Localized Undertaking using Mobile Video Attachment in New-normal (Project LUMVAN) in the teaching and learning continuity amid pandemic

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Abstract

The study looked at the issues and concerns that have arisen with regards to teaching and learning continuity as a result of the COVID-19 outbreak in public elementary schools in Lumban District, Laguna. The Localized Undertaking using Mobile Video Attachment in New-Normal aims to provide a solution to the current challenges of mobile learning by providing teachers with video clips and recorded lessons so that they can educate their learners on the go. This project is about making it easier for learners to learn by creating a platform where educators can record their lessons and upload them, so that learners can watch the lessons whenever they want. This project ensured that students are always learning, even when they're not in school. Further, the audio format helped the students to absorb information more easily because they could listen to their teachers rather than read them. Students learned not just by reading the modules but also through the video clips created by their teachers. These videos will be added to a "video library or folder" that students can access online. This study is focused on the mixed quantitative and qualitative in the Department of Education, District of Lumban, Laguna. With nine participating public elementary schools' data managers. It was found out that there is a significant difference between the academic performance of learners with and without the use of Project LUMVAN.

Keywords: distance; leader; learning; pandemic; contiuity; localized

1. Context and Rationale

The 21st century has presented unprecedented challenges for teachers around the world, especially when the pandemic began. With the pathogen spreading to various parts of the world, schools are vulnerable and may become places of fear and uncertainty for children. The pandemic has had a tremendous impact on teaching and learning in the classroom. It has blurred the lines between personal, professional, and social life. As a result, students may lose interest in the classes and teachers may feel ill-equipped to deal with their emotional needs. The need for better and more effective pedagogical practices across all disciplines and across all levels is needed in order to provide learners with the most appropriate support and learning opportunities.

Teaching and learning in many academic institutions has been disrupted by the pandemic. The pandemic has disrupted the delivery of and the learning experience at school. Learning processes have been widely affected, which creates challenges for teachers to handle and encourages them to embrace new approaches in teaching, learning and assessment. Ongoing challenges result from the loss of classrooms and facilities; changing lesson plans; reduced availability of instructional materials and entertainment; and a

mismatch between student expectations and their expectations of the classroom environment. Although the social problems that arise from the COVID-19 pandemic may have several different effects on various aspects of the educational system, it is important to maintain teaching and learning continuity in educational institutions to ensure quality education delivery. Learning continuity is essential for maintaining students' progress from year to year and their skills over time.

The effects of the COVID-19 pandemic are still being felt across all sectors. Those who are members of higher education institutions should not just focus on the challenges experienced by students but also take time to understand their roles as teachers and how to support their learning communities. Due to the prolonged and unprecedented pandemic, it is necessary to develop and implement a variety of ways to adapt to the effects on teaching and learning in higher education institutions.

One of these ways is by implementing activities and projects conducive to both the teachers and students. In line with this, Lumban Central Elementary School developed a strategy to tap learners' visual, audio, and kinesthetics skills to get the utmost from the modules. They initiated PROJECT LUMVAN (Localized Undertaking for Mobile Video Attachment in New-Normal). They chose this strategy as it can lead to better retention of information as well as enhanced performance in learning tasks. The project uses mobile video recording to record lectures and then attach them to similar videos that can be viewed on other devices. The videos are recorded by teachers who speak in a clear, engaging tone, giving students the opportunity to watch multiple videos in one sitting.

PROJECT LUMVAN aims to provide a solution to the current challenges of mobile learning by providing teachers with video clips and recorded lessons so that they can educate their learners on the go. This project is about making it easier for learners to learn by creating a platform where educators can record their lessons and upload them, so that learners can watch the lessons whenever they want. This project also helps ensure that students are always learning, even when they're not in school. Further, the audio format helped the students to absorb information more easily because they could listen to their teachers rather than read them. Students will learn not just by reading the modules but also through the video clips created by their teachers. These videos will be added to a "video library or folder" that students can access online, and they will learn more about the topics at hand from these videos than from any other source.

During this period of COVID-19-related challenges, it is critical to provide a learning environment that is welcoming to all stakeholders and can aid in the development and maintenance of student engagement and knowledge retention, as well as the strengthening of their personal and social development and the promotion of brighter futures. Schools are facing a time of great change. The COVID-19 pandemic has changed the way people live and work, and now it is changing how they learn.

