International Journal of Multidisciplinary and Current Educational Research (IJMCER)
ISSN: 2581-7027 ||Volume|| 6 ||Issue|| 3 ||Pages 518-552 ||2024||

# Face To Face and Online Modalities and Intended Learning Outcomes as Factors in Attaining 21st Century Skills: Basis for an Enhancement Plan

Marietta P. Sampang
*A Thesis Presented to the Faculty of Graduate School of Pamantasan ng Cabuyao*
*Banay-Banay, City of Cabuyao*

**ABSTRACT :** This study titled "Face to Face and Online Learning Modalities and Intended Learning Outcomes as Factors in Attaining 21st Century Skills: Basis for an Enhancement Plan" determined the functionality of face to face and online modalities as the basis of the attainment of intended learning outcomes and its relationship to 21st Century skills. With a total of 118 junior high school students and 38 teachers at Holy Redeemer School of Cabuyao as respondents of the study. This study utilized the descriptive correlational design since this study aims to explain and describe the relationships between variables without manipulating them. A researcher-made questionnaire was used to be the basis in analyzing the data. The statistical tools used were descriptive statistics, frequency count, percentage, weighted mean, T – test and Pearson Product Moment Coefficient of Correlation in treating the data collected. As stated in the results and upon the analysis of data, all the junior high school learners, and teachers at Holy Redeemer School of Cabuyao agreed that functionality of face to face and online modalities and the intended learning outcomes are achieved. In addition, from the 156 respondents, consisting of junior high school learners and teachers with the highest weighted mean gathered, it can also be presumed that the availability of the proper gadgets, showing a positive behavior towards the learners during each face to face and online classes, and the familiarity of both the teachers and learners and their access to a wide network of sources affects the functionality of face to face and online teaching and learning modalities utilized for junior high school in terms of milieu, mode and matter. Apart from that, the respondents are concluded to agree that the face to face and online teaching modalities utilized for junior high school learners in Holy Redeemer School of Cabuyao in terms of: Milieu, mode and matter are

## I. INTRODUCTION

With the current trend in the teaching-learning process, the teachers must adapt to change. They must consider the learning capabilities of the learners for them to be motivated to gain more knowledge in various subjects. As the saying goes, "The only constant thing in life is change," and so on with education. There should be innovations and the teachers must accept the reality that nothing is permanent, even the styles of teaching as well as its modality. These are the impacts of the recent COVID-19 pandemic. Whereas, from the traditional classes there were modular, online and face to face teaching-learning processes; these and many more created the way the learners learn and adjust to their academic life. COVID-19 is probably over, but the styles of teaching are very much influenced, and innovation takes place.

The Internet is widely used, and "face to face and online" learning styles have become the trend. Hybrid type of learning includes the combination of online and face to face learning. This is the preference of most private schools nowadays. Aside from the shortened face to face classes, these learning modalities gradually creates adjustments among the learners' style of learning from the pandemic to post pandemic season. Nevertheless, the effectiveness of online learning varies amongst age groups. The consensus on children, especially younger ones, is that a structured environment is required, because kids are more easily distracted. To get the full benefit of online learning, there are needs for concerted effort to provide this structure and go beyond replicating a physical class/lecture through video capabilities, while using a range of collaboration tools and engagement methods that promote "inclusion, personalization and intelligence" (Downson, 2020). Hence, for the learners who have access to the right technology, there is evidence that learning online can be more effective in several ways. Some researchers showed that on average, students retained 25-60% more material when learning online compared to only 8- 10% in a classroom. This is mostly due to the students being able to learn faster online; e-learning requires 40-60% less time to learn as compared to a traditional classroom setting because students can learn at their own pace, going back and re-reading, skipping, or accelerating through the concepts they choose. Since studies have shown that children extensively use their senses to learn, making learning fun and effective through the use of technology is crucial.

"Over a period, it had been observed that clever integration of games had demonstrated higher engagement and increased motivation towards learning especially among younger students, making them truly fall in love with learning" (Mohit, 2020). These factors contribute to the effectiveness of hybrid learning modality that is in line with the students' learning outcomes which specify the expectations set to the students after completing a certain subject. It shows what the learners will know, be able to do or be able to demonstrate that must be measurable, observable and can be demonstrated. These SLOs or Students Learning Outcome are the skills, abilities, or attitudes that the students are expected to attain after the conduct of the hybrid teaching- learning process. On the other hand, the institutions, content, and instructors of hybrid teaching-learning

modalities are factors to be assessed in this research to create an intervention plan that will best fit the students' academic needs under the hybrid teaching-learning modality. Researchers believe that education must be with a crisis intervention plan to be viable and sustain the normal way of learning and training in order to move forward. Further, the schools in the Philippines can use a variety of approaches to address these present and serious needs to keep on learning and training to the best that they can. Thus, they must overcome the fear of hybrid mode of learning and training that they have not been used to all along till the pandemic struck beginning of 2020 and a crisis intervention plan to manage the fear should be conducted to develop confidence to carry on and live in a new normal world of teaching-learning environment.In line with this concern, the researcher experienced many challenges upon the implementation of face to face and online learning modalities. Number of problems were met amongst which include reform of its implementation since they believe that it is not an effective solution of meeting the needs of the learners and trainees, low competences of professors in technology, insufficient gadgets, funding and, etc.Further, this study has a major impact in terms of enhancement plan that integrates face-to-face and online modalities while considering their effect on intended learning outcomes and the attainment of 21st-century skills. This study also aimed to conduct an assessment of current state, analyze the existing curriculum, pedagogy, and delivery methods while evaluating the effectiveness of face-to-face and online modalities separately and assess the alignment of current methods with intended learning outcomes and 21st-century skills. Moreover, it also targeted the specific 21st-century skills relevant to the context of

critical thinking, creativity, collaboration, communication, digital literacy, and many more. With this study, we can determine which learning outcomes are best suited for face-to- face instruction and which ones can be effectively achieved online while identifying the overlaps where both modalities can complement each other. Lastly, Enhancement Strategies for Face-to-Face and Online Modalities incorporate experiential learning opportunities through field trips, internships, and guest lectures to enhance real-world application of knowledge and interactive multimedia content, simulations, and virtual labs to engage learners and promote self-paced learning. Its impact also includes allocating resources for instructional materials, technology infrastructure, professional development, and ongoing support services. The roll out the enhancement plan gradually, starting with pilot programs and scaling up based on feedback and outcomes and the sustainability and continuous improvement leverages both face-to-face and online modalities to effectively support the attainment of 21st-century skills and desired learning outcomes. On the other hand, this study contributes a lot in the field of education most especially in terms of Integrated Approach by proposing an enhancement plan that integrates both face- to-face and online modalities, the plan addresses the need for a comprehensive instructional strategy that leverages the strengths of each modality. This contributes to the understanding of how hybrid learning environments can be designed to optimize student learning and skill development. In addition, this study also serves as a tool in professional development since it recognizes the importance of providing professional development opportunities for educators to effectively implement the enhancement plan. This contributes to the literature on teacher training and support, emphasizing the need for ongoing professional learning to ensure

Successful implementation of innovative instructional practices.Overall, the proposed enhancement plan adds to the body of knowledge on the integration of face-to-face and online modalities, intended learning outcomes, and the development of 21st-century skills in education. By offering a comprehensive approach that combines theoretical principles with practical strategies, the plan provides valuable insights for educators, researchers, and policymakers seeking to enhance teaching and learning in the digital age.

**Research Gap:** This study seeks to fill the gap by investigating the comparative impact of face-to-face and online modalities on the attainment of 21st-century skills among learners across various educational settings. By examining the nuanced interactions between instructional modalities and intended learning outcomes, this research aims to provide actionable insights that can inform the design and implementation of enhancement plans aimed at cultivating essential skills for success in the 21st century. Through rigorous empirical inquiry and

Evidence-based analysis, this study endeavors to contribute to the ongoing discourse on effective educational practices and pave the way for innovative approaches to 21st-century skill development in an increasingly digital world. In Holy Redeemer School of Cabuyao similar problems were encountered. Necessarily they must fulfill the mandate of the Department of Education on the re-utilization of the learningdelivery modalities in establishing

**Quality education.** Hence, it is but imperative that this study should be conducted to determine the status of implementation of face to face and online learning delivery modalities in the respondent's school and formulate an enhancement plan to further improve the academic status of the students under face to face and online learning modalities.

**Impact of the Study :** This study has a significant impact in the field of education whereas, in exploring both face-to-face and online learning methods aids the educators in identifying their advantages and drawbacks. On the other hand, face-to-face interactions facilitate immediate feedback and social bonding, while online platforms offer convenience and broad accessibility. Further, evaluating the impact of these modalities on desired learning outcomes enables educators to tailor their teaching techniques, emphasizing key skills such as critical thinking and effective communication. This investigation also assesses how each modality contributes to the development of essential 21st century competencies, such as digital literacy and collaborative teamwork. Identifying obstacles, such as limited technology access, provides valuable insights for crafting effective improvement strategies. Adaptation of teaching method's policy formulation, and attention to issues of fairness and inclusivity are vital elements in enhancing the learning journey. Finally, this study serves as a catalyst for ongoing advancements in education, ensuring that instructional practices evolve to meet the diverse needs of learners inthe digital era.

**Theoretical Framework** : This study "Face to Face and Online Learning Modalities and Intended Learning Outcomes as Factors in Attaining 21st Century Skills: Basis for Enhancement Plan" is anchored on the following theories expounded by Garrison, Anderson and Archer (2000) Wenger and Lave (1991). The concept of a learning community as promoted by the said researchers emphasized the following points; first, a course is conceived of as a learning community. This community can be extended to a larger academic program. Second, it is understood that interaction is a basic characteristic of the community and permeates the model to the extent needed. Third, and perhaps the most important revision, is the addition of the self- study/independent learning module that Anderson emphasized as incompatible with any of the community-based models. In this model, self-study/independent learning can be integrated with other modules as needed or as the primary mode of instructional delivery. The adaptive learning software, an increasingly popular form of self-study, can stand alone or be integrated into other components of the model. The latter is commonly done at the secondary school level where adaptive software programs are used primarily in stand-alone mode with teachers available to act as tutors when needed. Adaptive software is also integrated into traditional, face-to-face classes, such as Science lessons, where it is possible to have the instructor assign a lab activity that uses adaptive learning simulation software. These factors contribute to the researcher's idea of studying face to face and online teaching learning modalities and its intended learning outcomes as the basis for an enhancement plan. In addition, this Multimodal Model of hybrid education attempts to address the issues that others, particularly Terry Anderson, have raised regarding the elements that might be

Needed for an integrated or unified theory or model for hybrid education. This is somewhat similar with the study of Peters and Romero (2012) wherein they provided insights into the challenges and opportunities of using hybrid approaches in developing the nation through technology-enhanced teaching-learning process. In teacher-led fully online course milieu teaching is primarily utilized. Milieu teaching (Hart & Risley, 1975) includes a group of procedures, derived from the behaviorist tradition that were developed to teach language skills to children by embedding learning opportunities within the child's everyday environment and by taking advantage of a child's interest in and motivation to gain access to materials. According to Goldstein (2002), incidental teaching represents the key component of milieu teaching. Incidental teaching episodes begin with spontaneous child- initiated communication acts as the child attempts to gain access to preferred materials, objects, or events within the natural environment. As with the study of **"Face to Face and Online Learning Modalities and Intended Learning Outcomes as Factors in Attaining 21st Century Skills: Basis for Enhancement Plan"** these types of teaching-learning models weretackled.

**Conceptual Framework**

**Face to Face and Online Learning Modalities and Intended Learning Outcomes as Factors inAttaining 21st Century Skills: Basis for Enhancement Plan**

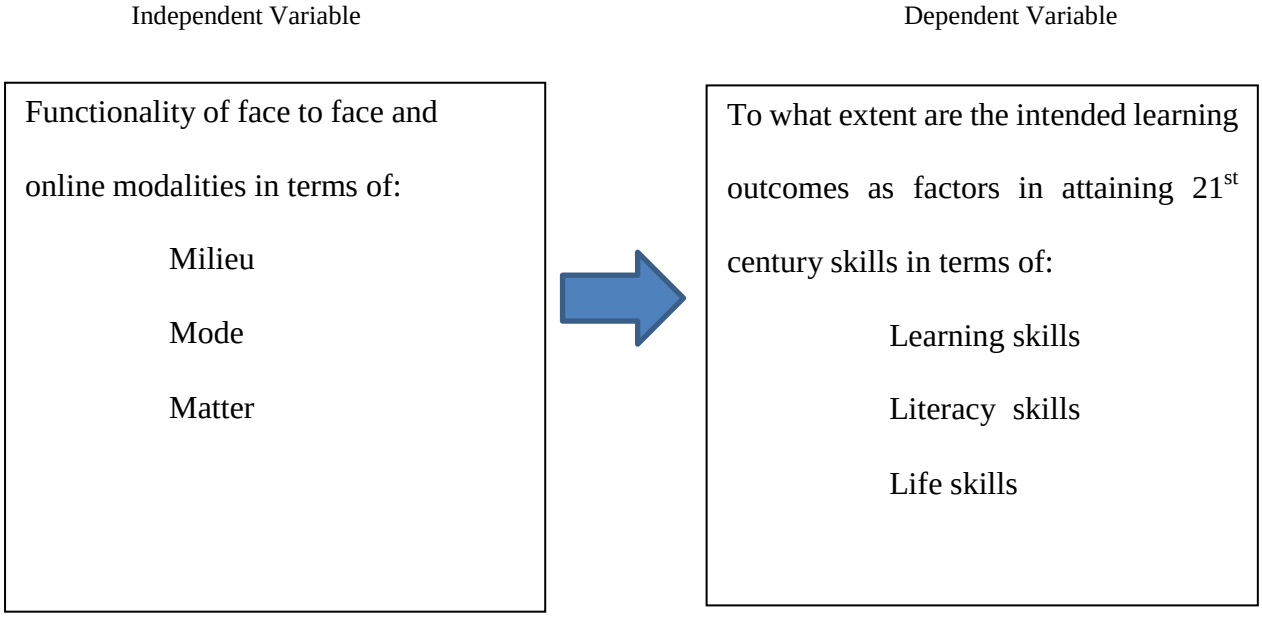



Figure 1. Conceptual Framework

Figure 1 presents the conceptual framework showing the variables involved in this study, the functionality of the face to face and online learning modalities utilized for junior high school students in terms of milieu, mode, and matter as the independent variable and the intended learning outcomes as factors in attaining 21st century skills in terms of learning skills, literacy skills and life skills as the dependent variable of the study.

**Statement of the Problem :** This study endeavors to assess the face to face and online modalities and intended learning outcomes as factors in attaining 21st century skills, basis for an enhancement plan. Specifically, this study aims to answer the following questions:

1. What is the level of functionality of the face-to-face teaching modality utilized for junior highschool students in Holy Redeemer School of Cabuyao in terms of:
   - ✓ milieu.
   - ✓ mode; and
   - ✓ matter?

2. What is the level of functionality of online teaching modality utilized for junior high schoolstudents in Holy Redeemer School of Cabuyao in terms of:
   - ✓ milieu;
   - ✓ mode; and
   - ✓ matter?

3. To what level are the learning outcomes attained in relation to the 21st century skills with respect to:
   - ✓ learning skills;
   - ✓ critical thinking;
   - ✓ collaboration skills;
   - ✓ communication skills;
   - ✓ creativity and innovation skills?
   - ✓ literacy skills; and
   - ✓ life skills?

