International Journal of Educational Management and Development Studies
Volume 3 Issue 4 December 2022
DOI: https://doi.org/10.53378/352927

Learning Quality of Senior High School Distance Education During the COVID-19 Pandemic

[1]Maida O. Sarmiento & [2]Eden C. Callo

Abstract

In the new normal, educational institutions find ways for teaching-learning to continue. It is remarkable that distance education has been a great means of continuous learning. In this kind of learning condition, access to quality learning is paramount. The main goal of this research was to determine the effect of the factors of distance education on learning quality during the time of the COVID-19 pandemic. The research design was an exploratory descriptive approach that involved the teachers and students in the Senior High School (SHS) Department of four different campuses. Based on the results, the factors in distance education such as instructional design, support system, and implementation significantly predicted the learning quality of SHS students during the COVID-19 pandemic. When grouped according to campuses, the perceived level of learning quality in distance education noted a significant difference. This may indicate that learning quality can be intensified by the factors in distance education and be carried out on the four campuses. This intensification may be considered in the formulation of the Distance Education Program in the SHS on all campuses of the university.

Keywords: d*istance education, quality learning, distance learning, learning modalities*

Article History:
***Received**: July 27, 2022*
***Revised**: September 12, 2022*
***Accepted**: September 19, 2022*
***Published online**: October 4, 2022*

Suggested Citation:
Sarmiento, M.O. & Callo, E.C. (2022). Learning Quality of Senior High School Distance Education During the COVID-19 Pandemic. *International Journal of Educational Management and Development Studies*, Volume 3 Issue 4, pp. 1 - 18. DOI: https://doi.org/10.53378/352927

About the authors:

[1]Corresponding author. Instructor 1 Laguna State Polytechnic University, Sta. Cruz, Laguna Philippines

[2]Vice President for Academic Affairs, Laguna State Polytechnic University , San Pablo City , Laguna, Philippines

1. Introduction

As COVID-19 pandemic continues to spread in different countries around the world, the new normal requires a higher level of health precautions. The government continues to enforce policies or measures to prevent the spread of the virus. Likewise, in education sectors, where schools, colleges, and universities are pushing virtual and remote learning to address the challenges of learning continuity amidst the pandemic. There are institutions that carry out flexible learning modalities. For continuous learning, distance education can be the means some schools had done successfully even while others faced obstacles, especially the students, parents, and teachers to survive the academic freeze. In this kind of situation, it is also a question of access and assurance of quality learning in the absence of teachers. In this reality of life, the best thing to do is to consider the multiple pathways of learning delivery in an emergency continuity program. Moreover, a lot had been expected from teachers to provide support and assurance that everything will be better in the new normal and to give sense to the normalcy of students in undertaking their schooling. Abril and Callo (2021) revealed that, while the principals were implementing Learning Continuity Plan, to a great extent, they too, including the teachers considered learning modality, assessment of learnings, and learning resources as an integral part of the school performance during COVID-19.

Before the opening of classes on October 5, 2020, the Department of Education started to prepare teachers for education in the new normal. Varied distance learning modalities had been presented for implementation. While students and teachers were still in the period of adjustment to the varied distance learning modalities, many had an apprehension about the learning effectiveness and the quality of learning in whatever modality the students are now engaged in. The alteration of the teaching-learning delivery, from traditional face-to-face to modular distance learning, became a challenge for most teachers. On the other hand, teachers' and students' familiarity and capability with the device and their accessibility and their access to an internet connection, self-efficacy, and their experiences utilizing technology had affected students' readiness to online learning modality.

With the challenges and factors in accessing quality learning in distance education, this study aimed to analyze the perspective on distance education affecting the quality of learning in SHS during the COVID-19 pandemic. This was to determine if distance education-related factors such as instructional design (content, teaching strategies, assessment methods, and modes of

delivery), support system (administrative, technical, parental, and social), and distance learning implementation (teachers' readiness, professional development, learners' communication and interaction, and learners' attitude, interest, motivation, and participation were significant predictors of quality learning. This study wanted to prove that perceived level of quality learning through, student engagement, satisfaction, quality teaching, and quality education have significant differences when the respondents were grouped according to campuses.

2. Literature Review

2.1. Learning Quality in Distance Education

Most of the institutions in the country quickly adapted to distance learning when the coronavirus pandemic hit schools. In this educational venture, aside from many factors that need to be considered in pursuing studies, the quality of learning in distance education is paramount. Learning quality provides students with the ability to effectively learn and retain the knowledge, skills and attitudes gained associated with satisfaction in the learning process. This can be measured by student engagement, student satisfaction, quality teaching, and quality education.