2. Literature Review

Covid-19 pandemic brings changes in many aspects of peoples' lives throughout the world. The spread of Covid-19 in Indonesia affects the education system in this country. Face-to-face instructions are shifted into full online learnings from home. Despite this quite drastic change, the literature on students' insights of this matter has still been silent. The application of online classes was decided nationwide in Indonesia since the education policy makers decided to apply a rule to change the offline classes into online classes in mid-March, 2020. This decision was taken following the Covid-19 outbreak. This pandemic forced the education ministry to propose online classes for schools and universities. At first, schools and universities were encouraged to alter the conventional classes into online classes for fourteen days. Afterwards, all schools and universities were suggested to turn the offline classes into online ones for longer period of time. Some universities even decided to do the online classes for the rest of the semester. This quite sudden decision results in various reactions from both teachers and students (Nartiningrum, N., & Nugroho, A., 2020).

It is important to keep in mind that the Covid-19 pandemic has had a negative impact on education. This is due to the fact that there are fewer students enrolled in schools, as well as an increase in the number of students who have withdrawn from school. Additionally, many schools have been forced to close their doors entirely due to lack of attendance. As a result of these changes, teachers are having a difficult time keeping up with their curricula and teaching students effectively. This can lead to a decline in student performance as well as student motivation and engagement levels. Covid-19 has been a huge setback for education. Schools are closed, and students are missing out on classes. However, this pandemic has also introduced new opportunities for educators to use technology in their classrooms. For example, teachers can use email to keep parents informed about what's going on in their children's lives. The email can be sent to a parent's preferred email address or published on the school website for all parents to see. This allows the family to stay connected even when the student isn't at school.

The impact brought about by the pandemic paved the way for schools to suspend and declare a state of emergency for public health (Razon, 2020). Specifically, the Philippine Commission on Higher Education (CHED) released a COVID advisory stating the cancellation of classes and school activities (Abel, 2020).
The COVID-19 virus has caused widespread cancellation of classes and school activities. Families monitor their children for signs and symptoms at home, school, or in the community. Children with symptoms are immediately isolated and treated in accordance with state and local protocols. The COVID-19 pandemic has disrupted many aspects of life, including school. This is a serious issue that requires immediate attention from parents and educators. It is important for all teachers, staff members, and students to be prepared for any potential changes to their daily routines. Teachers should be prepared to deal with any additional personal needs that may occur due to the changes in their routine or environment.

A certain study conducted by Rohman et al., (2020) - "Online Learning in higher Education during Covid-19 Pandemic: Students' Perceptions" showed that most of the students had negative perceptions to online learning. However, there are no studies concerning about the perspective of teachers to this new mode of learning.
Students' negative perceptions to online learning are due to the lack of face-to-face interaction, awkwardness, and lack of connection. The students feel that they are not in control and this can be a disadvantage to them as it is not their choice where they want to focus on their studies. They also feel that they might not be able to communicate with others as well as they would if they were in the classroom. Students often think they will not be able to learn as much or as fast online, and that they won't be able to make friends with those who are online. This is particularly true for students who have never used an internet-based program before. Students also perceive the cost of using an online program as more expensive than its face value, which may deter some from enrolling in online programs.

Teachers expressed a variety of views regarding their experiences on teaching online. Online teaching exhibit varied characteristics, which are useful in elucidating how its mode of didactic content delivery affected teachers' perceptions of online learning. The teachers did acknowledge that this type of teaching is complicated for them when it comes on assessing students' learning and checking outputs. (Mulyanti et al., 2020)