4. Is there any significant difference in the level of functionality of face – to – face and onlineteaching modalities?
5. Is there any significant correlation between the functionality of the face-to-face modality in thelevel of

intended learning outcomes in attaining 21st century skills?

6. Is there any significant correlation between the functionality of the online modality in the level of intended learning outcomes in attaining 21st century skills?
7. What intervention plan for face to face and online learning modalities can be proposed to helplearners attain their maximum learning of 21st century skills?

**Hypothesis :** The subsequent assumption below was used as a tentative response to the indicated research questions. The null form was subjected to statistical testing at 0.05 level of significance through the corresponding appropriate statistical tests:

**$H_o$1.** There is no significant difference in the level of functionality of face – to – face and online teaching modalities.

**$H_o$2.** There is no significant correlation between the functionality of the face-to-face modality in the level of intended learning outcomes in attaining 21st century skills.

**Scope and Limitation :** The study identified the functionality of the face to face and online modalities utilized for junior high school students in terms of milieu, mode and matter, to the extent of intended learning outcomes as factors in attaining 21st century skills in terms of learning, literary and life skills, the significant relationship between the functionality of the face-to-face and online modalities and the extent of the attainment of the intended learning outcomes, and provide an enhancement plan to attain the intended learning outcomes of the learners. The study involved two groups of respondents, the 38 junior high school teachers and 118 junior high school students through the use of a researcher -made questionnaire survey and was conducted in Holy Redeemer School of Cabuyao.

**Significance of the Study :** The researcher deemed that the following would benefit from the findings of this study:

**Learners -** The study will be helpful to learners in order to manifest high potential to take on hybrid learning processes more especially regarding their self-paced learning. Hybrid learning is meant to increase learners' levels of knowledge construction to create analytical skills in them.

**Teachers -** The study will be helpful to instructors in a long way in producing skilled learners who can be innovative graduates enough to satisfy employment demands through creativity and innovativeness.

**Institution.** This study will provide significant ideas to the institution regarding the **"Face to Face and Online Learning Modalities and Intended Learning Outcomes as Factors in Attaining 21st Century Skills: Basis for Enhancement Plan."**

**Researcher.** The study will provide additional knowledge and understanding to the educator's point of view that most of the student characteristics has adequate face to face and online learning design needed for better understanding.

**Future Researcher.** The results and findings of this study may be useful to future researchers who may conduct further study regarding **Face to Face and Online Learning Modalities and Intended Learning Outcomes as Factors in Attaining 21st Century Skills: Basis for Enhancement Plan."**

**Definition of Terms:** For a better understanding of the study, the following terms were conceptually and operationally defined:

**Asynchronous.** Conceptually it refers to the non-real-time interaction; instead, content is available online for students to access when it best suits their schedules, and assignments are completed according to deadlines.

**Collaboration Skills.** It pertains to the skills that encourage learning mechanisms (such as induction, deduction, and associative learning) to be enacted.

**Communication Skills.** It pertains to the practices of conveying ideas quickly and clearly. **Creativity Skills.** It

pertains to the abilities to actively seek out new ideas and experiences, to see familiar things in new and different ways, to use both analytic and holistic thinking, make, think, or do things that haven't been made, thought or done.

**Critical Thinking.** Includes ability to think clearly and rationally – allows one to properly understand and address issues effectively. This form of purposeful thinking is at the core of effective learning.

**Hybrid Learning.** It pertains to a combination of traditional face-to-face instruction with online learning activities. In this modality, students engage in a mix of in-person and virtual learning experiences. It aims to establish a flexible and adaptable learning environment. In this research, this is the tool used as the basis for enhancement plan.

**Learning Modalities.** Operationally, defined as the sensory channels or pathways through which individuals give, receive, and store information. Perception, memory, and sensation comprise the concept of modality. The modalities of senses include visual, auditory, tactile/kinesthetic, smell, and taste.

**Learning Skills**. It pertains to the tasks involved in learning, including time management, note-taking, reading effectively, study skills, and writing tests.

**Life skills**. It pertains to a set of basic skills acquired through learning and/or direct life experience that enable individuals and groups to effectively handle issues and problems commonly encountered in daily life.

**Matter.** The events or circumstances of a particular situation.

**Milieu.** The physical or social setting in which something occurs or develops, environment. **Mode.** A way or manner in which something occurs or is experienced, expressed, or done. **Packets.** A block of data transmitted across a network.

**Para-teachers.** Include **e**ducators who assist teachers in the classroom, supervise students outside of the classroom, or provide administrative support for teaching.

**Synchronous pertains to an** online or distance education that happens in real time, often with a set class schedule and required login times. **21st Century Skills** refer to certain core competencies such as collaboration, digital literacy, critical thinking, and problem-solving that advocate the belief that schools need to teach to help students thrive in today's world. In this study, it is the target competency through the use of hybrid learning modality.

## II. REVIEW OF RELATED LITERATURE AND STUDIES

This chapter presents the review of related literature and studies conducted by both foreign and local researchers. The researcher did an in-depth study on some books, published and unpublished theses which could be cited having some bearing and relevance to the present study.

**Face to Face Learning Modality :** Roblyer (1999) found that students preferred face-to-face classes because of the interaction and ease of communication that comes with it, thus suggesting that face-to face classes are preferred by most students (as citated in Platt, Raile, & Yu, 2014). Ferlazzo (2020) conducted a study on multiple students on what they felt about their online learning experience. Multiple respondents gave their experiences, most of them do not want to continue with online classes as it is very stressful and hard for them to learn. In the past, research on a students' satisfaction with face-to-face learning versus online learning found that students prefer higher levels of interaction. Horspool and Yang (2010) found that students attending face-to-face and online classes gave their teachers positive ratings when it came to how quickly they responded, the lack of interaction gave students a feeling of dissatisfaction. Hara and Kling (2000) found that there were two major factors of distress on students in an online learning environment: technological problems and communication problems. Students said there was a lot of confusion, anxiety, and frustration due to certain factors that involve networks and unclear feedback from the instructor. Akers, Atchley, & Wingenbach (2013) Some studies suggested that students are in favor of traditional classes, saying "Students that attended online courses will quit more easily". Goodarzi, Lashgari, & Shahidian (2011) Online education is a growing force in the field of education. It is probable that in the near future, within a decade or two, online education will be the global standard for our learning needs. Platt et al., (2014) said that investigating how students perceive

the efficiency of teaching in an online learning environment compared to an interactive face-to-face environment is important to teaching curriculums so that they can make the necessary adjustments in-order for their students to easily understand lessons while teaching them from a distance. Saminathan (2020) said that in today's world the lack of knowledge on how to navigate and operate a computer is a serious problem. Technological difficulties are inevitable and are bound to happen at some point, this can cause stress for the educators. Our technology is only going to be more advanced over time and you will have no other choice but to embrace that change. Tientcheu (2021) affirmed that even though our technology has come a long way since we first discovered it, technical issues are a significant challenge when participating and hosting an online class. There are a lot of risk factors that can interrupt the flow of your class and could possibly lead to your students not understanding the lessons. Each new generation of students has characteristics, interests and learning preferences that set them apart from the previous generation, and understanding these differences is necessary for educators to create learning environments that are engaging, inspiring and productive (Poláková & Klímová, 2019). The current cohort of undergraduate students are often described as individuals who have grown up with technology as an integral part of their daily lives (Seemiller & Grace, 2016). They are thought to be highly adaptable to new technology and expect their learning experiences to be immersive, interactive, and personalized (Reviewed in (Shorey et al., 2021)). This cohort of students are also considered to be more independent learners, often relying on online resources to support their education, with a preference for and the ability to learn at their own pace (Chicca & Shellenbarger, 2018; Seemiller & Grace, 2016). In 2020, the global coronavirus pandemic necessitated a rapid pivot to online and blended learning at universities in Australia and around the world, accelerating the trends that were already in process (Watermeyer et al., 2021). As a result, there has been a rapid expansion into the online

learning space and an increasing reliance on the use of educational technology and virtual learning environments to deliver content and to facilitate online learning (Reviewed in (Arday, 2022)). As educators, we are entering an unprecedented era, one in which we are tasked with providing high quality instruction to engage students in their own learning despite the potential for ongoing educational disruption. There are many challenges in this changing landscape including how to cater to students who want the flexibility of studying online or asynchronously with those that want to return to face-to-face delivery. Prior to the pandemic, a common mode of instruction at university was the traditional didactic lecture, although technology-enhanced active learning, problem-based learning and flipped classroom strategies have also become popular (Kirkwood & Price, 2014). Educators often placed value on in- class attendance which was viewed as an important indicator of student success (Crede et al., 2010;Guleker & Keci, 2014). Indeed, a systematic review of the relationship between lecture attendance and academic achievement revealed that 75% of studies showed a significant positive association between class attendance and academic performance for undergraduate students in the biosciences (Doggrell, 2020b). However, there is an increasing trend at our Institution and others to provide lecture capture recordings and to develop online digital resources to facilitate student learning. The provision of these resources offers increased flexibility for students to engage with the course content, but a common concern is that this may negatively affect attendance and may not improve student outcomes (Gosper et al., 2010; Kinash et al., 2015; Preston et al., 2010). Specifically, the availability of captured lectures has been postulated to reduce student interaction in face-to-face classes (Mark et al., 2010). Attendance rates for students vary widely and the reasons for absenteeism often include student perception of the value of traditional lectures as well as the availability of class recordings and other online resources (Reviewed in (James & Seary, 2019)). There is also the potential for traditional modes of delivery to be at odds with the learning preferences of the current generation of students (Shorey et al., 2021).

Technology-enhanced learning is a broad term that can be used to describe any form of e- learning. Accordingly, technology-enhanced learning strategies can refer the use of technology to improve learning in face-to-face classes, the creation and use of digital resources for asynchronous learning or using social media (and other platforms) to encourage collaborative learning (Ansari & Khan, 2020; Voorn & Kommers, 2013). The impact of these strategies on student learning is reliant on the student's engagement with and usage of the specific technological platform that is implemented (Dunn & Kennedy, 2019). While the impact of in-class attendance on academic achievement has been extensively studied (Crede et al., 2010; Guleker & Keci, 2014), when technology-enhanced learning strategies are implemented, the relationship between student attendance and academic performance is more difficult to ascertain. Some studies have shown no correlation between class attendance and performance in courses where lectures are recorded and class materials are available online (Doggrell, 2020a; Kauffman et al., 2018). Other studies have shown that students who study independently, using online resources, can have similar academic outcomes and may even outperform those who attend class (Eisen et al., 2015; Lukkarinen et al., 2016). Active learning is a key component to undergraduate

science, technology, engineering, and mathematics (STEM) education (Freeman et al., 2014) however, lectures at higher degree institutions are often held in learning spaces that are not conducive to in-class participation (Büchele, 2021; Fadelelmoula, 2018; O'Keeffe et al., 2017). To overcome this challenge, educators often use technology to enhance the learning experiences for students (Wood et al., 2018). Echo360 is a platform that is commonly used for the automatic recording of classes. The newest iteration of this product, the Echo360 Active Learning Platform (Echo360ALP), is a technology-enhanced learning platform designed to facilitate active learning, promoting student engagement and participation (Shaw et al., 2015). The Echo360ALP has been available at Griffith University from 2018. Its functionality

includes the ability for educators to embed polling questions at strategic points in their presentations and students can log in and answer these questions in real time. This active learning platform also includes the ability to directly embed multimedia into in-class presentations which is likely to appeal to learners who prefer to seek information through visual learning (Seemiller & Grace, 2016). Using a technology-enhanced active learning platform as a tool, it is possible to create novel and innovative learning experiences which may encourage students to attend class and engage with class material.

**The Resent Study :** The learning preferences of the current cohort of students for immersive, interactive, and flexible learning experiences are at odds with the traditional didactic delivery of lectures at university. To address this issue, a novel teaching strategy was implemented in a second-year undergraduate neurobiology course incorporating a unique blend of traditional lectures, active and interactive learning strategies, and online learning resources. Specifically, face-to-face classes included traditional didactic lectures which were used to deliver course content, and workshop classes that used an active learning platform to facilitate student interaction and engagement during class (Freeman et al., 2014;Shaw et al., 2015). In addition, all classes were recorded and made available to students

asynchronously. The teaching strategy was designed to meet the diverse needs of students and was aimed at fostering student engagement and motivation to attend class and engage with the course materials (Dunn & Kennedy, 2019). Thus, a key objective of the current study was to investigate student attendance in face-to-face classes, their use of class recordings, and the impact of these on student performance in the course. Students were also surveyed to establish their views on the teaching strategy including the use of an active learning platform in the classroom, their use of the available resources as well as factors that influenced their decision to attend, or not attend classes inperson

**Online Learning Modality** : COVID-19 pandemic has become a global health crisis since the start of the 1st quarter of 2019. As of October 6, 2020, almost 36 million people have been infected and over one million have died. To curb the spread of COVID-19, most governments have opted to employ quarantine protocols and temporarily shut down their educational institutions. As a consequence, more than a billion learners have been affected worldwide. Among this number are over 28 million Filipino learners across academic levels who have to stay at home and comply with the Philippine government's quarantine measures (UNESCO, 2020). To respond to the needs of learners, especially of the 3.5 million tertiary-level students enrolled in approximately 2,400 HEIs, certain HEIs in the country have implemented proactive policies for the continuance of education despite the closure. These policies include modified forms of online learning that aim to facilitate student learning activities. It was due to the threat of the COVID-19 pandemic that face-to-face classes were not allowed in school years 2020-2021 and 2021- 2022. It was also the global health crisis issue why the schools shifted to distance learning during those times. On the other hand, it was November 2, 2022, when the Department of Education ordered all public and private schools to go back to in-person classes. However, it is a prerogative for the private schools to conduct face to face and online classes in order to augment with the students' academic needs and gradually prepare them for the new normal teaching-learning process after the pandemic.

Furthermore, face to face and online learning modalities can be synchronous or real-time lectures while asynchronous has delayed-time activities, like pre-recorded video lectures and time- independent assessments (Oztok et al., 2013). Case in point are top universities in the country, viz.,De La Salle University, Ateneo de Manila University, the University of Santo Tomas, and the state-runUniversity of the Philippines, Diliman.