Lorenzetti (2014) cites the four crucial factors of high-quality distance learning courses of McClary that include course design, course content, course instructors, and support system which are components of a high-quality distance course including some of the barriers to their development. Obstacles are clearly experienced by the educators and students that affect the overall quality of distance learning (Markovet et al. 2017). Educators are not in agreement on the evaluation of quality and effectiveness of distance learning, yet it intensely impacts learning outcomes wherein the content, teaching methods, communication, and learner support are significant for students' satisfaction. Elumalei et al. (2020) state the importance of quality e-learning in the higher education instruction intensifying the utilization of technology in satisfying the needs of quality education and expectations of the students. The quality of learning in distance education is a continuous concern despite all advances, tools, and methods of delivery.

In the current study, quality learning provides students with the ability to effectively learn and retain the knowledge, skills and attitudes gained associated with satisfaction in the learning process. This can be measured by student engagement, student satisfaction, quality teaching, and quality education. Halverson and Graham (2019) point out that learner engagement correlates with important educational outcomes, including academic achievement and satisfaction. However, they

also point out that learner engagement is already determined in research in connection to a blended context in a distance learning, no theoretical framework guide inquiry or practice, and has little consistency in engagement definition and operationalization. Accordingly, student engagement in connection to a blended context in distance education has an effect on students learning in many ways. In spite of being self-motivated, students become more engaged when the teachers or instructors are present. In addition, students will be more engaged if there are alternatives where students can participate and engage themselves in collaborative interaction among classmates in e-learning hybrid contexts. Active engagement can also be established through varied learning modalities that will help teacher to nurture students' experiences and improve their learning outcomes.

Student engagement is a key factor in enhancing students' desirable learning outcomes connected with student satisfaction. She et al. (2021) examined the relationship between interaction and online learning satisfaction and investigated the serial mediation role of academic self-efficacy and student engagement in this relationship in a sample of university students in China during the COVID-19 pandemic. They found out that there is a positive relationship between interaction and online learning satisfaction. The findings indicated that Chinese students who interact more often during online learning showed higher levels of learning satisfaction. As presented in several researches, student satisfaction impacts increasing commitment to learn. The students who are active in online learning has a higher level of learning satisfaction. Yet this can be affected by the technical issues, lack of social support and sense of isolation. Conflicting issue arose, like it is not a strong predictor of a learning outcome and not be predicted of subsequent learning outcomes. Knowing students and their background for the awareness prior to educational experiences, a well design course and a competent instructor can affect the students' satisfaction positively. Cos and Paguia (2021) intensified that distance learning modes have been found to be equivalent to on-campus environments with respect to key outcomes such as students' academic performance and students' satisfaction.

In distance education, the students are more autonomous and independent in their study at their own pace. Quality teaching becomes the modern pedagogical approach to guide students in the learning process. The teachers are considered as mentor and tutor allowing information become knowledge, providing students with necessary tools and resources. In this context, the tutors should be equipped with a set of appropriate skills and competencies and thematic knowledge as well as

the acceptance of a virtual learning as quality modality (Vlachopoulos & Makri, 2021; Jaekel et al., 2021). Different methods were found to be relevant for the teaching quality dimensions and students' learning experiences. The aspects of students' learning experiences are highly influenced by perceived competence, academic effort, enjoyment of learning, and social involvement.

Tubulingane (2020) argues that quality can be monitored by looking at the impact of higher education in terms of evidence of high-quality student performance on valid, reliably marked assessment items, positive performance on proxy measures of impact including employability, salaries, employer satisfaction with graduates, and success in further study. For staff, quality monitoring can involve statistics on staff promotion as a result of involvement in the course(s), retention, and reported staff satisfaction levels. This call for quality assurance aim is to ensure that a product or service is fit for the market. For example, for universities to protect their critical market overseas (distance students), they need to ensure the standard of educational products offered on distance education matches the standard on contact mode. In this case, there is a need to assess whether distance educational services such as tutoring and student assessments enable distance students to gain knowledge at the same rate as the full-time students. On the other hand, the quality of the online education services provided for primary school children due to COVID-19 suffered greatly as the teachers were not accustomed to the technology of distance learning. Therefore, there is a need to explore the research of the high-level for primary school children's study tool where teachers and parents will be able to deal with online platforms effectively (Hussein et al., 2021).

Quality in distance education is measured in the quality of student performance. This impact is usually observed in their employability after graduation and employer satisfaction. For it will take years for the school or institution to measure it, the assurance of quality education needs the quality assurance to regularly evaluate and monitor the standards whether these match to what the students need in time. Even in the basic education, quality distance education is a challenge, support from the parents is very vital especially in the use of platform. Thus, institution must be ready and prepared to provide the appropriate tools, equitable access of the quality learning by the well-trained teachers and well-designed curricula

2.2. Factors on Quality Learning in Distance Education

Reaching out to students wherever they are and wherever they live or wish to study is one

of the purposes of distance education. However, there are factors that affect the learning quality such as the support system, instructional design, and implementation.