The use of online teaching has significant implications for the field of education. Online teaching is a revolutionary approach to learning because it allows individuals to learn at their own pace, in their own time and in the way that is most convenient for them. This means that students can take more classes or complete more homework assignments than they would be able to if they were in a traditional classroom setting. Online teaching also allows students to interact with teachers and other classmates through their laptops or tablets. This helps them develop relationships with one another which will help them succeed as adults when they are out on their own. Online teaching is a good way to expand your reach, but it's not without its challenges. One challenge is that online teaching can be distracting, which can affect the quality of teacher' work and make it

harder to stay focused on the material. Teachers also need to be prepared for an influx of questions from students who aren't used to learning outside of a classroom setting. Another challenge is that they might not have as much control over how their students are interacting with each other. If they're working on an assignment with groups of people, teachers won't know exactly how many people will answer each question or how often they'll get stuck on a particular question. This means they might need to adjust their plans based on whether or not students are getting stuck on any particular questions, so there's less room for error if something goes wrong with the group's interactions. On the other hand, online teaching presents a new set of challenges for teachers, who are used to being able to provide individualized instruction. Further, students often have trouble staying connected and participating in class discussions when they are away from their home campuses. Both of these issues can be addressed by using technology that allows students and teachers to communicate more easily, such as email or video calls.

The threat brought about by Corona Virus or COVID-19 had made a huge impact not only on the economic, tourism, and health sectors, but it also hardly hit the education system of the world at large. Specifically, this pandemic crisis had caused the Philippine higher education institutions to abruptly shift to emergency remote teaching (ERT) as a response to the call for continued education despite the global health threat. In the Philippines, the effect brought about by Corona Virus Disease 2019 or COVID-19 paved the way for schools to suspend and declare a state of public health emergency. Specifically, the Philippine Commission on Higher Education or CHEd released COVID advisory no. 5 stating the cancellation of classes and school activities, including on-the-job-training and internships, from March 9-April 14, 2020. Nonetheless, the continued increase of local transmission cases resulted for the Philippine government to extend until the end of April 2020. This also led for CHEd's issuance of advisory no. 6 that authorizes higher education institutions (HEIs), who are still using the June-March old school calendar, to immediately end the semester. Whereas, those schools that are aligned with the August-May new school calendar were given the autonomy to make judgments on the inclusion of flexible learning and other alternative means of teaching and learning delivery, such as ERT (synchronous and asynchronous learning tasks) (Alvarez, A. Jr., 2020).

The threat of the Corona Virus or COVID-19 in the school is very high. This is because most of the students are very young and they do not know what to do when they are infected by it. They are not aware that they need to isolate themselves from others and they need to take precautions. The government should be given more support to fight against this virus. They need to provide free medical care, food and housing for everyone who has been affected by this virus. The government can also provide free education for all children who have been affected by this virus so that they can learn how to live with this problem and how to overcome it in their lives. If these measures are not taken, there will be a lot of casualties among the people who will fall victim because of this disease. The spread of COVID-19 has created a great deal of uncertainty for schools across the world. While it is difficult to say what exactly will happen in terms of schools, it is safe to say that there will be some changes.

During the early years of technology conception in the Philippine education system, most of the educators are distant in using information and communication technology (ICT) tools, such as computers, because they think it will replace them soon in classrooms (Acosta, 2016). Educators felt that face-to-face interaction is still the core of teaching and learning environment where it provides a rich context of instruction than learning in an online environment. Nevertheless, as it progresses towards the age of disruption in education (Al-Imarah & Shields, 2019; Andrade, 2018; Hopp, Antons, Kaminski, Oliver Salge, 2018; Quinney, Lamont, Biggins & Holley, 2017), some educators gradually embrace the idea of bringing technology in the learning environment. For instance, the case of the University of the Philippines – Open University, offers open and distance e-learning approach in reaching out to its learners.

Bringing technology into the learning environment during the pandemic can be extremely helpful. The ability to connect with others, share information, and collaborate will help people stay connected and

informed when they are separated from their families and friends.

The dawn of the 21st century and the development of technology have brought different challenges to society's various sectors, especially to the educational system. Schools were challenged to produce globally competitive graduates who are equipped with 21st-century skills. With the advent of technology and the internet wherein almost six in ten of the nearly 8 billion people in the world are connected to the internet (Aazam et al., 2014), makes e-learning a vital part of the educational system since technology plays a big part in the 21st-century learning.

E-learning is a vital part of the educational system. It provides students with the opportunities to learn in a way that is convenient and responsive to their needs. It also helps students with disabilities learn more effectively using special software that can be adapted to suit their needs. E-learning offers a number of benefits to both students and teachers. Students can learn at their own pace, and they can access information anywhere they have internet access—even on the go! This means that students won't have to worry about missing class because they forgot their textbook or missed a quiz. Teachers also benefit from e-learning because it allows them to watch videos instead of giving lectures. This way, teachers aren't limited by time or location when teaching their lessons; instead, they can use any resource available at any time! As more people become aware of these benefits, more schools will incorporate e-learning into their curriculum.