De La Salle University has resorted to remote online learning, which combines both synchronous and asynchronous activities. For students who cannot participate in online learning, there are flexible options for completing course requirements throughout the academic year (De La Salle University, 2020a). Ateneo de Manila University has suspended synchronous online classes but continued asynchronous online learning so that "all students can learn at their own pace" (Villarin, 2020). University of Santo Tomas, like De La Salle University, has opted to continue with synchronous

and asynchronous online classes, and a flexible grading of student outputs and assessments (University of Santo Tomas, 2020). Other private universities and institutions such as STI College, St.Scholastica's College, Adamson University, Far Eastern University, the University of the East, Ateneo de Davao University, and the University of San Carlos have continued with their online classes as well.Arguably, the HEIs' pivot to modified forms of hybrid learning attempts to concretize the government's stance to continue learning both online and face-to-face. As the Philippine's Department of Education (DepEd) Secretary, Sarah Duterte stated that quality education must be given attention. This way the teachers must fill in the learning gap and learning lost during the time of pandemic. The Philippines' Commission on Higher Education (CHEd), on the other hand, advised HEIs to continue the available flexible learning and other alternative modes of delivery in response with the students' academic needs. These pronouncements aim to encourage the teachers to adhere with the innovations in terms of teaching-learning process such as the conduct of face to face and online modalities. This is likely similar to the study of (Lapada A. A, et. Al 2020) wherein, they made use of available online resources in the teaching-learning process. The online resources were utilized to improve the students' academic skills. The results showed that the teachers' geographic location is strongly correlated to readiness to adapt to hybrid learning education. In contrast, teachers' gender,

length of teaching experience, and geographic location have significant differences with their readiness to distance learning education. This study can be used as a basis for further research particularly in developing institutional plans to better understand the status of their teachers and educational organizations, and schools' readiness to teach and learn through hybrid learning approach; hence, preserving and continuing educational mission as well as be prepared for any natural disasters.Moreover, the 21st century students are very knowledgeable in technology aided learning such as hybrid learning modality. A number of research papers have been written on the effectiveness of virtual learning environments at the higher institution level. The advantages are suitability, availability, and flexibility. However, the said effectiveness may vary considering the internet facilities of the school, level of enthusiasm among students on the use of social networking sites in education and the knowledge and skills of teachers when it comes to face-to-face learning. A study conducted by Brady et al. on the effectiveness of education-based social networking sites or virtual learning environments in education supported the idea of a great potential of these hybrid educational platforms as a supplementary tool for a face-to-face class. (Brady et al. 2010). There are many educational activities that can be done in virtual learning environments such as online assignments, discussions, and other tasks. For example, computer-based assignments are very crucial in assessing students' progress. Another important point to consider in most of these studies is the overall acceptance of students on the hybrid activities given by the teacher. This is also the point to consider in this study entitled.According to (Reyes, E.R, et. Al, 2020), most of the professors find the Facebook Messenger to be one of the most convenient modes of alternative learning. This is most especially when the students could not afford to be connected with Wi-Fi. In Facebook messenger, if the students have free data, they could easily see the instruction of their professors including the tasks they need to do.

The Google Classroom is one of the best platforms which could be accessed for free by an institution or an individual faculty member. In this platform, the professor could create a class, assignments, tasks, announcements, or chats with his/her students. Edmodo is another popular E-learning platform that has a similar feature like the Google Classroom. Edmodo is a user-friendly platform that could create a class, submit assignments, post a message or announcement, and could upload and share materials for the students. Zoom is a free video call meeting where a teacher can share his/her slide presentation that everyone could see. Students could interact and raise questions to their professors. They could also see each other online and ask questions during the lecture. For those who have slow connections, the professor could even write the important messages on chat boards. With this platform, students feel comfortable and easy to learn the topic. Just like Google Classroom and Edmodo, Schoology allows the teachers to create a class and upload resources and materials online. This is something new to them and would continue to explore its usefulness. Google Meet has similar features with Zoom. Students could be seen online and interact with their teacher. Moodle has also a similar feature with Edmodo and Google Classroom while We Chat is used for chatting and uploading materials to students. Although these E-learning platforms are free, the availability of resources could be the hindrance why students or teachers could not fully utilize them. However, teachers and students alike should be grateful that these

E-learning platforms could be available without charge from the institution or individual. They make the academic life easier most especially during this post pandemic era in education. The E-learning platforms the professors have been using are the most popular ones. However, there are other platforms which have not been explored yet like: Lark, Odilo, Big Marker, and many others. This means that e-Learning Classrooms are very popular around the world, most especially during crisis or emergency. It is clear that society needs flexible and resilient education systems while facing the unpredictable futures. `These are also the considerations of this study of

**"Face to Face and Online Learning Modalities as Factors in Attaining the 21st Century Skills: Basis for Enhancement Plan."** wherein, different types of online platforms as part of the face to face and online modalities were assessed.

**Milieu :** According to an article in 2019, there were a growing number of students opting for face to face and online classes and it was stated that these number of students find the traditional classroom modality restrictive, inflexible, and impractical. And technological advancements play a huge role on why there are a number of students who think that effective classroom teaching via the web is a good idea. It is also stated that, "Traditionally, classroom instruction is known to be teacher-centered and requires passive learning by the student, while hybrid instruction is often student-centered and requires active learning" (Paul and Jefferson, 2019). This is possibly because these students are more relaxed at home, have less time for classes, and are not required to wake up early in the morning to prepare for school. With technological advancements, they can access more information online. In addition, according to Institute of education Sciences (2012), Milieu teaching is a practice that involves manipulating or arranging stimuli in a preschool child's natural environment to create a setting that encourages the child to engage in a targeted behavior. Typically, milieu teaching involves four strategies that a teacher will utilize to encourage a student to demonstrate the targeted behavior, such as using a particular language structure: modeling, man-modeling, incidental teaching, and time- delay. It is also a strategy to teach functional language skills in the natural environment" (Hallahan, Kauffman, & Pullen, 2015). This is similar to this study of

**"Face to Face and Online Learning Modalities and Intended Learning Outcomes as Factors in Attaining 21st Century Skills: Basis for Enhancement Plan"** Wherein, milieu is one of the factors to be assessed and evaluated. Moreover, there are three main factors or principles that Milieu Teaching focuses on according to McCarthren, Yoder, & Warren. The first principle is to build on a child's interests. This involves observing student play, and then building on what they seem interested in and attempting to communicate with them and discuss the item or play. Another principle is to prompt the child to communicate when they are requesting an object, action, or activity from an adult. The final principle is using social games with communication to increase use and motivation of the child. Parents have a huge help if they implement these principles at home when communicating with their child. The Milieu teaching strategy can be extremely beneficial for children who have language delays. As confirmed in most of the studies, these students are susceptible to the distractions the internet could give such as online games, videos, and the likes. While they may be able to finish their homeworks, or attend classes and participate, their attention is divided between their online classes and the internet. These factors are also included in the study of **"Online and Face to Face Learning Modalities and Intended Learning Outcomes as Factors in 21st Century Learning Skills: Basis for an Enhancement Plan."** Wherein, the intervention plan must consider the students acceptance and adjustability with the face to face and online teaching-learning modalities.

**Mode :** According to an article by Teach.com, (2020), the term teaching method refers to the general principles, pedagogy and management strategies used for classroom instruction. The choice of teaching method depends on what fits the students' educational philosophy, classroom demographic, subject area(s) and school mission statement. Teaching theories can be organized into six Modes of Instructional Delivery: Face-to-Face, Converged Learning, Synchronous Online, Online, Hybrid, and Hy Flex.According to (Pitt, D., 2020) face-to-face learning lends a hand in organizing students and their studies. The students are given the ability to interact with their instructors and other students. Though,

face-to-face learning still requires self-discipline, as students are still required to go to class and participate. Converged learning is the mode of instruction where some students are in-person in the classroom, while other students participate online/remotely in the same synchronous class meeting. Faculty members may choose this format in order to: offer a class to students who are not able to be on campus; provide students the flexibility of having two ways to attend class; or offer additional in- person learning opportunities for students (Rutgers, 2021). According to an article by TBS Staff (2021) synchronous learning is online or distance education that happens in real time, often with a set class schedule and required login times. Asynchronous learning does not require real-time interaction; instead, content is available online for students to access when it best suits their schedules, and

laptop, software, and online platforms (Burke, 2010). With the advanced technological status, educators may be challenged to use some of the tools mentioned because according to Olson (2019), "Older adults do use technologies similar to their younger counterparts, but perhaps at different usage rates." And so, this is one reason why some educators struggle to use technology for online learning modality.

Another issue that could affect the functionality of online learning modality is the differing device capabilities and instructions. In online learning mode, students and educators are required to have their own device to be able to attend the online class and the problem is the device capabilities of what each student uses. One example is, compared to an iPad, what could a cheap android phone do? Over long periods of time, students can have trouble when assignments are completed to deadlines. Programs can also use a hybrid learning model, which includes a blend of both formats. Online learning is education that takes place over the Internet. It is often referred to as "eLearning" among other terms. However, online learning is just one type of "distance learning" (Stern, 2017). According to the article by (eThink, 2020) The hybrid learning is a way of combining traditional classroom experiences, experiential learning objectives, and digital course delivery that emphasizes using the best option for each learning objective. That means unlike blended learning models, which seek to

balance the face-to-face and online aspects within a course, hybrid classrooms vary widely according to the subject matter taught and the needs of specific groups of learners. A HyFlex (hybrid-flexible) course is a course that allows each individual student to choose whether they want to attend class online or in person. Students can choose their preferred method of learning on a daily basis; they can attend some sessions online, and other sessions in the classroom (Goldburg, 2020). This is similar with the study of **"Face to Face and Online Learning Modalities and Intended Learning Outcomes as Factors in Attaining 21st Century Skills: Basis for Enhancement Plan"** since E-learning and its types will also be discussed and studied as part of the face to face and online teaching-learning modalities. Indeed, face-to-face learning and online learning modalities have differences when it comes to the construction of a course, activities, interaction, the tools used, and how the students and teachers are evaluated. Online learning modality needs students and educators to have a certain level of skills when using some tools such as computers, writing on small devices. And so, with a variety of devices, educators may have to include several instructions that will accommodate the student's comfortability (Ketchell, 2018). This study is likely similar in the study of **"Face to Face and Online Learning Modalities and Intended Learning Outcomes as Factors in Attaining 21st Century Skills: Basis for Enhancement Plan"** wherein, acceptability of face to face and learning modalities will be assessed to offer better intervention plan in teaching-learning process.

Matter : Several researchers from the past have reported on the peculiarities in design, contents, activities, interaction, tools, and evaluation processes in face-to-face and online modes of learning (Entonado, 2009). Separating learning outcomes for learners based in synchronous and asynchronous operations, activities that must be carried out at the same time or at either time, the benefit of individuals separately; the average accomplishment for synchronous activity were better and the standard format was easier, but asynchronous work face-to-face education (Nguyen, 2015). There are types of activities that fit only face-to-face learning or for online learning modality. Like most of the courses in school such as science; students cannot really do experiments without the supervision of a professional or adult and students also have to have the appropriate equipment for every experimentwhich they cannot acquire immediately.

A finding in a study conducted by (Whitmer, 2013) revealed the relationships between student academic achievement and the Learning Management System usage, thus the findings showed a highly systematic association ($p < .0000$) in relation to every variable. These variables described 12% and 23% of variations within the final course marks, which indicates that learners who employed the LMS more often obtained higher marks than the others. Thus, the correlation techniques examined these variables separately to ascertain their association with the final mark. Moreover, it is not the technology itself; it is the educational methods in relation to which technology has been utilized that create a change in learners' achievement. Instruments used are significant in identifying the technology impact; moreover, it is the implementation of those instruments under specific activities and for certain purposes which indicates whether or not they are effective. In contrast, a study conducted by (Barkand, 2017) revealed that Learning Management System tools were not considered to have an effect on semester final grades when categorized by school year. In his study, semester final grades were a measure of student achievement, which has a subjective element. This is likely similar with this study, "Face to Face and Online Learning Modalities and Intended Learning Outcomes as Factors in Attaining 21st Century Skills: Basis for Enhancement Plan" wherein, the students' academic improvements towards their subject areas using face to face and online teaching-learning modalities will be assessed to create an enhancement plan.

**21st Century skills**

In this paper, 21st century skills are referred to using the framework put forward by the National Education Association (2012) as the 4Cs:

- **Critical thinking and problem-solving skills,** which include reasoning effectively, using systems thinking, making sound judgments and decisions, and solving problems.
- **Communication skills,** which include effective oral, written, and non-verbal communication in a variety of forms, contexts and technologies; listening to decipher meaning and intention; and communicating in diverse environments.
- **Collaboration skills**, which include working effectively and respectfully with diverse teams, exercising flexibility and willingness to accomplish a shared goal, and assuming a shared responsibility for collaborative work while valuing individual contributions of team members.
- **Creativity and innovation skills,** which include thinking that creates new and worthwhile ideas; and elaborating, refining, analyzing, and evaluating ideas to improve and maximize efforts.

The Partnership for 21st Century Skills (P21) was founded in 2002 by leaders from the business community, education, and policymakers to place skills that are essential for success in life at the forefront of learning for all students (2011). The 4Cs, 21st century skills as articulated by the National Education Association (NEA, 2012) and P21 (2011), are not the only way to conceive of abilities needed for academic and professional success in the future. The Assessment and Teaching of 21st-Century Skills (Griffin, McGaw, & Care, 2012), a consortium of educators and business communities, refer to their set of proficiencies as 21st century skills and identify them as ways of thinking; ways of working, including communication and collaboration; tools for working, including information and communication technology literacy; and

ways of living in the world, including local and global citizenship, career, personal and social responsibility, and cultural awareness and competence.In addition, there is broad general agreement about the kinds of core competencies students need for current and future success, but there is also criticism. Rose (2009) noted that most lists of 21st century skills do not include mention of aesthetics or the joy of learning. Rose stated that the focus of most lists of skills is on what business needs for workplace productivity and omits personal goals or robust goals for cultural understanding. Rose expressed concern that many who articulate 21st century skills are from business and industry and therefore propose frameworks that primarily support skills emphasizing efficiency and economic returns. Another form of objection to 21st century skills is that some of them may be used destructively. Finn (2015) suggested that critical thinking promotes a negative put-down type of thinking. Paul and Elder (2014) noted that 21st century skills can be destructive if they are not infused with intellectual virtues such as empathy, humility, courage, fair-mindedness, and perseverance. Warner (2014) suggested a return to more classical values.While it is useful to distinguish between specific 21st century skills, in practice they are closely intertwined. For example, one cannot engage in meaning-making without some level of critical thinking, without taking into consideration the perspectives of others, without interacting with others, or without considering alternatives. True education is seeing connections between ideas, concepts, and disciplines in ways that help students understand the relationships and the relevance of ideas to people and new situations. Thus, when engaging in one 21st century skill, the others are engaged to varying degrees. As the 21st century progresses, great professors will look for ways to thoughtfully embrace the 4Cs and to encourage more critical thinking, better communication, collaboration, and creativity in their own professional lives, as well as in the quality of their students' learning experiences.

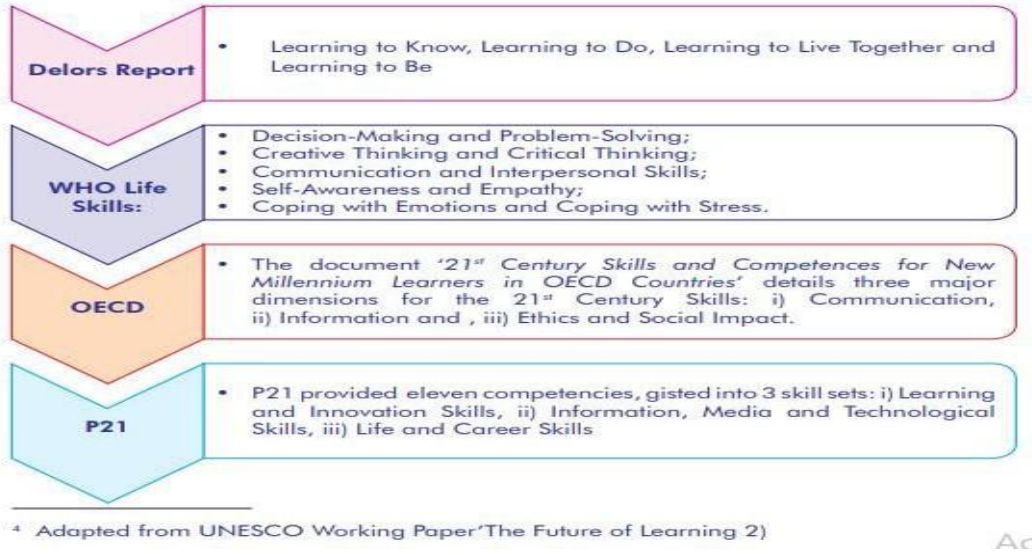
The 21st-century skill set is generally understood to encompass a range of competencies, including critical thinking, problem solving, creativity, meta-cognition, communication, digital and technological literacy, civic responsibility, and global awareness (for a review of frameworks, see Dede, 2010). And nowhere is the development of such competencies more important than in developing country contexts, where substantial lack of improvements in learning outcomes has suggested that the task of improving instructional quality is urgent. A challenge in bringing about the desired improvements lies in the lack of context-specific understanding of teaching practices as well as meaningful ways of supporting teachers in their professional development (Seidman et al., 2018; UNESCO, 2016; Wolf et al., 2018).Teachers have been encouraged to deliver 21st-century learning, including educating pupils to be critical thinkers and problem solvers and creative, innovative, communicative, and collaborative (ZivkoviL, 2016; Saleh, 2019). It is not simple to meet international standards for teacherresponsibilities as we approach the twenty-first century.