Joaquin et al. (2020) mention the main thrust of distance education to take a long education to the unreachable, under-resourced, less-privileged and inaccessible. The success of distance education upholds support systems such as administrative, social, technical, and parent support. These have an impact on the quality of learning in distance education. Pangilinan (2021) asserts great responsibility of the school heads in distance learning. Their role is vital for effective general management of the school, ensuring the provision of academic leadership and strategic vision for the quality of instruction the learners deserve to have. They are expected to perform their role to quality instruction such as setting a core standard governing curriculum and instruction as well as learners' performance. They also give optimum support to teachers by providing technical assistance or coaching and mentoring and conducting a walk-through on varied practices and programs related to distance learning.

Gonser (2020) observes many schools attempted to work hard to offer equitable distance learning in a very short time. Thus, the school leaders are not only supporting teachers to figure out how to convert curriculum and instruction into engaging remote and virtual lessons but also to ensure that all students including those who are tough to reach even on regular school day and those who do not access to internet connection to continue learning and connecting with their teachers and peers. According to Valentine (2002), much of the quality of instruction depends on the attitude of the administration and the instructor. Administrators are the first key to the quality of instruction in distance learning settings because they are the leaders who are expected to set core standards; standards governing curriculum and instructors, as well as students' performance. Thus, distance learning administrators have an instructional quality function in which they should determine the factors that build and contribute to the quality and growth of instruction. Likewise, pedagogical training should manifest in student satisfaction with instructors' ability to effectively facilitate discourse and provide direct instruction.

When COVID-19 had spread all over the country and around the world, schools had been closed and rapidly shifted from face-to-face learning to distance learning. In the Philippines, there were no physical classes instead a remote learning wherein lessons are delivered in various ways with the guidance of teachers and parents. Yildiz (2016) revealed that in distance learning the quality of content is one of the factors that determine the quality of education. Numerous content development tools for distance learning are available. The use of these tools is practical, quick to

prepare, and can bring about very different content. The most important objective in the design of educational content, is that it is easy for users to understand, easy to learn, and is an interactive structure. Related features that affect the quality of content include being interactive with audio, images, animation, multimedia support, simulation, and animation of courses and learning activities to give the work contains questions and tests. The other issue in content quality is to provide the content standards.

Distance learning is here to stay. The struggle to the new normal is not yet finished. Educational institutions should always have a vision of a more flexible educational system. Designing curriculum that the sign of times demands. Schweitzer (2019) defines curriculum design as a term used to describe the purposeful, deliberate, and systematic organization of curriculum (instructional blocks) within a class or course. It means a way or process how the teachers plan and organize instruction. Instructional design is particularly critical in a distance learning situation because the student's learning experience is almost entirely mediated through some form of technology. Poorly designed technology-based courses can confound learning, frustrate learners and instructors, and result in high attrition rates. This definition is related to Jeja and Saravanakumar (2019) description of curriculum design. They stated that curriculum design is a term used to describe the purposeful, deliberate, and systematic organization of a curriculum within a class or course. Identifying the needs of the curriculum design process in distance education can be done through needs analysis, which involves the collection and analysis of data related to the learner. This data might include what learners already know and what they need to know to be proficient in a particular area or skill. It may also include information about learner perceptions, strengths, and weaknesses. It can create a clear list of learning goals and outcomes. Learning outcomes are the measurable knowledge, skills, and attitudes that students should have achieved in the course. In this manner, the creativity and resourcefulness of teachers is a must for a very comprehensive and judicious curriculum design especially in a distance education.

Avni (2021) observes that many teachers used combination of online applications such as Zoom, Google Classroom, utilizing virtual white board where most students and parents got confused. These strategies intensify the digital division of students who have gadgets, equipment and WIFI connection and those who do not have. The onset of COVID-19 made educators decide on adoption of the teaching strategies and do the best that they could. Elumalai et al. (2020) cites the Centers for Disease Control Prevention (CDC 2020) issuance of guidelines on the alternative

teaching methods to communicate the class works and assignment to the students. The virtual classroom application of Zoom, Google Classroom, Moodle, and Blackboard play a vital role in the transition from face-to-ace classes to online and e-learning systems. However, Guansi (2020) specifically mentions the readiness of students in the new normal; teacher and students were not yet prepared for this pandemic pedagogy, yet education must continue. The blended learning became challenging for them for it involves knowledge on how to use technology and money for Wifi expenses, including other educational resources such as bond papers to print module, computer, laptops and cell phone to be used for the online class and accomplishing requirements.