The integration of computers, smartphones, and other devices in the teaching and learning process is a move that every school must embrace to become relevant in the present time. The need to include e-learning to the curriculum has been made more prominent with the onslaught of the COVID 2019 (Sahi, Mishra, & Singh, 2020).

E-learning is a great way to keep students engaged and interested in their education. It also allows students to learn at their own pace, which is important because some people do not have access to a classroom full of people all learning at once. The world is changing rapidly, and it's important that we keep up. We should not ignore the fact that most people are now using smart phones and other forms of internet-connected devices. If we don't include e-learning in our curriculum, we are missing out on a huge opportunity to help students learn and retain information. In addition to this, it could also help to teach them how to code or create web applications which could be very useful later in their lives. E-learning can be a great way to help students learn, but it can also be a great way to help teachers teach. The best part of e-learning is that it allows students to do things they otherwise wouldn't be able to do.

Government agencies, such as the Department of Education (DepEd) and the Commission on Higher Education (CHED), advocate online classes or flexible learning to address pandemic issues and the constraints imposed on schools to observe health protocols and practice social distancing. Thus, schools are now looking into the viability of implementing online classes or flexible learning, including online and offline courses (Narmada & Somasundaram, 2020).

The implementation of online classes or flexible learning can significantly reduce the burden on students, teachers and parents. This is because it allows them to work and learn at their own pace, as well as away from distraction. Students will also be able to maintain a healthy lifestyle by taking advantage of the study at home option. Flexible learning also allows students to customize their study plans according to their individual needs and interests. Some people prefer to study by themselves, while others prefer group projects with classmates or mentors. Flexible learning provides a way for these types of learners to find exactly what works best for them!

In addition, distance education is a concept that covers the teaching-learning activities in the cognitive, psychomotor, and affective domains of learners. It features non-contiguous communication and can be executed anywhere, anytime, making it attractive to both teachers and students with professional and social commitments (Saykili, 2018).

Distance education has evolved from being a single system for delivering courses to being an

umbrella term for all forms of distance learning. An example of this would be a course that is delivered via the Internet or online learning. Distance education is a way to teach students without ever meeting them in person. It's a great way to learn about topics that you wouldn't normally be able to access, and it can be done from anywhere in the world.

Sandars (2020) includes essential criteria for the formulation of distance education, such as the elements of non-contiguous communication, two-way interactive communication, and technology to mediate the necessary two-way communication.

Distance education is an effective way to provide training and education during a pandemic. It's the only way for students to receive their education without having to attend in person, which can be difficult during a pandemic. Distance education is a great way to keep the students and teachers connected during the pandemic. It allows teachers to create an effective learning experience for their students even if they're not in the same room with them.

Marshall & Kostka (2020) argued that meaningful learning, which anchors new learning subjects in cognitive structures, not rote learning, is the center of interest. Teaching is taken as making learning easier. This view of teaching and learning is integrated with its individualization.

Teaching makes learning easier. There are many reasons why this is the case. Teaching students how to learn gives them a better chance of retaining information. Students are more likely to retain information if they receive help, or if they have someone who can explain it to them in their own words. When students receive help, they don't feel as pressured to understand everything on their own. They're more likely to be willing to ask for help when necessary and work through things in a step-by-step manner. Teaching and learning are two things that have a lot in common. Both require the ability to teach others, and both are processes that allow people to learn new information or skills. Teaching can be a great way to help someone reach their full potential, but it's also important to remember that teaching isn't something you should do alone—it's a collaborative process that requires a team effort. The best teachers know how to guide their students through the process of learning, but they also know how to help them understand what they're learning so they can apply it in real-world situations.

Instructors, learners, and institutions all play a role in flexible learning. Instructors must be able to recognize opportunities for flexible learning, "with a growing focus in handling the learning cycle instead of being the only learning provider content." Learners must take responsibility for their learning and grasp opportunities presented to them and advocate for the method of delivery that best serves their learning (Barrera, K. I., Jaminal, B., & Arcilla, F., 2020).

