id=7222999>
53. Hannafin MJ. Guidelines for using locus of instructional control in the design of computer-assisted instruction. Journal of instructional development. 1984 Sep;7(3):6-10.  
Available: <https://link.springer.com/article/10.1007/BF02905753>
54. Reeves CA. The effect of 'opportunity-to-learn' and classroom pedagogy on mathematics achievement in schools serving low socio-economic status communities in the Cape Peninsula.

Available:

[https://open.uct.ac.za/bitstream/handle/11427/10895/thesis\\_hum\\_2005\\_reeves\\_c\\_a.pdf?sequence=1&isAllowed=y](https://open.uct.ac.za/bitstream/handle/11427/10895/thesis_hum_2005_reeves_c_a.pdf?sequence=1&isAllowed=y)

55. Merrill MD. Component display theory. *Instructional-design theories and models: An overview of their current status*. 1983 Nov 1;1:282-333.

Available: <https://kuedtech2.pbworks.com/f/Merrill.pdf>

56. Reigeluth C, Stein R. Elaboration theory. *Instructional-design theories and models: An overview of their current status* (1983). 1983 Nov 1:335-81.

Available: <https://books.google.com/books?hl=en&lr=&id=leAa-ljbudcC&oi=fnd&pg=PA335&ots=4BBz67uYWR&sig=g10rmqGnxrppHd7sacZYCYZVS4g>

57. Chung J, Reigeluth CM. Instructional prescriptions for learner control. *Educational Technology*. 1992 Oct 1;32(10):14-20.

Available: <https://www.jstor.org/stable/44427631>

58. Schunk DH. Self-regulated learning: The educational legacy of Paul R. Pintrich. *Educational psychologist*. 2005 Apr 1;40(2):85-94.

Available:

<https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=5d677c8d9026dd38e42e8e92811dc11b22df13c2>

59. Stefanou CR, Salisbury-Glennon JD. Developing motivation and cognitive learning strategies through an undergraduate learning community. *Learning Environments Research*. 2002 Jan;5:77-97.

Available:

<https://search.proquest.com/openview/211732823e0809c43dc8ec2e1bd4ae35/1?pq-origsite=gscholar&cbl=54618>

60. Picciano A. Blending with purpose: The multimodal model. *Journal of the Research Center for Educational Technology*. 2009 Oct 30;5(1):4-14.

Available: <http://rcetj.org/index.php/rcetj/article/viewFile/11/14>

61. Garrison DR, Kanuka H. Blended learning: Uncovering its transformative potential in higher education. *The internet and higher education*. 2004 Apr 1;7(2):95-105.

Available: <https://www.academia.edu/download/51046621/j.iheduc.2004.02.00120161224-26425-13c6i1w.pdf>

62. Kreijns K, Kirschner PA, Jochems W. Identifying the pitfalls for social interaction in computer-supported collaborative learning environments: a review of the research. *Computers in human behavior*. 2003 May 1;19(3):335-53.

Available:

[https://dspace.library.uu.nl/bitstream/handle/1874/16872/kirschner\\_03\\_identifying\\_pitfalls\\_social\\_interaction\\_computer\\_supported.pdf?sequence=1;Identifying](https://dspace.library.uu.nl/bitstream/handle/1874/16872/kirschner_03_identifying_pitfalls_social_interaction_computer_supported.pdf?sequence=1;Identifying)

63. Bonk CJ, Cummings JA. A Dozen Recommendations for Placing the Student at the Centre of Web-Based Learning. *Educational Media International*. 1998 Jun 1;35(2):82-9.

Available: <https://www.tandfonline.com/doi/abs/10.1080/0952398980350205>

64. Gunawardena CN, Zittle RH. Faculty development programmes in distance education in American higher education. *Staff development in open and flexible learning*. 1998:105-14.

Available:

<https://books.google.com/books?hl=en&lr=&id=-P3g6lkKY3EC&oi=fnd&pg=PA105&ots=Ud2TzAl7BR&sig=99XBEZI4I9hTAtL1EYvKoeMyijw>

65. Bower BL, Kamata A. Factors influencing student satisfaction with online courses. *Academic Exchange Quarterly*. 2000 Sep 22;4(3):52-.

Available: <https://www.semanticscholar.org/paper/Factors-Influencing-Student-Satisfaction-with-Bower-Kamata/665c8c15334518e1a3965bf0344d652b3a7b93c9>

66. DeBourgh GA. Predictors of student satisfaction in distance-delivered graduate nursing courses: What matters most?. *Journal of Professional Nursing*. 2003 May 1;19(3):149-63.