Assessment impels instruction, which is typically the weakest component of any distance education program. In many cases, assessment is characterized by a number of practices that impede rather than enable learning. Many distance-based continuing education programs may be reluctant to assess summative whether and what teachers have learned as a result of the program. Assessments may be exclusively summative (occurring at the end of a learning module or at the end of the distance learning course of study) and not formative (ongoing). They may be separate from the distance technology employed. Issues of distance, finance, and logistics, together with a lack of well-trained personnel who understand assessment, often make it difficult to support more valid and realistic performance-based assessments, such as in-class observations of teachers teaching or electronic portfolios of teacher and student work. Finally, many entities may not wish to assess teacher learning; their aim may simply be to get teachers and teacher-candidates in and out of the distance education system as effortlessly as possible. Markova et al. (2016) advises on continuous assessment conducted for deep processing of resources and practice of the virtual learning environment. Teachers need to utilize varied assessment consistent with individual or group-based distance learning approaches.

Markova (2016) states that effective teachers play the technical support that is vital in distance learning. The technical aspect given to the students may reduce anxiety and have a great impact on the learning process. The study of Alea et al. (2020) cited Ventayin (2018) that despite the limited experience of the teachers in online teaching, they were able to cope up with the trends in distance learning. Rurato (2011) cited Schrum and Hong (2002) on the dimensions to be applied in a distance education environment, which permit positive and successful learning experiences for learners such as access to technological resources, technology experience, study habits and skills, lifestyle factors, goals and purposes, learning preferences and personal characteristics.

3. Methodology

The descriptive exploratory design was used in this study. It is a descriptive research that attempted to explore and explain while providing additional information about a topic. It is the act of exploring the topic under study that has provided details of the theoretical underpinnings of the methodology, as well as providing recommendations regarding the practicalities of its use. Further, it is an exploratory design that explores research questions that have not previously been studied in depth. It is often qualitative in nature yet with a large sample in exploratory means can be quantitative as well. It was used in this research to establish an understanding of how best to study learning quality in a different education situation like this time of pandemic.

The respondents were 764 senior high school (SHS) students and 57 faculty members as shown in table 1.

Table 1

Respondents from the Four Campuses of the SHS Department

Respondents	Campus				Total
	A	B	C	D	
Students	112	230	65	357	764
Faculty	9	18	11	19	57
Total	**121**	**248**	**76**	**376**	**821**

The study used a random sampling method. The students chosen were those who preferred the Online learning modality and the faculty who had given teaching assignment with an online teaching modality.

The study used a research-made survey questionnaire. The questionnaire has three parts. The first part is the respondents' profiles. The second is about factors affecting learning in distance education that includes variables that play a crucial role in determining quality learning in distance education. The last part is quality learning which variables are intended to determine purposeful and meaningful distance learning based on students' engagement, satisfaction, quality teaching, and quality education.

For validation or pilot testing, the researcher requested the help of the SHS program coordinators to obtain permission from SHS teachers and students to complete the survey. After

the statements had been validated online, a few minor corrections to the statements were made, and the Google Forms survey questionnaire was edited and finalized. It had been sent to the various deans of the College of Teacher Education of the four campuses, who approved the link to the survey, allowing it to be distributed to the students and teachers via the internet. The letter of consent was approved by the university president; this was accomplished through a messenger.

The information and data collected were treated with confidentiality. The study used descriptive statistics such as mean and standard deviation and inferential statistics such as test of correlation, and ANOVA.

4. Findings and Discussion

Table 2

Correlation Between Education-Related Factors and Level of Learning Quality

Factors of Distance Education	Quality of Learning				
	Student Engagement	**Student Satisfaction**	**Quality Teaching**	**Quality Education**	**Overall Quality Learning**
Instructional Design					
Content Factor	.646**	.599**	.533**	.604**	.670**
Teaching Strategies	.658**	.596**	.531**	.601**	.672**
Assessment Methods	.658**	.602**	.547**	.624**	.685**
Modes of Delivery	.660**	.585**	.522**	.591**	.664**
Overall Instructional Design	.715**	.650**	.582**	.661**	.735**
Support System					
Administrative Support	.661**	.636**	.544**	.603**	.688**
Technical Support	.661**	.610**	.514**	.594**	.670**
Parental Support	.658**	.598**	.538**	.579**	.667**
Social Support	.664**	.639**	.556**	.601**	.692**
Overall Support System	.730**	.685**	.594**	.656**	.750**
Implementation					
Teacher Readiness	.570**	.523**	.471**	.502**	.580**
Teachers professional Development	.593**	.538**	.462**	.522**	.595**
Learners Communication and Interaction	.598**	.499**	.451**	.488**	.572**
Attitude Interest, Motivation and Participation	.636**	.584**	.516**	.545**	.641**
Overall Implementation	.642**	.574**	.511**	.551**	.640**
Overall Factors of	.771**	.705**	.623**	.689**	.784**