The role of instructors in flexible learning is to ensure that learners have the necessary tools to succeed. Learners need to be informed about the course content, and they should be able to access resources as needed. Instructors can play a vital role in this process by providing learners with the knowledge and resources they need to succeed. Learners are responsible for ensuring that they understand their assignments, but instructors can provide clear guidelines on what is expected of them. Institutions also play a role in flexible learning because they are responsible for providing students with access to the tools and resources they need to succeed in their courses. Institutions must make sure that their students have all of the tools necessary for success, including access to laptops or tablets with internet access and appropriate software programs such as Microsoft Office Online or Google Docs. It is important to remember that flexible learning is a process, not just a concept. Flexible learning does not happen in a vacuum. It's a process that requires instructors, learners, and institutions to work together to achieve success. Flexible learning is something everyone should practice. It's not just about being ready for the unexpected—it's also about making sure you're prepared for the unexpected while you're learning something new.

Moreover, Brunzell, Stokes, & Waters (2016) found that flexible learning can help meet the needs of various students, let students balance education, study and family, and 'allow students to build skills and

attributes to adapt to change successfully. Scheduling options (part-time, full-time, day, night), curriculum personalization (graduates, certificates, just-in-time classes, career-based learning), experiential and community-based learning opportunities, and the introduction of publicly accessible digital content, flexible learning has been shown to enhance student learning outcomes and expand access to education.

The flexible learning approach has the potential to enhance student learning outcomes, expand access to education, and reduce the number of drop-out rates. Flexible learning is an approach to education in which students are allowed to choose their own path through the curriculum. This allows students to learn at their own pace and in a way that fits with their life goals, interests, and abilities. In a flexible learning environment, teachers have more freedom to adapt their teaching style to the needs of individual students. For example, if a student is struggling with a particular topic but doesn't want to slow down or skip ahead, the teacher can give them extra help in that subject and make sure they are still on pace for the rest of the class.

Due to the COVID-19 pandemic, face-to-face learning engagement of students and the teachers in the school has been suspended. This pandemic has paved the way to the implementation of the different distance learning modalities as urgent response to ensure safety of the students and continuity of education. Equity in education means, granting educational opportunities to anyone on equal basis; disregarding of the nationality, gender, ideological differences or mental and physical disabilities. Thus, having equity in online learning is ensuring inclusive and equitable quality education and promote lifelong learning opportunities for all. Online learning has merits and demerits. Online learning is efficient, affordable, and flexible. It can also suit various learning styles as a learning delivery modality. Online learning also has positive and negative implication to the values and ethics of the learners. Some of the positive implication to learners' values is having persistence, self-discipline, and respect while having online learning. On the other hand, there is also a negative implication to learners' values like online academic fraud. Equity in online learning in the Philippines is still in progress because not all learners can have a good internet connectivity, a device to use and technological literacy. It calls for all teachers to be trained in teaching online with equity issues part of the training. Learners used to attend to classroom everyday as their traditional learning environment but pandemic has brought enormous changes in the lives of the people especially in education. As a result, education has changed dramatically, with the distinctive rise of e-learning, whereby teaching is undertaken remotely and on digital platforms. Different learning modalities has been used as alternative for faceto-face classes such as modular learning and blended learning and online learning. Due to the COVID-19 pandemic, face-to-face learning engagement of students and the teachers in the school has been suspended. This pandemic has paved the way to the implementation of the different distance learning modalities as urgent response to ensure safety of the students and continuity of education. Quick transition to an online learning, the Department of Education crafted guidelines on learning activities, revised assessment measures, and set promotion policies. Consequently, the learning experiences of students varied at their own home. Students faces countless challenges with these changes particularly poor internet connection, limited access to gadgets, and lack of study space at home. Further, lack of support or assistance from the family can be one of the challenges that makes learning more difficult in times of crisis. The Philippines is currently in the process of adapting to the new normal form of education. The uneven distribution and access to technology combined with the implications of a global pandemic for different socio-economic and racial group's means that many students will be disproportionately affected by the shift to remote work. For instructors, this means that we need to think about logistical and technological concerns as inseparable from pedagogical ones. Considering all of the factors that may be affecting student performance also means curating an inclusive pedagogy that prioritizes equitable access to the learning environment. Moreover, he added that inclusive pedagogy asks us to consider how we can help all students succeed. Facilitating inclusion in the physical classroom often means creating spaces where students feel valued and included, setting clear expectations, and making learning and assessment accessible to all students. Though the online shift can complicate these strategies, the principles

remain the same. Adapted to online teaching contexts, inclusive teaching and learning requires transparency, accessibility, and flexibility (Esteron, M. A. S., 2021).