Teachers are required to be capable and knowledgeable since they are expected to be able to teach a variety of subjects. (Glaze, 2018; Rochmawati, et al., 2019). This is likely similar in this study of, "**Face to Face and Online Modalities and Intended Learning Outcomes: Basis for an Enhancement Plan ''** wherein, the 21st century skills are taken in consideration in crafting enhancement plans using face to face and

online modalities. Moreover, students need to have critical thinking skills because they are needed to face the challenges of the 21st century (Vieira & Tenreiro-Vieira, 2016; Wulandari et al., 2017; Purnami et al., 2021). Students who have critical thinking skills will solve problems more effectively (Saputra et al., 2019; Wahidin & Romli, 2020). Critical thinking skills must be trained in students. As one of the school level components at the school level, teachers are responsible for equipping school graduates with critical thinking skills (Liu et al., 2014; Anazifa & Djukri, 2017).

Hence, since the beginning of life on earth, understanding of the skills to survive and live began. Survival of the fittest itself tells us the importance of Life Skills. Over the last twenty-five years, several institutions and international organizations have proposed frameworks and outlined competencie needed to address twenty-first century challenges. This is similar to the aim of this study, **"Face to Face and Online Modalities and Intended Learning Outcomes as Factors in Attaining the 21st Century Skills: Basis for an Enhancement Plan"** wherein, the enhancement plan must address the attainment of the 21st century. The Delors Report (1996) produced by the International Commission on Education for the Twenty-first Century proposed one of the first frameworks to identify competencies needed in the coming century. This report also formulated four principles identified as the Four Pillars of Education: Learning to Know, Learning to Do, Learning to Be and Learning to Live Together.2 Wagner (2010) and the Change Leadership Group 3 at Harvard University identified another set of competencies and skills. Informed by several hundred interviews with business, non- profit and education leaders, Wagner stressed that students need seven survival skills to be prepared for twenty- first century life, work and citizenship: Critical thinking and problem solving, Collaboration and leadership, Agility and adaptability, Initiative and entrepreneurialism, Effective oral and written communication, Accessing and analyzing information, Curiosity, and imagination. The Asia-Pacific Economic Cooperation (APEC) has identified the development of twenty-first century competencies among youth as a 'pressing international concern'. These competencies are defined as the knowledge, skills, and attitudes necessary to be competitive in the twenty-first century workforce to participate appropriately in an increasingly diverse society, use new technologies and cope with rapidly changing workplaces. Partnership for 21st Century Skills (P21), a coalition of business leaders and educators, proposed a Framework for 21st Century Learning, identified essential competencies and skills vital for success in twenty-first century work and life (P21, 2007a, 2011). These included 'The 4Cs' – communication, collaboration, critical thinking, and creativity, which are to be taught within the context of core subject areas and twenty-first century themes. This framework is based on the assertion that twenty-first century challenges will demand a broad skill set emphasizing core subject skills, social and cross-cultural skills, proficiency in languages other than English, and an understanding of the economic and political forces that affect societies. Thus, when we chart the historical development, the following major developments emerge:

**Figure1. Adapted from UNESCO Working Paper**




[4] Adapted from UNESCO Working Paper'The Future of Learning 2)



**Source:http://cbseacademic.nic.in/web_material/Manuals/21st_Century_Skill_Handbook.pdf**

**(May 2020)**

**Figure 2. The 21st Century Skills**

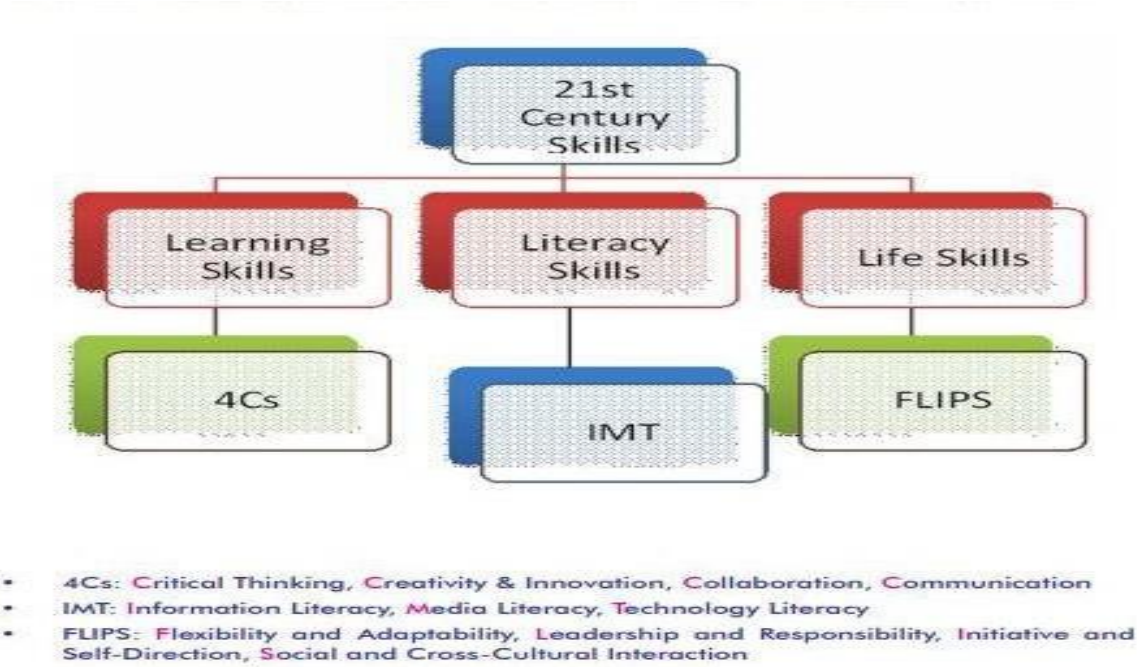
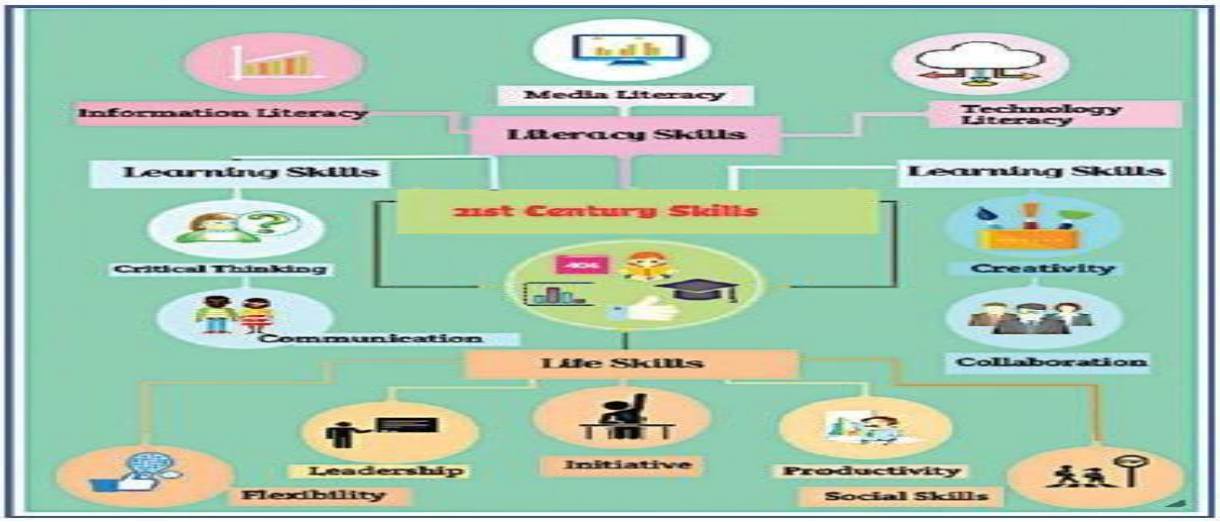



**Figure 3. 21st Skills Century Manual**




An easy way to understand and remember the classification is the 4Cs such as Critical Thinking, Creativity & Innovation, Collaboration, and Communication. IMT: Information Literacy, Media Literacy, Technology Literacy. FLIPS: Flexibility and Adaptability, Leadership and Responsibility, Initiative and Self-Direction, Social and Cross-Cultural Interaction. There are more as given ahead. 21st 20 Century Skills : 1).Critical Thinking and Problem Solving Critical Thinking is the capability of objective analysis of information and includes the following qualities: fairness and open-mindedness; activeness and being informed; willingness to question or to entertain doubts; being independent, recognizing and assessing values, peer pressure and the media influences (for a creative understanding of critical thinking, refer to CBSE's comic book 'Cogito') Problem Solving is the skill of identifying the relevant piece of information when faced with a mass of data (most of which is irrelevant), discarding information that may not be useful to give new information, and finally, relating one set of information to another in a different form by using experience, relating new problems to ones we have previously solved. 2). Creativity and Innovation. These are the skills to explore and create fresh ways of thinking. Creativity refers to a new way of seeing or doing things and includes four components: fluency (generating new ideas), flexibility (shifting perspective easily), originality (conceiving of something new), and

elaboration (building on others' ideas). Innovative Skills mean skills for thinking creatively to develop something new/ unique / improved / distinctive. Collaboration is the ability to effectively work together with others. This skill involves working together while taking actions respecting others' needs and perspectives and contributing to and accepting the finale. Collaboration helps to develop interest and fun in the teaching learning process. It effectively broadens the cultural, social, and environmental boundaries and helps a child to understand social and environmental concerns better. 4) Communication refers to the ability to express one's opinions, desires, needs, apprehensions etc. oneself appropriately, verbally and non-verbally. 5.) Information Literacy, Media Literacy, Technology Literacy. These skills involve the ability to access information (traditional or digital), media and technology, to understand and critically evaluate different aspects of content and information and create and communicate effectively. 6.) Flexibility And Adaptability Flexibility and Adaptability refer to a person's ability to change his actions and steps taken by him according to a new situation, and efficiently facing an unprecedented situation, without compromising on ethics and values. Adaptability can be defined as creating modifications or changes in oneself to suit the new environment. For students, these can be understood as the skills required being flexible

and adaptive to the situations around them and finding the best possible solution to go forward despite adverse conditions. 7.) Leadership and Responsibility Leadership is the ability to lead a team and be capable of effective team management in relation to real world challenges. These skills teach a child how to support the development of key personal qualities such as perseverance, being committed and responsible, resilience and self-confidence and how to foster a commitment to life-long learning. 21st 22nd Century Skills: A Handbook Being Responsible means being a good and effective/ sensitive citizen. Be aware of the important social and national issues that may have an impact on our daily lives both as a human-being and as a student, be aware of the important social and national issues that may have an impact on lives in future both as a human -being and as a student, be aware of our fundamental duties and rights and embed the core democratic values of India and strive to live by them. 8.) Initiative and Self Direction Initiation skill involves the ability to begin a task independently. It helps the child to build his/her own path of development. Self-direction is a skill to work with integrity on self-motivation and taking initiatives. 9.) Productivity and Accountability. Productivity in the student can be understood as fulfillment of any task within a given time period while accountability can be understood as feeling responsible for any task done. Developing these skills in a student helps him/her to work effectively and also make him/ her reliable for other peers by being accountable for his/her actions. 10.) Social And Cross-Cultural Interaction These are the skills to communicate, work collaboratively and effectively in diverse social and cultural environments. Remember that there is no single widely accepted definition of '21st Century Skills'. These skills are the focus of a plan for intervention in the study of "**"Face to Face and Online Learning Modalities and Intended Learning Outcomes as Factors in Attaining 21st Century Skills: Basis for Enhancement Plan".**

**Extent of Attainment in Face to Face and Online Learning Modalities**

Pandemic has forced education systems worldwide to find alternatives to face-to-face instruction. However, even though the pandemic season is gone, there is the impact of it through the current teaching-learning modality, specifically the hybrid learning wherein, the students are given a schedule that can be face-to-face or online learning sessions. This shows convenience in the part of the teachers and students.However, studies shown that for students, it is easy for them to be distracted because they use devices such as computer, laptop, or phone mainly for social media, playing of games, online communication such as instant messaging, text messaging,and emailing rather than for class work. This generation of students has been described as "digital rebels" or accessing social media and texting, "cyber wanderers" or succumbing to virtual games and "eLearning pioneers" or undertaking online studies during class time (Ketchell, 2018). This factor is also the point of consideration in crafting the intervention plan in this study of, **"Face to Face and Online Learning Modalities and Intended Learning Outcomes as Factors in Attaining 21st Century Skills: Basis for Enhancement Plan."**

**Intended Learning Outcomes**

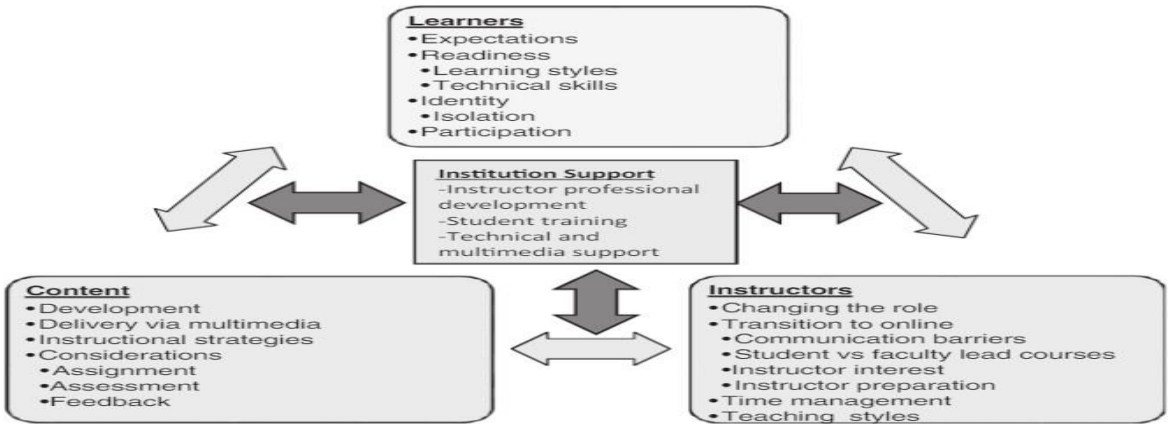
With the technology that is continuously advancing, some researchers may have thought that hybrid learning was a good idea but, with the current level of technology and kinds of learners, this may be challenging to manage properly when the goal is to teach students with the same level of affectivity as the traditional teaching-learning approach. This challenge is also the point to consider in this study of **"Face to Face and Online Learning Modalities and Intended Learning Outcomes as Factors in Attaining 21st Century Skills: Basis for Enhancement Plan."**

**Issues and Challenges in Face to Face and Online Teaching-Learning Modalities :** There are three major categories in findings the issues and challenges that affect face to face and online teaching learning modality and the functionality and attainment of intended learning outcomes. First is, issues related to content wherein, under

this challenge is the content development and instructors. It would not be possible to copy material from face-to-face to an online environment; Content and instructional strategies, in which the material must include cooperative events that have appropriate rubrics outlining interaction and involvement requirements. A mix of collaborative activities, reflective activities, consistent evaluation criteria, technology incorporation are the success factors promoted for the creation of content in an online environment. Another issue related to content is the considerations for content development in which performance, priorities, and tasks of student learning must be aligned. There are also issues related to instructors. To build a sense of social engagement is demanding just so the hybrid learners feel a part of the learning community. The students' level in learning is difficult to determine and to interact with them frequently with limited face-to-face interaction. Face to face and online learners will need continuous input and guidance on complex concepts that the faculty may take a very long time to understand (Esani, 2020).