***. Correlation is significant at the 0.01 level (2-tailed). N=821*

Legend: .91 to 1.00 - Very High Positive; .71 to .90 - High Positive; .51 t0 .70 - Moderate Positive; .31 to .50 - Low Positive; 01 to .30 - Very Low /Negligible

Table 2 illustrates the summary of test of correlation of factors of distance education to quality of learning. It is shown that there is high positive relationship between the overall student

engagement ((r = 0.715, p <. 01) to overall instructional design. Likewise, the overall quality learning (r = 0.735, p <. 01) has a high positive relationship with overall instructional design. These imply that a well-crafted instructional design may reinforce student engagement and can contribute to the overall quality learning in a distance education. This is similar to Yildiz (2016) findings that the quality of content is one of the factors that determine the quality of education in distance learning. Numerous content development tools for distance learning are available. The use of these tools is practical, quick to prepare, and can bring about very different content that motivates students to participate. Similarly, Jeja and Saravanakumar (2019) emphasized that distance education can also provide a broader method of communication. With many tools and programs that technological advancement has offered, communication appears to increase in distance education amongst students and their professors, as well as students and their classmates. As such, distance education programs can act as an institutional innovation and at least as effective as face-to-face learning programs, especially if the instructor is knowledgeable and skilled.

Furthermore, it was found also that there is a high positive relationship between students' engagement (r = 0.730, p <. 01) and the overall support system same with overall quality learning (r = 0.750, p <. 01) to the overall support system. These may infer that constant support system increases the students' engagement to quality learning and constant support system impact the overall quality learning in a distance education. As such, Lebaste (2020) emphasized the role of parents in Modular Distance Learning (MDL), particularly in the learning process. They serve as the facilitator of learning while their children are doing remote studying. Similarly, Cos and Paguia (2021) elaborated that parent and family engagement in the learning process made it successful. Teachers look for ways where not only the parents but other members of the family (siblings capable of tutoring) who are asked or assumed great responsibility, to guide and assist the students. Parental and teachers' support are important factors in the students' distance learning.

However, it was seen that the quality teaching (r = 0471, p <. 01) has a low positive relationship to teacher readiness. The students' satisfaction (r = 0.499, p <. 01), quality teaching (r = 0.451, p <. 0) and quality education (r = 0.488 p <. 01) have low positive relationship to learners' communication and interaction. These may infer that learners' communication and interaction, though positively related to student satisfaction, quality teaching, and quality education need to be intensified. The communication and interaction of the students to their teachers and classmates are somewhat different compared with the traditional face to face set-up. In a distance learning, the

adjustment to the situation and the physical separation impacted the quality of learning. Parallel to the studies of Avni (2021), Elumalai et al. (2020) and Guansi (2020), the mode of delivery was also the highest factor affecting distance learning. This pointed out that learners can select the best fit distance learning modalities. In addition, Masambong (2021) mentions that remote education provides opportunity for those in the academe to be creative, it would be effective if not all had equal access to the tools for the digital shifts. Joaquin (2020) quips that flexible learning does not necessarily require connectivity, instead it should focus on the design, delivery of programs or courses, learning intervention that meet the needs of the students.

On the other hand, the student's engagement ($r = 0.771$ $p <. 01$), students' satisfaction ($r = 0.705$, $p <. 0$) and overall quality learning ($r = 0.784$ $p <. 01$) have a high positive relationship to overall factors of distance education. Gopal et al. (2021) found that instructor's quality is the most pronounced factor that affects the student's satisfaction during online classes. Hence, the instructor should be very competent in giving lectures and has a thorough understanding on their learners for them to deliver the course outstandingly. If the teacher can deliver the course content properly, it affects the students' satisfaction and performance. Markova et al. (2017) note that the quality and effectiveness of distance learning such as content, teaching methods, communication, and learners' support were significant to students' satisfaction. Simonsen et al. (2017) found that fostering learners' active engagement was determined by the learning modalities, varied materials for learners to interact, and teachers' approach to nurturing students' experiences. This may be inferred that teacher is responsible for demonstrating those actions in order to promote active learners' engagement.

Table 3 presents the ANOVA on factors affecting learning in distance education when grouped according to campuses. All calculated values are less than 0.05 alpha level, indicating highly significant differences between groups and within groups while the factors affecting learning in distance education noted significant differences as demonstrated by their corresponding f-values. These figures allowed the study to reject the null hypothesis. Thus, the factors of distance education are significantly related to the quality of learning in distance education. This may infer the indicators under instructional design, support system, and implementation that both student's and teachers' experiences have significant differences and can be the basis of the quality learning in distance education that considers the student's engagement, satisfying experience, quality teaching, and quality education.