Inclusive teaching and learning require transparency. It is crucial that students have access to a wide range of resources, including books, podcasts, lectures and worksheets. This allows them to develop the skills they need in order to succeed in college. When we talk about inclusive teaching and learning, we're talking about the idea that all students should be treated as equals. This means that every student is able to access any information they need, in any format they need, at any time—and teachers are held accountable for making sure that happens. This means that students can't be left out of the loop on their own devices: if they don't have access to the right documents or materials, they'll miss out on crucial information. It also means that teachers must constantly work to ensure that all students have the same resources at their disposal.

A holistic approach to education –that addresses students' learning, social and emotional needs –is crucial, especially in times of crisis. School closures related to the current COVID-19 pandemic mean that students from diverse backgrounds who are more at risk of increased vulnerability are less likely to receive the support and extra services they need, and the gap between students that experience additional barriers and that do not might widen. Closures can also have considerable effects on students' sense of belonging to schools and their feelings of self-worth –these are key for inclusion in education. (OECD, 2020).

The pandemic has changed the way we think about inclusion. In the past, it was thought that people with disabilities were not able to participate fully in school life and needed to be supported by their families or caregivers. But now, with more people living longer and healthier lives, there are many new perspectives on how we can support people with disabilities in education. It's important to remember that the pandemic is affecting everyone differently. In fact, there are people suffering from the pandemic who are unable to attend school because of their condition. These individuals need support—both emotionally and financially—so that they can continue to be a part of our community. The best thing school staff can do for these individuals is make sure that they have access to education, so that they can better themselves and their families throughout the recovery process.

The current coronavirus (COVID-19) pandemic is having a profound impact, not only on people's health, but also on how they learn, work and live. Among the most important challenges created by COVID-19 is how to adapt a system of education built around physical schools. At its peak, more than 188 countries, encompassing around 91% of enrolled learners worldwide, closed their schools to try to contain the spread of the virus. School closures have a very real impact on all students, but especially on the most vulnerable ones who are more likely to face additional barriers. Children and youth from low-income and singleparent families, ethnic minority and Indigenous backgrounds; with diverse gender, identities and sexual orientations; and those with special education needs suffer by being deprived of physical learning opportunities, social and emotional support available in schools and extra services such as school meals. They risk falling further behind and becoming isolated with school doors closed. These students are likely to lose the most in terms of educational outcomes and the support provided by schools if countries take insufficient measures to promote educational equity and inclusion (Esteron, M. A. S., 2021).

The effects of a school closure can be felt in multiple ways: emotional, mental, academic and social. For example, the loss of an emotional support animal can leave students feeling lonely and isolated. Students may also feel upset by the loss of their school friends or teachers they have grown close with. Students may also feel anxious about being separated from their peers and teachers they have grown accustomed to having around them every day. The loss of familiar faces can make it difficult for students to adjust to a new environment where they don't know anyone and where there are no familiar routines or activities such as sports or clubs that help keep them busy during the day. Closing schools is a huge disruption for students, especially those who are already vulnerable. Schools have become one of the main places where children in disadvantaged areas have access to education and resources. Closing school can also have a negative impact

on parents, who have been depending on the schools for their child's education. The closure of schools could also affect the community in general, as many people rely on these schools for their daily needs.

"Technology can be a powerful tool for transforming learning. It can help affirm and advance relationships between educators and students, reinvent our approaches to learning and collaboration, shrink long-standing equity and accessibility gaps, and adapt learning experiences to meet the needs of all learners." (EdSurge, 2020)

With the rapid development of technology, it is not only possible for students to access information at their own time and pace, but also for them to share knowledge in real time with each other. This creates an environment where students have access to information and resources that they might not have otherwise had access to, leading to better outcomes for everyone involved. Technology has the potential to be a powerful tool for transforming learning. It can be used as a tool to enhance the way students learn, but it's important that educators think about how they are using technology in their classrooms. Teachers should consider how they are using technology and what kinds of materials they are presenting to students, so that the learning experience can be as smooth as possible. The internet has made it easy to access information, but it's not always easy to process that information in a way that's engaging and relevant.