Communication barriers issue, in which feedback is given by e-mail in correspondence courses and typically not as required for corrective steps. Student versus faculty focus classes issue, in which professors ought to be familiar with the face to face and online learning program and how to use it to be effective. The combination of face-to-face and online learning under the hybrid teaching-learning modality directed classes to be even more student-focused. The instructors' lack of interest in online courses may be an issue. One of the biggest problems is that for years most instructors have purely taught face-to- face and do not feel at ease transitioning to the online format of teaching. Several other faculties find the online environment cold and distant for learners and have still not formed the links between the curriculum as well as how effective it is to perform their online lessons. Instructor preparation for face to face and online learning programs may also be a factor. Therefore, the issue is that there must be a different way to look at face to face and online teaching methods and conduct faculty training systems to consider new techniques to help facilitate better student education in the said modality. Time issue: one of the biggest problems that the instructors face is their time for the preparations, planning, and teaching in face to face and online classes. Lastly, teaching styles issue in which the instructors need to use the resources offered, but still consider how best to interpret the principles for the best outcomes of student learning. With the higher education organizations, they have to provide professional development for teachers, instruction for learners and technical support for curriculum development to overcome these challenges in hybrid education. (Mansureh Kebritchi, 2017). As shown in Figure 4 below, face to face and online education is a complex system in which the three key components of teachers, learners, and content are constantly affected by each other, although the three components are often significantly influenced by institutional support. These are the factors considered in this study of, "Face to Face and Online Learning Modalities and Intended Learning Outcomes as Factors in Attaining 21st Century Skills: Basis for Enhancement Plan" wherein, the institutions, content and teachers of Face to face and online modalities are to be assessed to be created an enhancement plan that will best fit the learners' academic needs.

***Figure 4. Three major components and the related issues in a hybrid educationenvironment.***




*(source:*https://www.researchgate.net/publication/319013030_Issues_and_Challenges_for_Teachin Successful_Online_Courses_in_Higher_Education_A_Literature_Review)mvb0

**Synthesis** : The literature and studies are relevant to the current research. These cater an immersed understanding of the concerns being addressed and reliable evidence sources from which inquiries were thoroughly discussed.
In accord with Roblyer (1999), as citated by Yu et al. (2014), Ferlazzo (2020), Horspool and Yang (2010) found that students attending face-to-face and online classes gave their teachers positive ratings when it came to how

quickly they responded, the lack of interaction gave students a feeling of dissatisfaction. Hara and Kling (2000), Wingenbach et al. (2013), Shahidian et al. (2011), Platt et al., (2014), Saminathan (2020), Tientcheu (2021) emphasized that our technology has come a long way and technical issues are a significant challenge when participating and hosting an online class. Poláková & Klímová (2019), Seemiller & Grace (2016), Shorey et al. (2021), Chicca & Shellenbarger, (2018), Seemiller & Grace, (2016), Watermeyer et al., (2021), Arday (2022), Kirkwood & Price (2014), Crede et al. (2010), Guleker & Keci, (2014) and Doggrell (2020) highlighted common concerns that may negatively affect the student outcomes performance during the face-to-face classes. Further, Gosper et al. (2010), Kinash et al. (2015), Preston et al. (2010), Mark et al. (2010) affirmed that the attendance rates for students vary widely and the reasons for absenteeism often include student perception of the value of traditional lectures as well as the availability of class recordings and other online resources as reviewed in James & Seary (2019) and Shorey et al. (2021). Meanwhile, Ansari & Khan (2020), Voorn & Kommers (2013), Dunn & Kennedy (2019), Crede et al. (2010), Guleker & Keci (2014), Doggrell (2020), Kauffman et al. (2018), Eisen et al.( 2015) and Lukkarinen et al. (2016), Freeman et al.(2014), Büchele, (2021), Fadelelmoula (2018), O'Keeffe et al. (2017), Wood et al. (2018), Shaw et al. (2015), Seemiller & Grace (2016) determined the challenges in using a technology-enhanced active learning platform as a tool that may soon encourage students participations in classes. Moreover, Freeman et al. (2014), Shaw et al.( 2015), Dunn & Kennedy (2019) identified the learning preferences of the current students' learning experiences to address this issues in relevance to face-to-face classes. However, the advent of online education has introduced challenges such as technological and communication barriers, leading to stress and dissatisfaction among some students. While there is a growing acceptance and integration of online learning into educational systems, particularly accelerated by the COVID-19 pandemic, the preference for face-to-face interaction remains strong among certain student cohorts. On the other hand, understanding the evolving characteristics and preferences of each generation of students is crucial for educators to adapt and create engaging learning environments.

Hence, the effectiveness of traditional face-to-face lectures in higher education has been questioned, with concerns about attendance rates and the impact of alternative resources such as lecture recordings and online materials. While attendance has traditionally been linked to academic success, the availability of online resources has challenged this correlation, leading to debates about the necessity of in-person attendance. Oztok et al. (2013), Villarin (2020) outlined the modified forms of hybrid learning attempts to concretize the government's stance to continue learning both online and face-to-face modalities. On the other hand, Lapada A. A, et. Al (,2020), Reyes, E.R, et. Al (2020), reiterated about the E-learning platforms that are very popular around the world, most especially during crisis or emergency.Correspondingly, according to Institute of education Sciences (2012), McCarthren, Yoder, & Warren (2020), Milieu teaching is a practice that involves manipulating or arranging stimuli in a preschool child's natural environment to create a setting that encourages the child to engage in a targeted behavior and intervention plan must be considered. On the other hand, according to an article by Teach.com (2020), Teaching theories can be organized into six Modes of Instructional Delivery: Face-to-Face, Converged Learning, Synchronous Online, Online, Hybrid, and HyFlex.which furthered highlighted in the studies of Pitt, D. (2020), Rutgers(2021), TBS Staff (2021), Olson (2019), Stern (2017), and e-Think (2020).

Matter on the other hand, was reiterated in the studies of Entonado (2009), Nguyen, (2015), Whitmer (2013), Barkand (2017) whereas, they revealed that the students' academic improvements towards their subject areas using face to face and online teaching-learning modalities must be assessed to create an enhancement plan. Overall, their studies focused more on the design and implementation of online learning activities that require careful consideration of factors such as learning outcomes, instructional methods, and evaluation processes. Studies have shown correlations between the usage of Learning Management Systems (LMS) and student academic achievement, emphasizing the importance of effective integration of technology into pedagogical practices. In addition, the idea of 21$^{st}$ Century skills in terms of Communication skills,

Collaboration skills, Creativity and innovation skills were narrowed down and discussed in the studies of Griffin et al. (2012), Rose (2009), Finn (2015), Paul and Elder (2014), Warner (2014), Dede (2010), Seidman et al. (2018), UNESCO (2016) and Wolf et al. (2018), ZivkoviL (2016), Saleh, 2019), Glaze (2018), Rochmawati et al. (2019), Vieira & Tenreiro-Vieira (2016) Wulandari et al. (2017), Purnami et al. (2021), Saputra et al. (2019), Wahidin & Romli (2020), Liu et al. (2014), Anazifa & Djukri (2017), Delors Report (1996), Wagner (2010) affirmed that Critical thinking and problem solving, Collaboration and leadership, Agility and adaptability, Initiative and entrepreneurialism, Effective oral and written communication, Accessing and analyzing information, Curiosity, and imagination were the factors of the 21$^{st}$ century skills. Their concept of 21st-century skills encompasses a diverse range of competencies essential for success in today's rapidly evolving world. These skills are often categorized under various frameworks, each emphasizing different aspects of preparedness for the challenges of the modern era.

However, there are criticisms and alternative perspectives on the concept of 21st-century skills. Some argue that these frameworks may prioritize skills needed for economic productivity and efficiency, overlooking personal and cultural dimensions of learning. Others suggest that critical thinking, if not infused with moral virtues such as empathy and fairness, could lead to negative outcomes. Despite these critiques, there is a general consensus on the importance of 21st-century skills in preparing individuals for success in academic, professional, and civic life. Teachers play a crucial role in imparting these skills to students, fostering critical thinking, problem-solving, creativity, communication, and collaboration in their learning experiences. Furthermore, the new generation of students has been described as "digital rebels" Ketchell (2018) and teachers must take in consideration the issues and challenges in face to face and online teaching-learning modalities. This is the same with the study conducted by Kebritchi (2017) whereas the "4Cs," which stands for Critical Thinking, Creativity & Innovation, Collaboration, and Communication were emphasized to analyze information objectively, think creatively, work effectively in teams, and express ideas clearly and appropriately. Furthermore, other essential skills include Being Responsible, Initiative and Self-Direction, and Productivity and Accountability. Being Responsible involves being aware of social and national issues, understanding fundamental duties and rights, and embodying core democratic values. Initiative and Self-Direction encompass the ability to begin tasks independently and work with integrity and motivation. Productivity and Accountability involve fulfilling tasks within given timeframes and taking responsibility for one's actions. However, implementing these skills effectively in educational settings, particularly in face-to- face and online learning modalities, poses significant challenges. Issues related to content development, instructor preparation, communication barriers, and time constraints need to be addressed to ensure the attainment of intended learning outcomes.

## III. RESEARCH METHODOLOGY

This chapter presents the overview of the research design, the respondents, research instrument, data gathering procedure, and the statistical treatment used in this study.

**Research Design :** The study utilized descriptive correlational research design. Descriptive correlational research is a type of research design that tries to explain the relationship between two or more variables without making any claims about cause and effect. A descriptive correlational study primarily focused on describing relationships among variables, without seeking to establish a causal connection. This also provides a snapshot of the current situation. Correlational research is suited to the nature of this since it is focused to discover relationships among variables and to allow the prediction of future events from present knowledge and since this study aimed to determine if there is significant relationship between the functionality of the face to face and online modalities and the attainment of the intended learning outcomes to describe and provide the possible enhancement plans to attain the 21st century skills ofthe learners.

**Sources of Data :** The study has two sources of data: the primary and secondary sources. The primary sources of data were the 118 respondents from junior high school learners and 38 junior high school teachers. The secondary sources of data were online journals, published and unpublished research and books.

**Research Locale :** The study was conducted in Holy Redeemer School of Cabuyao, located in Banlic, City of Cabuyao,Laguna. The participants are those using face to face and online modalities in junior high school consisting of 118 learners enrolled in the academic year 2023-2024 and 38 teachers who are employed in the same year. The combined respondents of the study have a total of 156 participants.

**Respondents of the Study :** The study was supposed to be involved a total of 186 junior high school learners and 40 teachers a total of 226 respondents. However, as presented in the table below, only 118 junior high school learners and 38 teachers, a total of 156 respondents answered the floated survey questionnaire which was distributed to the junior high school students and teachers at Holy Redeemer School of Cabuyao located in Purok 1, Barangay Banlic, City of Cabuyao, Laguna. As shown below, Table 1 presents the frequency and percentage distribution of the respondents.

Table 1 Respondents of the Study

| Category | Total | Frequency | Percentage |
|---|---|---|---|
| Junior High School Students | 186 | 118 | 63.44 |

| | | | |
|---|---|---|---|
| Junior High School Teachers | 40 | 38 | 95.00 |
| **Total** | **226** | **156** | **69.02** |

**Research Instruments**

parts. A research -made questionnaire will be constructed for the study. It will be divided into 3

- ✓ **Part I** pertained to the functionality of the face-to-face modality utilized for juniorhigh school students.
- ✓ **Part II** pertained to the functionality of the online modality utilized for junior highschool students.
- ✓ **Part III** consisted of statement on the level of attainment of the intended learning outcomes of the 21st Century Skills.

**Validation of the Instrument :** The study used a survey questionnaire for the purpose of collecting the needed primary data. The instrument was divided into three (3) parts. The questionnaire underwent face validation by a 3-member panel consisting of experts in research, statistics, and the topic. Relying solely on their expertise and experience, the panel criticized and evaluated the tool. Their comments and suggestions were given full consideration. The significant ideas, suggestions and insights of the validators were integrated for the final draft of the instrument which was constructed in accordance with the statement of the problem. The researcher administeredthe survey questionnaire to the actual group of the respondents.

**Data Gathering Procedures :** Permission to conduct the study was requested from the office of the director through a letter of request. Upon approval of the request, the director assigned a teacher to assist in conducting the survey. Before pushing through to the administration of the survey, parental consent form for research undertaking and informed consent form were also secured by the researcher. In administering the survey questionnaire, the researcher used google form to be answered by the junior high school learners and teachers. The respondents were given enough time to answer the questions. **After data gathering, the researcher collected the data for tallying the scores and applied theappropriate statistical tools.**

**Data Gathering Tool :** The researcher used a survey questionnaire to conduct the study. The survey questionnaire was made solely by the researcher and underwent reliability and validity testing. The survey questionnaire was divided into 3 parts; the first part was functionality of the face-to-face modality utilized for junior high school learners in terms of milieu, mode, and matter. The second part was the functionality of the online modality utilized for junior high school students in terms of milieu, mode, and matter. The third part includes the attainment of intended learning outcomes as factors in attaining the 21st century skills of the respondents in terms of learning skill, critical thinking, collaboration, communication, creativity, literacy skills and life skills. The questionnaire was answered both by the junior high learners and teachers. The final respondents were selected using stratified sampling technique since only the junior high school teachers and students at Holy Redeemer School of Cabuyao were involved in the study. The list of respondents was given by the departmental secretary. The respondents were given survey questionnaires that were answered individually through Google Forms (see Appendix). The survey questionnaire was disseminated to the learners with the help of the class of the class advisers and representatives of each section. The first data that was filled out was the demographic profile of the respondents such as their name (optional), age, and classification as teacher or student. And then the respondents answered the questions indicated in the questionnaire. The questionnaire was all close-ended questions with a Likert scale of 1 to 4 scale.

**Statistical Treatment Used** : To answer the problems posited in the Statement of the Problem, the following statistical toolswere applied to the data collected.