Available: <https://www.sciencedirect.com/science/article/pii/S8755722303000723>

67. Carmel A. The effects of course delivery modality on student satisfaction and retention and GPA in on-site vs. hybrid courses. *Turkish online Journal of distance education*. 2007 Jan 6;8(2):127-35.

Available: <https://dergipark.org.tr/en/download/article-file/156347>

68. Finaly-Neumann E. Course work characteristics and students' satisfaction with instruction. *Journal of Instructional Psychology*. 1994 Mar 1;21(1):14.

Available:

<https://search.proquest.com/openview/db271f71d536cc4f911ce57ad5b21190/1?pq-origsite=gscholar&cbl=2029838>

69. Debourgh GA. Technology is the tool, teaching is the task: Student satisfaction in distance learning. In *Society for information technology & teacher education international conference 1999* (pp. 131-137). Association for the Advancement of Computing in Education (AACE).

Available: <https://files.eric.ed.gov/fulltext/ED432226.pdf>

70. Hiltz SR. Correlates of learning in a virtual classroom. *International journal of man-machine studies*. 1993 Jul 1;39(1):71-98.

Available: <https://www.sciencedirect.com/science/article/pii/S0020737383710540>

71. Alipio M, Lantajo GM. Do Socio-Economic Indicators Associate with Covid-2019 Cases? Findings from a Philippine Study. *IMCC Journal of Science*. 2021 Dec;1(2):102-7.

Available: [https://myjournal.imcc.edu.ph/publication/volume-1-issue-2-2021/2\\_alipio-lantajo-2021/](https://myjournal.imcc.edu.ph/publication/volume-1-issue-2-2021/2_alipio-lantajo-2021/)

72. Smith PL, Dillon CL. Lead article: Comparing distance learning and classroom learning: Conceptual considerations. *American Journal of Distance Education*. 1999 Jan 1;13(2):6-23.

Available: <https://www.tandfonline.com/doi/abs/10.1080/08923649909527020>

73. Bonk CJ, Graham CR. *The handbook of blended learning: Global perspectives, local designs*. John Wiley & Sons; 2012 Jun 29.

Available:

<https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=c391394591938286588f52d4342b8a396a53318d>

74. Garrison DR, Vaughan ND. *Blended learning in higher education: Framework, principles, and guidelines*. John Wiley & Sons; 2008.

Available: <https://onlinelibrary.wiley.com/doi/abs/10.1002/9781118269558>

75. Belanger F, Jordan DH. Distance learning technologies. In *Evaluation and implementation of distance learning: Technologies, tools and techniques 2000* (pp. 35-88). IGI Global.  
Available: <https://www.igi-global.com/chapter/distance-learning-technologies/18636>
76. Wegerif R. The social dimension of asynchronous learning networks. *Journal of asynchronous learning networks*. 1998 Mar 1;2(1):34-49.  
Available:  
<https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=0334eff28b2f5c6b96de9c db5db1a88a78c14089>
77. Bolliger DU. Key factors for determining student satisfaction in online courses. In *International Journal on E-learning 2004* (Vol. 3, No. 1, pp. 61-67). Association for the Advancement of Computing in Education (AACE).  
Available: [https://www.learntechlib.org/primary/p/2226/article\\_2226.pdf](https://www.learntechlib.org/primary/p/2226/article_2226.pdf)
78. Bailey KD. The effects of learning strategies on student interaction and student satisfaction. The Pennsylvania State University; 2002.  
Available: [https://etda.libraries.psu.edu/files/final\\_submissions/3357](https://etda.libraries.psu.edu/files/final_submissions/3357)
79. Topal AD. Examination of University Students' Level of Satisfaction and Readiness for E-Courses and the Relationship between Them. *European Journal of Contemporary Education*. 2016;15(1):7-23.  
Available: <https://files.eric.ed.gov/fulltext/EJ1095972.pdf>
80. Zhou Q, Lee CS, Sin SC. Using social media in formal learning: Investigating learning strategies and satisfaction. *Proceedings of the Association for Information Science and Technology*. 2017;54(1):472-82.  
Available: <https://asistdl.onlinelibrary.wiley.com/doi/abs/10.1002/pra2.2017.14505401051>
81. Masrom M, Nadzari AS, Mahmood NH, Zakaria WN, Ali NR. Mobile learning in Malaysia education institutions. *Issues in Information Systems*. 2016 Oct 1;17(4):152-7.  
Available: [https://iacis.org/iis/2016/4\\_iis\\_2016\\_152-157.pdf](https://iacis.org/iis/2016/4_iis_2016_152-157.pdf)