Table 3

ANOVA on Factors Affecting Learning in Distance Education

Factors of Distance Learning		Sum of Squares	df	Mean Square	F	Sig.
Content	Between Groups	12.439	3	4.146	7.664	0.000
	Within Groups	442.027	817	0.541		
	Total	454.466	820			
Administrative Teaching Strategies	Between Groups	12.491	3	4.164	7.503	0.000
	Within Groups	453.402	817	0.555		
	Total	465.893	820			
Assessment Methods	Between Groups	17.273	3	5.758	10.473	0.000
	Within Groups	449.147	817	0.55		
	Total	466.42	820			
Modes of Delivery	Between Groups	8.887	3	2.962	5.684	0.001
	Within Groups	425.817	817	0.521		
	Total	434.703	820			
Overall Industrial Design	Between Groups	11.877	3	3.959	8.716	0.000
	Within Groups	371.103	817	0.454		
	Total	382.98	820			
Administrative Support	Between Groups	9.867	3	3.289	5.785	0.001
	Within Groups	464.482	817	0.569		
	Total	474.349	820			
Technical Support	Between Groups	4.738	3	1.579	3	0.030
	Within Groups	430.167	817	0.527		
	Total	434.905	820			
Parental Support	Between Groups	26.907	3	8.969	14.111	0.000
	Within Groups	519.312	817	0.636		
	Total	546.219	820			
Social Support	Between Groups	25.266	3	8.422	12.534	0.000
	Within Groups	548.973	817	0.672		
	Total	574.238	820			
Overall Support System	Between Groups	13.52	3	4.507	9.281	0.000
	Within Groups	396.719	817	0.486		
	Total	410.239	820			
Teacher Readiness	Between Groups	6.936	3	2.312	3.674	0.012
	Within Groups	514.086	817	0.629		
	Total	521.022	820			
Teachers' professional development	Between Groups	6.729	3	2.243	3.648	0.012
	Within Groups	502.307	817	0.615		
	Total	509.036	820			
Learners' communication and interaction	Between Groups	8.996	3	2.999	4.781	0.003
	Within Groups	512.437	817	0.627		
	Total	521.434	820			
Attitude, Interest and Motivation	Between Groups	12.092	3	4.031	5.356	0.001
	Within Groups	614.809	817	0.753		
	Total	626.901	820			
Overall Implementation	Between Groups	6.445	3	2.148	3.73	0.011
	Within Groups	470.546	817	0.576		
	Total	476.991	820			
Overall Distance Education	Between Groups	9.958	3	3.319	8.149	.000
	Within Groups	332.765	817	.407		
	Total	342.723	820			

Table 4

ANOVA on Quality Learning

Quality of Learning		Sum of Squares	df	Mean Square	F	Sig.
Student Engagement	Between Groups	8.578	3	2.859	6.109	0.000
	Within Groups	382.413	817	0.468		
	Total	390.992	820			
Student Satisfaction	Between Groups	10.425	3	3.475	6.236	0.000
	Within Groups	455.288	817	0.557		
	Total	465.713	820			
Quality Teaching	Between Groups	11.906	3	3.969	10.280	0.000
	Within Groups	315.425	817	.386		
	Total	327.331	820			
Quality Learning	Between Groups	12.376	3	4.125	10.283	0.000
	Within Groups	327.768	817	0.401		
	Total	340.144	820			

Table 4 shows the test of significant difference in the perceived level of quality learning in distance education when grouped according to campuses. All calculated values are less than 0.05 alpha level, indicating a highly significant difference between groups and within groups while the perceived level of quality learning distance noted significant differences as demonstrated by their corresponding f-values. These figures allowed the study to reject the null hypothesis. Therefore, the perceived levels of quality in distance education have significant differences when grouped according to campuses. The researcher may infer that the distance education-related factors such as instructional design, support system, and implementation are practiced by the four campuses yet may differ in their quality of learning. The level of practices or implementation may vary its extent due to the unequal number of respondents yet the carrying out of those indicators have a significant difference to the quality of learning in distance education. These were manifested in students' engagement, student satisfaction, quality of teaching, and quality education. It is in time that the school should embrace the needed innovations for distance learning and the trend of education in the 4th industrial revolution. This promotes the e-learning system that may lead to the learner's autonomy in learning through task-based or performance-based students' activities. However, while studying in their own pace, building positive attitudes in doing activities must be taught to them. As stressed by Ventayin (2018), despite the limited experience of the DepEd teachers in online teaching such as technical skills, time management knowledge and attitude in online education, they were able to cope up with the trends in distance learning.