**1. Descriptive Statistics**

✓ Weighted Mean was used in answering problems 1, 2, and 3. Sets of criteria will beadapted to give weight to the respondents' perceptions on:

**A. Functionality of Face-to-Face Modality**

| Value | Range | Descriptive Rating |
|---|---|---|
| 4 | 3.51 - 4.00 | Highly Functional |
| 3 | 2.51 - 3.30 | Functional |
| 2 | 1.51 - 2.50 | Moderately Functional |

| | | |
|---|---|---|
| 1 | 1.00 - 1.50 | Not Functional |

**B. Functionality of Online Modality**

| Value | Range | Descriptive Rating |
|---|---|---|
| 4 | 3.51 - 4.00 | Highly Functional |
| 3 | 2.51 - 3.30 | Functional |
| 2 | 1.51 - 2.50 | Moderately Functional |
| 1 | 1.00 - 1.50 | Not Functional |

**C. Level of Learning Outcomes Attained in relation to the 21st Century Learning Skills**

| Value | Range | Descriptive Rating |
|---|---|---|
| 4 | 3.51 - 4.00 | Highly Functional |
| 3 | 2.51 - 3.30 | Functional |
| 2 | 1.51 - 2.50 | Moderately Functional |
| 1 | 1.00 - 1.50 | Not Functional |

- ✓ Standard Deviation was employed to determine the mean ratings.
- ✓ Simple Ranking was computed after the weighted mean was computed and ranking was madefrom the highest to the lowest.

**2. Inferential Statistics**

- ✓ to estimate some characteristics in a large population; and
- ✓ to test the research hypothesis about a given population

**3. T- Test**

- ✓ used to determine if there is a significant difference between the means of two groups and howthey are related.
- ✓ used when the data sets follow a normal distribution and have unknown variances.

**4. Pearson Product Moment Coefficient of Correlation**

- ✓ was utilized to establish relationships between variables.

**Ethical Consideration :** The informed consent process provides sufficient information so that a respondent can decide whether to join or not in a study or to continue participation. The informed consent was made by the researcher to gather respondents voluntarily and to provide them information about the possible risks and benefits of the research before conducting the survey. The consent form was given before conducting data gathering (see Appendix). The researcher requests information that would be necessary for the study. The researcher used it responsibly and avoided sharing the data without the consent of the respondents as stated in the school's Child Protection Policy. The information gleaned from the participants were and will always be kept privately. Anonymity refers to data collected from the respondents in which researchers do not know the identity of individual subjects. The questionnaire was answered through Google forms and will be kept confidential and used only for the study. The study conducted was under the assumption that the researcher would keep the results classified. The information about the respondents will not be disclosed in any way possible. The data gathered is solely for research purposes. The data provided has no personal benefit to the researcher. The information gathered was not and will never be used to harm anyone of the respondents.

## IV. PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

This chapter deals with the presentation and interpretation of data posited in the Statementof the Problem in Chapter 1.

**Part I. Functionality of Face-to-Face Learning Modality**

**SOP 1.** What is the level of functionality of face-to-face modality utilized for junior high school studentsin Holy

Redeemer School of Cabuyao in terms of:

- ✓ Milieu
- ✓ Mode, and
- ✓ Matter
- ✓

Table 1. Assessment on the Level of Functionality of Face-to-Face Modality Utilized in Terms of Milieu

| For Functionality of face-to-face classes | Mean | SD | Interpretation | Rank |
|---|---|---|---|---|
| 1. The teacher is able to integrate varied sourcesin teaching face-to-face. | 3.347 | 0.513 | Functional | 5 |
| 2. The teacher conducts preliminary activitiesduring the face-to-face teaching-learning process. | 3.390 | 0.555 | Functional | 4 |
| 3. The teacher maximizes the other related materials in face-to-face teaching-learningprocess. | 3.458 | 0.594 | Functional | 2 |
| 4. The teacher constantly checks the students'outputs assigned in face-to-face modality. | 3.424 | 0.530 | Functional | 3 |
| 5. The teacher interacts with the students to properly assist them in face-to-face modality. | 3.568 | 0.497 | Highly functional | 1 |
| **General Assessment** | 3.437 | 0.538 | Functional | |

***Legend**: 3.500- 4.000 Highly functional; 2.500-3.499 Functional; 1.500-2.499 Moderately functional;and 1.000-1.499 Not functional*

Table 1 above presents the respondents' assessment on the level of functionality of face-to-facemodality in terms of milieu, mode, and matter.

Table 1 shows the respondents' teachers and students mean and SD ratings on the level of unctionality of face-to-face teaching modality utilized in terms of milieu.

Table 1 shows the assessment on the level of functionality of face-to-face teaching modality

utilized for junior high school in terms of milieu was Functional (3.437). Indicator number 5, "The teacher interacts with the students to properly assist them in face-to-face modality." with the highest weighted mean of 3.568 interpreted as "highly functional." had the highest computed value of 3.568 and was verbally interpreted as Highly functional while the indicator number 1 "The teacher is able to integrate varied sources in teaching face-to-face." had the lowest computed mean of 3.347 which was verbally interpreted as Functional. The findings revealed that communication between teachers and learners is a standout advantage of face-to-face teaching. This implies that direct interaction cultivates smooth and comfortable communication, which is crucial for effective teaching and learning exchanges. Further, it indicates a "High" level of assessment on functionality of face-to-face teaching modality utilized for junior high school learners as manifested by the students and teachers' respondents.

According to Yurdugül (2020), the high functionality of milieu in online learning is because students feel more relaxed at home, have less time for classes, and are not required to wake up early in the morning to prepare for school and especially with the technological advancements, they can access more information online. In addition, as supported by an article by Paul and Jefferson (2019) the growing number of students opting for online classes was stated that these number of students find the traditional classroom modality restrictive, inflexible, and impractical. And technological advancements play a huge role on why there are a number of students who think that effective classroom teaching via the web is a good idea. They also stated that, "Traditionally, classroom instruction is known to be teacher- centered and requires passive learning by the student, while online instruction is often student- centered and requires active learning."

Table 2 shows the respondents' teachers and students mean and SD ratings on the level offunctionality of face-to-face teaching modality utilized in terms of mode.

Table 2, Assessment on the Level of Functionality of Online Modality Utilized in Terms of Mode

| Indicators | Mean | SD | Interpretation | Rank |
|---|---|---|---|---|
| 1. The teacher is familiar/able to access a wide network of sources of information applicable for face-to-face instructions. | 3.347 | 0.513 | Functional | 5 |
| 2. The teacher conducts face-to- face classroom management,such as prayer, sitting arrangement, checking ofattendance, etc. | 3.390 | 0.555 | Functional | 4 |
| 3. The teacher utilizes learning technology, such as smart television, projector, internet, etc. in conducting face-to-face lesson discussion. | 3.458 | 0.594 | Functional | 2 |
| 4. The teacher manages/checks group projects/assignments in face-to-face modality. | 3.424 | 0.530 | Functional | 3 |
| 5. The teacher communicates withthe students more conveniently and comfortably in face-to-facemodality. | 3.568 | 0.497 | Highly functional | 1 |
| **General Assessment** | 3.437 | 0.538 | Functional | |

***Legend**: 3.500- 4.000 Highly functional; 2.500-3.499 Functional; 1.500-2.499 Moderately functional; and 1.000-1.499 Not functional*

Table 2. above shows the assessment on the level of functionality of face-to-face modality utilized for junior high school in terms of mode was Functional (3.437). Indicator number 5 “The teacher communicates with the students more conveniently and comfortably in face-to- face modality.” with a highest weighted mean of 3.568 interpreted as “highly functional.” had the highest computed value of 3.568 and was verbally interpreted as Highly functional while the indicator number 1 “The teacher is familiar/able to access a wide network of sources of information applicable for face-to-face instructions.” had the lowest computed mean of 3.347 which was verbally interpreted as Functional.

The table expresses the high functionality of mode in face-to-face learning in junior high school learners at Holy Redeemer school of Cabuyao. These results indicate that although face-to-face communication is a notable advantage of the teaching approach, there's potential for improving teachers' access to a variety of information sources. Strengthening teachers' familiarity with and access to diverse information networks could enhance the overall effectiveness of face-to-face instruction, potentially enriching students' learning experiences. The result of this study is supported by OLEC learning (2019), which states that the main advantage of different online learning modes is that it allows students to participate in high quality learning situations even when in distance and the schedule makes on-ground learning difficult-to- impossible. Students can participate in classes from anywhere in the world, provided they have a computer and Internet connection. In addition, the online format allows physically challenged students (and teachers) more freedom to participate in class. Participants access the Virtual Classroom through their computers instead of having to go to class physically best describes the high functionality rate of the responses.Table 3 shows the respondents’ teachers and students mean and SD ratings on the level of functionality of face-to-face teaching modality utilized in terms of matter. Table 3 shows the assessment on the level of functionality of face-to-face teaching modality utilized for junior high school in terms of matter was Functional (3.437). Indicator number 5 “The teacher communicates with the students more conveniently and comfortably in face-to-face modality.” with a highest weighted mean of 3.568 interpreted as “highly functional.” had the highest computed value of 3.568 and was verbally interpreted as Highly functional while the indicator number 1 “The teacher is familiar/able to access a wide network of sources of information applicable for face-to-face instructions.” had the lowest computed mean of 3.347 which was verbally interpreted as Functional.

Table 3. Assessment on the Level of Functionality of Face-to-Face Teaching Modality Utilized inTerms of Matter

| Indicators | Mean | SD | Interpretation | Rank |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| 1. The teacher is familiar/able toaccess a wide network of sources of information applicable for face-to-faceinstructions. | 3.347 | 0.513 | Functional | 5 |
| 2. The teacher conducts classroom management, such as, prayer, sitting arrangement, checking of attendance, etc. | 3.390 | 0.555 | Functional | 4 |
| 3. The teacher utilizes learning technology, such as smart television, projector, internet,etc. in conducting face-to-face lesson discussion. | 3.458 | 0.594 | Functional | 2 |
| 4. The teacher manages/checksgroup projects/assignments in face-to-face modality. | 3.424 | 0.530 | Functional | 3 |
| 5. The teacher communicates with the students more conveniently and comfortably in face-to-face modality. | 3.568 | 0.497 | Highly functional | 1 |
| **General Assessment** | 3.437 | 0.538 | Functional | |

***Legend**: 3.500- 4.000 Highly functional; 2.500-3.499 Functional; 1.500-2.499 Moderately functional;and 1.000-1.499 Not functional*

In conclusion, this evaluation emphasizes the significance of proficient communication in face- to-face teaching methods, while also indicating areas for improvement in terms of accessing and utilizing information. These observations provide valuable guidance for devising strategies to enhance teaching and learning experiences of the learners. This finding is supported by the study conducted by (Whitmer, 2013) which revealed that the relationships between student academic achievement and the Learning Management System usage showed a highly systematic association in relation to another variable, such as matter. Whereas those using the LMS more often obtained higher marks than the others. More so, it is not the technology itself; it is the educational methods in relation to which technology has been utilized thatcreate a change in learners' development.

**Part II. Assessment on the Level of Functionality of Online Modality**

**SOP 2**. What is the level of functionality of online teaching modality utilized for junior high schoolstudents in Holy Redeemer of School of Cabuyao in terms of:

- ✓ milieu;
- ✓ mode; and
- ✓ matter?

Tables 4 - 6 present the respondents' assessment on the level of functionality of online modality in terms of milieu, mode, and matter. Table 4 below shows the respondents' teachers and students mean and SD ratings on the level of functionality of online teaching modality utilized in terms of milieu. Table 4. below shows the assessment on the level of functionality of online teaching modality utilized for junior high school in terms of matter was Functional (3.085). Indicator number 2 "Equips with a proper gadget (e.g., laptop/computer, microphone, camera, printer, smartphone) for learning through online modality." got a highest weighted mean of 3.263 and had the highest computed SD value of 0.514 and was verbally interpreted as functional while the indicator number 5 "Delivers the online lesson without distractions." had the lowest computed mean of 2.949 which was verbally interpreted as Functional.

Table 4. Level of Functionality of Online Teaching Modality Utilized in Terms of Milieu

| **Indicators** | **Mean** | **SD** | **Interpretation** | **Rank** |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| 1. Fits environment for an effectiveonline teaching (e.g., quiet environment is present) | 3.110 | 0.365 | Functional | 4 |
| 2. Equips with a proper gadget (e.g., laptop/computer, microphone, camera, printer, smartphone) for learningthrough online modality. | 3.263 | 0.514 | Functional | 5 |
| 3.Is comfortable on the Onlineteaching modality as the conventional teaching | 3.017 | 0.453 | Functional | 2 |
| 4.Is comfortable on the Onlineteaching modality as the conventional teaching | 3.085 | 0.360 | Functional | 3 |
| 5. Delivers the online lesson without distractions | 2.949 | 0.221 | Functional | 1 |
| **General Assessment** | 3.085 | 0.382 | Functional | |

***Legend**: 3.500- 4.000 Highly functional; 2.500-3.499 Functional; 1.500-2.499 Moderately functional; and 1.000-1.499 Not functional*

These findings suggest that while ensuring students possess the necessary tools for online learning is deemed functional, there's an opportunity for improvement in delivering online lessons by minimizing distractions. Enhancing the online learning environment to mitigate interruptions could improve the overall effectiveness of the learning experience for students. According to Lopez-Perez et.al. (2011) the use of technology like online learning in the learning process in higher education should foster usefulness for learners, including promoting students' critical thinking. For instance, the use of digital learning platforms such as Moodle could help students develop their reasoning, problem-solving, and decision. Moreover, combining critical thinking processes and online-based activity focusing on milieu as a factor in students' development can be an advantage and opportunity for students to gain their interests, and to reach a higher level of knowledge (Carmichael & Farrel, 2012; Foo & Quek, 2019).

Table 5 below shows the respondents' teachers and students mean and SD ratings on the level offunctionality of online teaching modality utilized in terms of mode.

Table 5. Level of Functionality of Online Teaching Modality Utilized in Terms of Mode

| **Indicators** | **Mean** | **SD** | **Interpretation** | **Rank** |
|---|---|---|---|---|
| 1. Finds easy to manage/check group projects/assignmentsdigitally | 2.975 | 0.276 | Functional | 5 |
| 2. Modifies the rubric based ononline teaching modality. | 3.263 | 0.530 | Functional | 3 |
| 3.Shows a positive behavior towards learners in each onlineclass | 3.449 | 0.593 | Functional | 1 |
| 4. Fits the choice of online teachingon the learner's educational philosophy, classroom demographic, subject areas and school mission statement. | 3.271 | 0.465 | Functional | 2 |
| 5. Varies widely hybrid classrooms or web – based learning according to the subject matter taught and the needs of specific groups of learners | 3.195 | 0.398 | Functional | 4 |
| **General Assessment** | 3.231 | 0.453 | Functional | |

***Legend**: 3.500- 4.000 Highly functional; 2.500-3.499Functional; 1.500-2.499 Moderately functional;and 1.000-1.499 Not functional*

Table 5 shows the assessment on the level of functionality of online teaching modality utilized for junior high school in terms of matter was Functional (3.231). Indicator number 3 "Shows a positive behavior towards learners in each online class." got a highest weighted mean of 3.449 and had the highest computed SD value of 0.593 and was verbally interpreted as functional while the indicator number 1 "Finds easy to manage/check group projects/assignments digitally." had the lowest computed mean of 2.975 which was verbally interpreted as Functional. These results indicate that while demonstrating positive behavior towards learners is considered functional in online teaching, there are areas for enhancing the management of digital assignments. Improving the digital infrastructure for handling assignments could enhance the overall effectiveness of the online learning experience for students. Table 5 above shows the assessment on the level of functionality of online teaching modality utilized for junior high school in terms of matter was Functional (3.231). Indicator number 3 "Shows a positive behavior towards learners in each online class." got a highest weighted mean of 3.449 and had the highest computed SD value of 0.593 and was verbally interpreted as functional while the indicator number 1 "Finds easy to manage/check group projects/assignments digitally." had the lowest computed mean of 2.975 which was verbally interpreted as Functional.