5. Conclusion

This study focused on the evaluation of the quality learning on distance education of the senior high school during the COVID-19 pandemic. The study engaged the SHS students and teachers who were implementing a distance learning modality. Based on the test of significant differences on the perceived quality of learning in distance education when grouped into campuses, all calculated values are less than 0.05 alpha level, indicating highly significant differences between groups and within groups while factors affecting learning at a distance noted significant differences as demonstrated by their corresponding f-values show that factors in distance education significantly predicted quality education. This result rejected the null hypothesis. Meanwhile, the test of significant difference in the perceived level of quality learning in distance education when grouped according to campuses indicated highly significant among groups and within groups, while the perceived level of quality in distance education noted significant difference as demonstrated by their corresponding f-values; therefore, the null hypothesis is not sustained. It means that distance education factors significantly predicted learning quality. Engagement and student satisfaction were achieved for quality learning but quality teaching and education must be reinforced. Thus, in practice, SHS students and teachers were allowed to explore a novel approach to learning through distance education.

To improve teachers' assessment methods, attitudes, interest motivation, and participation in distance education, including parental support, the school or institution may conduct seminars and train teachers and parents on the Distance Learning Modality. This will emphasize the role and responsibility of parents in the new learning format. The administration may also design a mechanism to determine the measure of success, which includes students, teachers, and program outcomes, and to develop and organize a vision and plan for distance education, taking into account the reason for adding a distance education program to the institution, as well as the organization's or institution's strengths, guidelines, and mandates.

References

Abril, E.G. & Callo, E.C. (2021). Implementation of Learning Continuity Plan (LCP) Related Variables amidst Pandemic and Performance of the Secondary Schools, Division of San Pablo City: Input to Quality Assurance, *"IOER International Multidisciplinary Research Journal*" Vol. 3, No. 2, June 2021 pp.119 - 134

Burns, Mary (2011). Distance Education for Teacher Training: Modes, Models, and Methods Education Development Center, Inc. Washington, DC 2011

Callo, E.C. & Yazon,A.D.(2020) "Exploring the Factors Influencing the Readiness of Faculty and Students on Online Teaching and Learning as an Alternative Delivery Mode for the New Normal," *Universal Journal of Educational Research*, Vol. 8, No. 8, pp. 3509 - 3518, 2020. DOI: 10.13189/ujer.2020.080826.

Elea, L.A.,Fabrea, M.,F., Roldan, RD.A. , Farooqi,A.Z., (June 2020) Teachers'COVID-19 Awareness , Distance Learning Education Experiences and Perceptions towards Institutional Readiness and Challenges . *International Journal of Learning, Teaching and Educational Research* Vol.19,No.6,pp.127-144 , https://doi.org/10.26803/ijlter.19.6.8

Elumalai, K.V., Sankar, J.P., R,K., John.,J.A. Menon,N., Alqahtani, M.S.N., & Abumelha.M.A. (2020). Factors Affecting the quality of e-learning during the COVID-19 Pandemic from the perspective of higher education students. *Journal of Information Technology Education: Research*, 19, 731-753. https://doi.org/10.28945/4628

Guansi, S.S., Pal-ec, B. , Orasing ,G., (2020) Readiness of Students in the New Normal Learning : An Assessment in Baguio City and Benguet Province. *American Journal of Engineering Research (AJER)* Vol.9, Issue 1-2,pp107-117, https://www,ajer.org

Guiamalon, Tarhata S. Sittie Almirah S. Alon, Sofia U. Camsa Teachers Issues and Concerns On The Use Of Modular Learning Modality (2021). Proceedings of SOCIOINT 2021 8th *International Conference on Education and Education of Social Sciences* 14-15 June, 2021

Halverson, L.R., & Graham, C.R. (2019). Learner engagement in blended learning environments: A conceptual framework. *Online Learning*, 23(2), 145-178. doi:10.24059/olj.v23i2.1481

Hussein, Ibrahim Al- Aidah Mohammad, & Mona Al-Zahrani, Quality Distance Education for Early Childhood During the Corona Pandemic: The Perceptions of Female Teachers *International Educational Research*; Vol. 4, No. 2, pp. 2576-3067 https://doi.org/10.30560/ier.v4n2p1

Ionescu Constantin Aurelian, Liliana Paschia , Nicoleta Luminita Gudanescu Nicolau , Sorina Geanina Stanescu Veronica Maria Neacsu Stancescu , Mihaela Denisa Coman and Marilena Carmen Uzlau (2020). Sustainability Analysis of the E-Learning Education

System during Pandemic Period—COVID-19 in Romania Sustainability 2020, *MPDI*, 12, 9030; doi:10.3390/su12219030 www.mdpi.com/journal/sustainability

Jaekel Ann-Kathrin, Katharina Scheiter Leibniz, Richard Göllner, Distance Teaching During the COVID-19 Crisis: Social Connectedness Matters Most for Teaching Quality and Students' Learning (2021). *AERA Open.* Vol. 7, No. 1, pp. 1–14 DOI:https://doi.org/10.1177/23328584211052050

Joaquin, J.J,B. , Biana, H.T., Dacela, MA., (2020). The Philippine Higher Education Sector in the Time of COVID -19. *Frontiers in Education*.

Liang Huang and Ting Zhang (2021). Perceived Social Support, Psychological Capital, and Subjective Well-Being among College Students in the Context of Online Learning during the COVID-19 Pandemic. *Asia-Pacific Edu Res.* 2021 Aug 6 : 1–12. doi: 10.1007/s40299-021-00608-3

L N Rufaidah, N Umamah, Sumardi, Marjono, R A Surya, Learning Environment Technology-Based in Improving Students' Independent learning. (2021) *IOP Conf. Ser.: Earth Environ. Sci*. 747 012056, doi:10.1088/1755-1315/747/1/012056

Lorenzetti, J. P. (2014). *Four Crucial Factors in High-Quality Distance Learning Courses*. Faculty Focus. Higher Ed Teaching Strategies From Magna Publication from: https://www.facultyfocus.com/articles/online-education/four-crucial-factors-high-quality-distance-learning-courses/

Markova, T., Glazkova, I. Zaborova, E. (2017). Quality Issues of Online Distance Learning. *Procedia-Social and Behavioral Science*, 23 685-691. https://doi.org/10.1016/j.sbspro.2017.02.043

Magsambol, B. (2021). *Distance Learning in the Philippines: A Year of Hits and Misses*, https://Rappler.com

Pangilinan, Evelyn A. Ph.D. (2021) *Vital Roles of the School Head in Distance Learning*. Diyaryo Milenyo

Picciano, A. G. (2017). Theories and frameworks for online education: Seeking an integrated model. *Online Learning*, 21(3), 166-190. doi: 10.24059/olj.v21i3.122

Philippa Waterhouse, Rajvinder Samra & Mathijs Lucassen (2022) Distance education students'

satisfaction: Do work and family roles matter? *Distance Education*, 43:1, 56-77, DOI: 10.1080/01587919.2021.2020622

Ribeiro, L.M.; Cunha, R.S.; Silva, M.C.A.e; Carvalho, M.; Vital, M.L. Parental Involvement during Pandemic Times: Challenges and Opportunities. *Educ. Sci.* 2021, 11, 302. https://doi.org/10.3390/ educsci11060302

Reguera Elsa Aniela Mendez, Mildred Lopez (2021). Using a digital whiteboard for student engagement in distance education, *Computers and Electrical Engineering journal.* https://doi.org/10.1016/j.compeleceng.2021.107268

Rurato, P. (2011). Learner characteristics in Distance Education (DE): Presentation of an instrument and context. In: Cibertextualidades, 4, "Ensino à Distância: Desafios Pedagógicos / Distance Education: Pedagogical Challenges", *Reis, P. e Silva,* F., eds. pp. 73-88.

Ramírez-Hurtado, J.M.; Hernández-Díaz, A.G.; López-Sánchez, A.D.; Pérez-León, V.E. (2021). Measuring Online Teaching Service Quality in Higher Education in the COVID-19 Environment. *Int. J. Environ. Res. Public Health* 2021, 18, 2403. https://doi.org/10.3390/ ijerph18052403

She L, Ma L, Jan A, Sharif Nia H and Rahmatpour P (2021) Online Learning Satisfaction During COVID-19 Pandemic Among Chinese University Students: The Serial Mediation Model. *Front. Psychol.* 12:743936. doi: 10.3389/fpsyg.2021.743936

Simonsen Monica L., Morningstar Mary E. Jingrong Xie (2017). Student Engagement in Online and Distance Learning University of Kansas, Scott, L.A. & Thoma, C.A. (Eds., in press). *Universal Design for Distance Education: A Guide for Online Course Development*. Ann Arbor, MI: XanEdu.

Vlachopoulos ,Dimitrios , Makri Agoritsa (2021). Quality Teaching in Online Higher Education: The Perspectives of 250 Online Tutors on Technology and Pedagogy. *International Journal of Emerging Technologies in Learning (iJET)*, 16(06), pp. 40–56. https://doi.org/10.3991/ijet.v16i06.20173

Zincirli, M. (2021). School administrator's views on distance education during the covid-19 pandemic process. *Malaysian Online Journal of Educational Technology*, 9(2), 52-66. http://dx.doi.org/10.52380/mojet.2021.9.2.217