These results indicate that while demonstrating positive behavior towards learners is considered functional in online teaching, there are areas for enhancing the management of digital assignments. Improving the digital infrastructure for handling assignments could enhance the overall effectiveness of the online learning experience for students.Furthermore, this study is supported by Saputra et al., (2019); Wahidin & Romli, (2020) stated that students who have critical thinking skills acquired in online learning will solve problems more effectively. Critical thinking skills through digital learning must be trained in students.Table 6 below shows the respondents' teachers and students mean and SD ratings on the level of functionality of online teaching modality utilized in terms of matter. Table 6 below shows the assessment on the level of functionality of online teaching modality utilized for junior high school in terms of matter was Functional (3.151). Indicator number 1 "Is familiar/able to access a wide network of sources of online information." got a highest weighted mean of 3.339 and had the highest computed SD value of 0.510 and was verbally interpreted as functional while the indicator number 2 "The teacher conducts online classroom management, such as, prayer, sitting arrangement, checking of attendance, etc." and indicator number 4, "Explores other types of activities that fit only for online learning modality." got the same lowest computed mean of 3.059 which was verbally interpreted as Functional.

Table 6. Level of Functionality of Online Teaching Modality Utilized in Terms of Matter

| **Indicators** | **Mean** | **SD** | **Interpretation** | **Rank** |
|---|---|---|---|---|
| 1. Is familiar/able to access a wide network of sources of onlineinformation | 3.339 | 0.510 | Functional | 1 |
| 2. The teacher conducts online classroom management, such as,prayer, sitting arrangement, checking of attendance, etc. | 3.059 | 0.353 | Functional | 4.5 |
| 3. Employs to learners the online learning management system in their learning activities more often obtained higher marks than theothers who don't. | 3.127 | 0.499 | Functional | 2 |
| 4.Explores other types of activitiesthat fit only for online learning modality. | 3.059 | 0.237 | Functional | 4.5 |
| 5. Employs other learning tools suchas Edmodo, Kahoot, Quizizz, Padlet, etc. in different online learning activities. | 3.169 | 0.477 | Functional | 3 |
| **General Assessment** | 3.151 | 0.415 | Functional | |

***Legend**: 3.500- 4.000 Highly functional; 2.500-3.499 Functional; 1.500-2.499 Moderately functional; and 1.000-1.499 Not functional*

These findings suggest that while teachers' access to online information sources is perceived as functional, there

may be opportunities to enhance online classroom management practices and explore additional activities suitable for online learning. Improving these aspects could further contribute to the effectiveness of the online learning experience for junior high school learners. It is somewhat similar in the result of the study of Liu et al., 2014 and Anazifa & Djukri, 2017 that one of the school level components at the school level is that the teachers must be responsible for equipping school graduates with varied thinking skills acquired in different platforms such as online.

**Part III. Assessment of Level of intended Learning Outcomes Attained in Relation to 21st Century Skills.**

**SOP 3.** To what level on the intended learning outcomes attained in relation to 21st century skillsrelative to:

- ✓ learning skills:
- ✓ critical thinking;
- ✓ collaboration skills;
- ✓ communication skills;
- ✓ creativity and innovation;
- ✓ literacy skills; and
- ✓ life skills?

Tables 7 -15 present the respondents on the intended learning outcomes attained in relation to 21st century skills relative to: learning skills, critical thinking, collaboration skills, communication skills, creativity and innovation, literacy skills and life skills. Table 7 below shows the respondents' teachers and students mean and SD ratings on the intended learning outcomes attained in relation to 21st century skills relative to learning skills. Table 7. shows the assessment on the level of the intended learning outcomes attained in relation to 21st century skills relative to learning skills was Moderately high (3.112). Indicator number 2 "Recognize and solve problems using creativity, analysis, and intuition through face-to-face learning modality." got a highest weighted mean of 3.178 and had the highest computed SD value of 0.483 and was verbally interpreted as moderately high while the indicator number 4 "Demonstrate facility to move between frameworks, to use varieties of evidence, and to arrive at multiple conclusions in face- to-face learning modality" got the lowest computed mean of 2.958 which was verbally interpreted as Moderately high.

**Table 7. Level of The Intended Learning Outcomes Attained in Relation to 21st Century Skills Relative to Learning Skills**

| Indicators | Mean | SD | Interpretation | Rank |
|---|---|---|---|---|
| 1. Create, integrate, and evaluateideas across a range of contexts, cultures, and areas of knowledgethrough face-to-face learning. | 3.144 | 0.439 | Moderately high | 4 |
| 2. Recognize and solve problemsusing creativity, analysis, and intuition through face-to-face learning modality. | 3.178 | 0.483 | Moderately high | 1 |
| 3. Identify and make use of repeatable events in developing understanding and expression in face-to-face teaching-learning process. | 3.127 | 0.425 | Moderately high | 3 |
| 4. Demonstrate facility to move between frameworks, to use varieties of evidence, and to arriveat multiple conclusions in face-to-face learning. | 2.958 | 0.202 | Moderately high | 5 |

| | | | | |
|---|---|---|---|---|
| 5.Read technical information with understanding and express technical information in written, verbal, and graphical forms for a variety of audiences, both within andoutside science in face-to-face learing modality. | 3.153 | 0.361 | Moderately high | 2 |
| **General Assessment** | 3.112 | 0.382 | Moderately high | |

***Legend**: 3.500- 4.000 High; 2.500-3.499 Moderately High; 1.500-2.499 Low; and 1.000-1.499 VeryLow*

These findings suggest that, according to the overall assessment, the level of intended learning outcomes attained in relation to 21st-century skills, particularly learning skills, was moderately high. However, there was a certain degree of inconsistency in how learners perceived this skill, yet it was consistently described verbally as moderately high. The results further imply that harmonious student-teachers partnership could build a good relationship in communicating effectively and provide a variety of information on ideas leading to a positive educational role to the students' learning skills, Dziuban et al., (2018). Further, these learning skills are one of the primary skills of the 21st century learners.

Table 8 below shows the respondents' teachers and students mean and SD ratings on the intended learning outcomes attained in relation to 21st century skills relative to critical thinking skills.

**Table 8. Level of The Intended Learning Outcomes Attained in Relation to 21st Century Skills Relative to Critical Thinking Skills**

| **Indicators** | **Mean** | **SD** | **Interpretation** | **Rank** |
|---|---|---|---|---|
| 1. Create, integrate, and evaluate ideas across a range of contexts, cultures, and areas ofknowledge through face-to-face learning. | 3.339 | 0.510 | Moderatelyhigh | 1 |
| 2. Recognize and solve problems using creativity, analysis, and intuition throughface-to-face learning modality. | 3.136 | 0.412 | Moderatelyhigh | 4 |
| 3. Identify and make use of repeatable events indeveloping understanding and expression in face-to-face teaching-learning process. | 3.169 | 0.459 | Moderatelyhigh | 3 |
| 4. The learners can identify and recall all the details and information of the topic being discussed in face-to-face learning modality. | 2.949 | 0.288 | Moderatelyhigh | 5 |
| 5. Combine facts and ideas to form a new wholethrough face-to-face classes. | 3.237 | 0.484 | Moderatelyhigh | 2 |
| **General Assessment** | 3.166 | 0.430 | Moderatelyhigh | |

***Legend**: 3.500- 4.000 High; 2.500-3.499 Moderately High; 1.500-2.499 Low; and 1.000-1.499 VeryLow*

Table 8 above shows the assessment on the level of the intended learning outcomes attained in relation to 21st century skills relative to critical skills was Moderately high (3.166). Indicator number 1 "Create, integrate, and evaluate ideas across a range of contexts, cultures, and areas of knowledge through face-to-face learning." got a highest weighted mean of 3.339 and had the highest computed SD value of 0.510 and was verbally interpreted as moderately high while the indicator number 4 "The learners can identify and recall all the details and information of the topic being discussed in face-to- face learning modality." got the lowest computed mean of 2.949 which was verbally interpreted as Moderately high.

These findings suggest that both indicators were assessed as moderately high in terms of attainment of the intended learning outcomes related to critical skills within face-to-face learning modalities. Despite some

variability in perceptions, Indicator 1 exhibited a slightly higher level of attainment compared to Indicator 4, as indicated by their respective weighted means. indicating some variability in how learners perceived this skill. This strengthens the study of Wonyo (2018), whereas he reiterated that part of the authentic learning is to develop the students' critical thinking skill then, exposing both learners and instructors to great learning experiences by these, higher chances of learning will take place.

**Table 9. Level of The Intended Learning Outcomes Attained in Relation to 21st Century Skills Relative to Collaborative Skills**

| Indicators | Mean | SD | Interpretation | Rank |
|---|---|---|---|---|
| 1. Can assume shared responsibility for collaborative work, and value the individual contributions made by each team member in face-to-face classes. | 3.144 | 0.353 | Moderately high | 4 |
| 2. Are adaptable to accomplish a common goal for the group team in face-to-face classes. | 3.254 | 0.510 | Moderately high | 2 |
| 3. Have the ability to work effectively and respectfully in diverse scenarios during face-to-face classes. | 3.178 | 0.549 | Moderately high | 3 |
| 4. Involves working together while taking actions, respecting others' needs and perspectives and contributing to and accepting the finale during the face-to-face classes. | 3.263 | 0.461 | Moderately high | 1 |
| 5. Develops interest and fun in face-to-face teaching-learning process. | 3.127 | 0.335 | Moderately high | 5 |
| **General Assessment** | 3.193 | 0.441 | Moderately high | |

***Legend**: 3.500- 4.000 High; 2.500-3.499 Moderately High; 1.500-2.499 Low; and 1.000-1.499 VeryLow*

Table 9 shows the respondents' teachers and students mean and SD ratings on the intended learning outcomes attained in relation to 21st century skills relative to collaborative skills.

Table 9 above. shows the assessment on the level of the intended learning outcomes attained

in relation to 21st century skills relative to collaborative skills was Moderately high (3.193). Indicator number 4 "Involves working together while taking actions, respecting others' needs and perspectives and contributing to and accepting the finale during the face-to-face classes." got a highest weighted mean of 3.263 and had the highest computed SD value of 0.461 and was verbally interpreted as moderately high while the indicator number 5 "Develops interest and fun in face-to-face teaching- learning process." got the lowest computed mean of 3.127 which was verbally interpreted as Moderately high. These findings suggest that both indicators were assessed as moderately high in terms of attainment of the intended learning outcomes related to collaborative skills within face-to-face learning modalities. Despite some variability in perceptions, Indicator 4 exhibited a slightly higher level of attainment compared to Indicator 5, as indicated by their respective weighted means. The results show that both the student and teacher respondents manifest a "High" level of attainment on the intended learning outcomes in terms of Collaboration skills. The finding of this study is supported by an article from Center for Assessment (2020) entitled: Instructing & Assessing 21st Century Skills: A Focus on Collaboration. Whereas collaboration is often cited as a vital student success skill necessary for work and life in the 21st century. The term is conceptually vague and needs a careful definition and clarity of its components to allow educators to teach students essential collaboration skills and provide meaningful and actionable feedback on the development of their skills in collaboration. Table 10 below shows the respondents' teachers and students mean and SD ratings on the intended learning outcomes attained in relation to 21st century skills relative to communication skills.

**Table 10. Level of The Intended Learning Outcomes Attained in Relation to 21st Century Skills Relative to Communication Skills**

| Indicators | Mean | Sd | Interpretation | Rank |
|---|---|---|---|---|
| 1. Can demonstrate facility to move between frameworks, to use varieties of evidence, and to arrive at multiple conclusions in face-to-face classes. | 2.983 | 0.184 | Moderatelyhigh | 5 |
| 2. Can read technical information with understanding and express technical information in written, verbal, and graphical forms for a variety of audiences, both within and outside science during the face-to-face classes. | 3.025 | 0.276 | Moderatelyhigh | 4 |
| 3. Can listen to, locate, choose, evaluate context, comprehend, paraphrase, summarize, analyze, synthesize, and evaluate texts- oral, written, and electronic duringthe conduct of face-to-face classes. | 3.169 | 0.477 | Moderatelyhigh | 1 |
| 4.Can create communications thatreflect the audience, cultural awareness of self and others, disciplinary awareness, and historical and political settings during the face-to-face classes. | 3.059 | 0.271 | Moderatelyhigh | 2 |
| 5. Can use several forms of media and technologies and know their effectiveness during face-to-faceclasses. | 3.034 | 0.182 | Moderatelyhigh | 3 |
| **General Assessment** | 3.054 | 0.278 | Moderatelyhigh | |

***Legend**: 3.500- 4.000 High; 2.500-3.499 Moderately High; 1.500-2.499 Low; and 1.000-1.499 VeryLow*

Table 10. shows the assessment on the level of the intended learning outcomes attained in relation to 21st century skills relative to communication skills was Moderately high (3.054). Indicator number 3 "Can listen to, locate, choose, evaluate context, comprehend, paraphrase, summarize, analyze, synthesize, and evaluate texts- oral, written, and electronic during the conduct of face-to-face classes." got a highest weighted mean of 3.169 and had the highest computed SD value of 0.477 and was verbally interpreted as moderately high while the indicator number 1 "Can demonstrate facility to move between frameworks, to use varieties of evidence, and to arrive at multiple conclusions in face- to-face classes." got the lowest computed mean of 2.983 which was verbally interpreted as Moderatelyhigh.

These findings suggest that both indicators were assessed as moderately high in terms of attainment of the intended learning outcomes related to communication skills within face-to-face learning modalities. Despite some variability in perceptions, Indicator 3 exhibited a slightly higher level of attainment compared to Indicator 1, as indicated by their respective weighted means. The results of this study in terms of communication skills are supported from the findings of Duta et al., (2015) which stated that Instructors need to be mindful of how they interact in communicating effectively in the classroom that motivates students and encourages learning; they might send unintended messages if they do not know things about their own body language; and employing new technologies that provide new opportunities to connect with students. The findings of this present study were supported by a literature review of Majid et al. (2010) and according to Moore (2007), the teaching and learning process shall not take place without communication. Instructors with strong communication skills can create a more positive learning and teaching atmosphere for the students. Moreover, a person with excellent communication skills has the ability to influence others and provide positive communication strategies. Table 11 shows the respondents' teachers and students mean and SD ratings on the intended learning outcomes attained in relation to 21st century skills relative to creative and innovative skills.

**Table 11. Level of The Intended Learning Outcomes Attained in Relation to 21st Century Skills Relative to Creative and Innovative Skills**

| Indicators | Mean | Sd | Interpretation | Rank |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| 1. able to investigate the context and language of the human experience to examine and explore their everyday worlds and to expand their experience and understandingof other cultures and times in face-to-face classes. | 3.347 | 0.513 | Moderatelyhigh | 5 |
| 2. use a variety of images to talk and express their opinions and viewsduring the face-to-face classes. | 3.390 | 0.555 | Moderatelyhigh | 4 |
| 3. use emojis, things like pencils,pens, colors, tablets, board, notebook on face-to-face classes | 3.458 | 0.594 | Moderatelyhigh | 2 |
| 4. be asked to present their own version of the story after the completion of the textbook story inface-to-face classes. | 3.424 | 0.530 | Moderatelyhigh | 3 |
| 5.generate or recognize ideas, alternatives, or possibilities that may be useful in solving problems,communicating with others, and entertaining themselves and others during the face-to-face classes. | 3.568 | 0.497 | High | 1 |
| **General Assessment** | 3.437 | 0.538 | Moderatelyhigh | |

***Legend**: 3.500- 4.000 High; 2.500-3.499 Moderately High; 1.500-2.499 Low; and 1.000-1.499 VeryLow*

Table 11. shows the assessment on the level of the intended learning outcomes attained in relation to 21st century skills relative to creative and innovative skills was Moderately high (3.437). Indicator number 5 "Generate or recognize ideas, alternatives, or possibilities that may be useful in solving problems, communicating" got a highest weighted mean of 3.568 and had the highest computed SD value of 0.497 and was verbally interpreted as high while the indicator number 1 "Able to investigate the context and language of the human experience to examine and explore their everyday worlds and to expand their experience and understanding of other cultures and times on face-to-face classes." got the lowest computed mean of 3.347 which was verbally interpreted as Moderately high.

These findings suggest that both indicators were assessed as moderately high in terms of attainment of the intended learning outcomes related to creative and innovative skills within face-to- face learning modalities. Despite some variability in perceptions, Indicator 5 exhibited a slightly higher level of attainment compared to Indicator 1, as indicated by their respective weighted means. With the given data. Whereas both manifest a "High" level of attainment on the intended learning outcomes on Creativity and Innovative skills in relation to the 21st century skills of Junior High School students at Holy Redeemer School of Cabuyao. The findings of the present study are supported by the study of Yustina et al., (2016) which stated that creativity can be an innate characteristic, but it can also be increased through various ways in the classroom, lecturers must include activities that encourage the emergence of teacher candidates' creativity. Furthermore, he also stated that to strengthen creative thinking, lecturers can: (a) generate lots of ideas and thoughts about topics or problems, (b) involvement of teachers in exploring different points of view then reshaping or simplifying ideas, (c) increasing mind openness and tolerance for imaginative and fun ideas, and (d) provide opportunities for teachers to develop and combine their ideas. Table 12 below shows the respondents' teachers and students mean and SD ratings on the intended learning outcomes attained in relation to 21st century skills relative literary skills.

**Table 12. Level of The Intended Learning Outcomes Attained in Relation to 21st Century Skills Relative to Literary Skills**

| Indicators | Mean | Sd | Interpretation | Rank |
|---|---|---|---|---|
| 1. The learners are able to access information whether traditional or digital, media and technology, to understand and critically evaluate different aspects of content and information on | 3.263 | 0.479 | Moderately high | |

| | | | | |
|---|---|---|---|---|
| face-to-face classes. | | | | 1 |
| 2. Learners are able to chance his/her actions and steps taken according to a new situation during the face-to-face classes. | 3.136 | 0.344 | Moderately high | 3 |
| 3. Is able to set high expectations anddevelops flexible range of learning literary skills on face-to-face classes. | 3.059 | 0.353 | Moderately high | 4 |
| 4. Engages in various challenging lesson conten on face-to-faceclasses. | 2.890 | 0.449 | Moderately high | 5 |
| 5. Is able to know different learning standards on face-to-face classes. | 3.144 | 0.353 | Moderately high | 2 |
| **General Assessment** | 3.098 | 0.395 | Moderately high | |

***Legend**: 3.500- 4.000 High; 2.500-3.499 Moderately High; 1.500-2.499 Low; and 1.000-1.499 Very Low*

Table 12. shows the assessment on the level of the intended learning outcomes attained in relation to 21st century skills relative to literary skills was Moderately high (3.098). Indicator number 1 "The learners are able to access information whether traditional or digital, media and technology, to understand and critically evaluate different aspects of content and information in face-to-face classes." got a highest weighted mean of 3.263 and had the highest computed SD value of 0.479 and was verbally interpreted as high while the indicator number 4 "Engages in various challenging lesson content on face-to-face classes." got the lowest computed mean of 2.890 which was verbally interpreted as Moderately high. These findings suggest that both indicators were assessed as moderately high in terms of attainment of the intended learning outcomes related to literary skills within face-to-face learning modalities. Despite some variability in perceptions, Indicator 1 exhibited a slightly higher level of attainment compared to Indicator 4, as indicated by their respective weighted means. The findings of the present study are reinforced by the study of Albert Wornyo (2018) in his study entitled Authentic Learning: Enhancing Learners' Academic Literacy Skills where he concluded that students are able to acquire academic literacy skills better online than in an authentic learning environment. The authentic learning tasks that include technological skills and activities appeal to the various senses that we use for the intake of information and are able to satisfy the various learning styles of learners. Students find it fascinating to be involved in performing authentic tasks like academic presentations, reporting, etc.

Table 13 shows the respondents' teachers and students mean and SD ratings on the intended learning outcomes attained in relation to 21st century skills relative to life skills.

**Table 13. Level of The Intended Learning Outcomes Attained in Relation to 21st Century Skills Relative to Life Skills**

| Indicators | Mean | SD | Interpretation | Rank |
|---|---|---|---|---|
| 1. Can support the development of key personal qualities such as: Perseverance, being committed and responsible, resilience and self-confidence, and how to foster a commitment to lifelong learning during face-to-face classes. | 3.195 | 0.439 | Moderately high | 3 |
| 2. The learning develops a sensitivity in the different issues such as political, social, and environmental during the face-to-face classes. | 3.144 | 0.398 | Moderately high | 5 |
| 3. Develops awareness of the important social and national issues that may have an impact ondaily lives during the face-to-face classes. | 3.424 | 0.591 | Moderately high | 1 |

| | | | | |
|---|---|---|---|---|
| 4. Develops awareness of the fundamental dutiesand rights and embedded the core democratic values during the face-to-face classes. | 3.186 | 0.452 | Moderately high | 4 |
| 5. Develops his/her own path of developmentduring the face-to-face classes. | 3.356 | 0.481 | Moderately high | 2 |
| **General Assessment** | 3.261 | 0.472 | Moderately high | |

***Legend**: 3.500- 4.000 High; 2.500-3.499 Moderately High; 1.500-2.499 Low; and 1.000-1.499 Very Low*

Table 13. shows the assessment on the level of the intended learning outcomes attained in relation to 21st century skills relative to life skills was Moderately high (3.261). Indicator number 3 "Develops awareness of the important social and national issues that may have an impact on daily lives during face-to-face classes." got a highest weighted mean of 3.424 and had the highest computed SD value of 0.591 and was verbally interpreted as moderately high while the indicator number 2 "The learning develops a sensitivity in the different issues such as political, social, and environmental during the face-to-face classes." got the lowest computed mean of 3.144 which was verbally interpreted as Moderately high. These findings suggest that both indicators were evaluated as moderately high in terms of the attainment of intended learning outcomes related to life skills within face-to-face learning modalities. Despite slight viability in perceptions, Indicator 3 demonstrated a slightly higher level of attainment compared to Indicator 2, as indicated by their respective weighted means. Based on the highest weighted mean, as supported by an article of Thrive Global (2019), the internet is the best tool for self-improvement, but most of the people live the busiest life that makes it difficult for them to make the most of it. The internet has tons of information. The more you dive into, the deeper you will find it. It is not just for entertainment but also for expanding your knowledge. Though some people unfortunately use it in a wrong way; they are always on the prowl for obscene content, but the internet has a lot of useful information that can make one life better. Even though you have a very busy life, spending a couple of minutes online can improve your knowledge. The internet is enormous. You can find yourself achieving new heights and goals and life skills can be taught through these varied internet platforms.

**SOP 4.** Is there any significant difference between the level of functionality of the face-to-face onlinemodalities? Table 14 below shows the Significant difference between the level of functionality of the face-to-face and online modalities.

Table 14 shown below in the first box, with a "milieu" label illustrates significant correlation between the level of functionality of the face-to-face teaching modality utilized and the level of functionality of the online teaching modality utilized in terms of milieu, with a p-value of 0.01 in all indicators and r-value of 0.613 for milieu, 0.810 for mode, 0.556 for matter and an overall rating of 0.867.On the other hand, the second box shown below with "mode" label, illustrates significant correlation between the level of functionality of the face-to-face teaching modality utilized and the level of functionality of the online teaching modality utilized in terms of mode, with a p-value of 0.01 in all indicators and r-value of 0.613 for milieu, 0.810 for mode, 0.556 for matter and an overall rating of 0.867.

Hence, the third box shown below with "matter" label, illustrates significant correlation between the level of functionality of the face-to-face teaching modality utilized and the level of functionality of the online teaching modality utilized in terms of matter, with a p-value of 0.01 in all indicators and r- value of 0.613 for milieu, 0.810 for mode, 0.556 for matter and an overall rating of 0.867.Further, the fourth box shown below with 'overall" label, illustrates significant correlation between the level of functionality of the face-to-face teaching modality utilized and the level of functionality of the online teaching modality utilized in terms of its overall rating, with a p-value of 0.01 in all indicators and r-value of 0.613 for milieu, 0.810 for mode, 0.556 for matter and an average rating of 0.867.The use of the internet is not limited to taking online classes, reading informative content, making transactions, and expanding networking. The most common use of the internet is research. With tons of information, it is a perfect tool for people who want to know about their surroundings, other people, and information.

**Table 14. Significant Correlation Between the Level of Functionality of the Face-to-Face Teaching Modality Utilized and the Level of Functionality of the Online Teaching Modality Utilized**

| modality | modality | | | | | |
|---|---|---|---|---|---|---|
| milieu | milieu | 0.613** | *<0.01* | Moderate Correlation | Significant | Reject Ho |
| | mode | 0.810** | *<0.01* | Strong Correlation | Significant | Reject Ho |
| | matter | 0.556** | *<0.01* | Moderate Correlation | Significant | Reject Ho |
| | overall | 0.867** | *<0.01* | Strong Correlation | Significant | Reject Ho |
| mode | milieu | 0.613** | *<0.01* | Moderate Correlation | Significant | Reject Ho |
| | mode | 0.810** | *<0.01* | Strong Correlation | Significant | Reject Ho |
| | matter | 0.556** | *<0.01* | Moderate Correlation | Significant | Reject Ho |
| | overall | 0.867** | *<0.01* | Strong Correlation | Significant | Reject Ho |
| matter | milieu | 0.613** | *<0.01* | Moderate Correlation | Significant | Reject Ho |
| | mode | 0.810** | *<0.01* | Strong Correlation | Significant | Reject Ho |
| | matter | 0.556** | *<0.01* | Moderate Correlation | Significant | Reject Ho |
| | overall | 0.867** | *<0.01* | Strong Correlation | Significant | Reject Ho |
| overall | milieu | 0.613** | *<0.01* | Moderate Correlation | Significant | Reject Ho |
| | mode | 0.810** | *<0.01* | Strong Correlation | Significant | Reject Ho |
| | matter | 0.556** | *<0.01* | Moderate Correlation | Significant | Reject Ho |
| | overall | 0.867** | *<0.01* | Strong Correlation | Significant | Reject Ho |

**face-to-faceteaching Online teaching Computed**
**p value**
**r value**

**Pearson Correlation**

**P value Int**

**Decision Interpretation**

***Significance at p<0.01*

| | | | | | |
|---|---|---|---|---|---|
| Overall | 0.899** | <0.01 | Strong Correlation | Significant | Reject Ho |

Furthermore, the majority of people use the internet to entertain themselves, but this is not a good use of it. When you spend most of your time surfing, your cognition will not improve. You need to use it in a way that improves your skills, enhances intelligence, and boosts your cognition. The use of the internet is not limited to taking online classes, reading informative content, making transactions, and expanding networking. The most common use of the internet is research. With tons of information, it is a perfect tool for people who want to know about their surroundings, other people, and information.**SOP 5. Is there any significant correlation between the of**

**functionality of face-to-face**
**modality in the level of the intended learning outcomes?**

Table 15 below shows the Significant correlation between the level of functionality of face-to face modality utilized and the level on the intended learning outcomes attained in relation to 21st-centuryskills.

**Table 15 Significant Correlation between the Level of Functionality of Online Modality Utilizedand the Level on the Intended Learning Outcomes Attained in Relation to 21st-Century Skills**

| face-to-face modality | intended learning outcomes | Computed r value | p value | Pearson Correlation Interpretation | P value Int | Decision |
|---|---|---|---|---|---|---|
| milieu | learning skills: | 0.623** | <0.01 | Moderate Correlation | Significant | Reject Ho |
| | critical thinking; | 0.720** | <0.01 | Strong Correlation | Significant | Reject Ho |
| | collaboration skills; | 0.724** | <0.01 | Strong Correlation | Significant | Reject Ho |
| | communication skills; | 0.474** | <0.01 | Moderate Correlation | Significant | Reject Ho |
| | creativity and innovation; | 1.000** | <0.01 | Perfect Correlation | Significant | Reject Ho |
| | literacy skills; and | 0.450** | <0.01 | Moderate Correlation | Significant | Reject Ho |
| | life skills | 0.791** | <0.01 | Strong Correlation | Significant | Reject Ho |
| | Overall | 0.899** | <0.01 | Strong Correlation | Significant | Reject Ho |
| mode matter | learning skills: | 0.623** | <0.01 | Moderate Correlation | Significant | Reject Ho |
| | critical thinking; | 0.720** | <0.01 | Strong Correlation | Significant | Reject Ho |
| | Collaboration skills; | 0.724** | <0.01 | Strong Correlation | Significant | Reject Ho |
| | Communication skills; | 0.474** | <0.01 | Moderate Correlation | Significant | Reject Ho |
| | creativity and innovation; | 1.000** | <0.01 | Perfect Correlation | Significant | Reject Ho |
| | literacy skills; and | 0.450** | <0.01 | Moderate Correlation | Significant | Reject Ho |
| | life skills | 0.791** | <0.01 | Strong Correlation | Significant | Reject Ho |
| | Overall | 0.899** | <0.01 | Strong Correlation | Significant | Reject Ho |
| | learning skills: | 0.623** | <0.01 | Moderate Correlation | Significant | Reject Ho |
| | critical thinking; | 0.720** | <0.01 | Strong Correlation | Significant | Reject Ho |
| | innovation; | | *<0.0* | Correlation | | Ho |

| | | | | | | |
|---|---|---|---|---|---|---|
| | literacy skills; and | 0.532** | Moderate Correlation | Significant | Reject Ho | |
| *<0.0* | | | | | | |
| | life skills | 0.606** | Moderate Correlation | Significant | Reject Ho | |
| *<0.0* | | | | | | |
| | Overall | 0.706** | Moderate Correlation | Significant | Reject Ho | |
| *<0.0* | | | | | | |
| | learning skills: | 0.647** | Moderate Correlation | Significant | Reject Ho | |
| *<0.0* | | | | | | |
| | critical thinking; | 0.743** | Strong Correlation | Significant | Reject Ho | |
| *<0.0* | | | | | | |
| | collaboration skills; | 0.651** | Moderate Correlation | Significant | Reject Ho | |
| *<0.0* | | | | | | |