Amid closures in schools across the country, online learning offers opportunities for culturally responsive instruction. This positions the learner's cultural identities at the core of the learning process and uses the learner's cultural knowledge, experiences, and frames of reference in order to help students be successful in the course and at the school. This gives the teacher a chance to make a personal connection with the students. As educators, it is necessary to be responsive to students' academic and social emotional needs. Content can be de-prioritized while building individual relationships with students to ensure their mental and physical health and safety are fine and each student feels welcomed and valued. While we have seen many great strides in using technology to reinvent learning and collaboration, we have also seen many issues arise in providing access to all schools and students. Since technology has been around, a digital divide has existed. But this gap between those who have ready access to computers and the Internet, and those who do not either because of social or geographical barriers, but it has become much more apparent with the pandemic. Inclusive changes in education delivery through education investment and reforms at the governance level are necessary. This pandemic can be an opportunity and an exercise for emergency remote teaching to evaluate emerged challenges during emergencies and develop a coherent online education strategy for any other emergencies or natural disasters that can potentially happen in the future (Esteron, M. A. S., 2021).

Online learning has the potential to offer culturally responsive instruction by allowing people to learn in another language or culture. The ability to use online learning for cultural responsiveness can also help students who have learning disabilities or other issues that make it difficult for them to learn in traditional classrooms. Finally, online learning can be used by students who are interested in learning about different cultures and civilizations beyond their own. The use of online learning in culturally responsive instruction can help to bridge the gap between the needs of learners and the needs of their teachers. Many teachers have found that they can use online learning tools to create a more inclusive classroom that is more sensitive to the needs of all students.

"Education systems around the world are facing an unprecedented challenge in the wake of massive school closures mandated as part of public health efforts to contain the spread of COVID-19. Governmental agencies are working with international organizations, private sector partners and civil society to deliver education remotely through a mix of technologies in order to ensure continuity of curriculum-based study and learning for all". (UNESCO on Distance Learning Solutions, 2020)

Everyone is working together to bring excellent education to all amidst pandemic In the face of a global pandemic, schools have been forced to close. However, they will reopen soon, and the students are already excited to return. It is important that school staff keep in mind that children are resilient and will cope

with this difficult situation. They are resilient, but they must also be ready to support them. In the face of the pandemic, people have seen that the best way to spread education is through cooperation. By working together, they can achieve excellence in education for all, and keep the children engaged with a healthy work-life balance.

Yusuf (2020) suggests that institutions should provide more adequate e-learning platforms to increase access to the Internet and develop an interactive learning approach. Moreover, it is necessary to provide workshops or training for teachers and students to improve their technological and pedagogical competencies in online learning. The question of inclusion is central when we consider emergency remote teaching. Inclusion may have different characteristics across countries.

Teachers and students should be able to use technology in all aspects of their lives, including education. It's important to provide workshops or training for teachers and students to improve their technological and pedagogical competencies in online learning.

Thomas and Rogers (2020), starting from their experiences of online learning during the pandemic emergency, have observed that school-provided IT systems are frequently too expensive, cumbersome and quickly go out of date. They suggest moving to personal devices integrated into schools. Moreover, they recommend that policymakers incentivize and encourage companies to produce engaging and powerful educational games and learning environments.

The move towards mobile learning has been slow but steady, and it seems likely that everyone see even more integration between personal devices and schools over time. This is a great opportunity for schools to make sure they're ready for this change by considering how they might incorporate these new technologies into their curriculum and teaching methods. As we continue to see the impact of software in education, it's important that we support companies who are creating engaging and powerful educational games. The next generation of educators need these tools to help them learn. Educational games need to be more engaging, more powerful, and more effective in helping people learn.

In the wake of the COVID-19-propelled public health crisis, schools around the nation are turning to online learning for students. Technology presents a huge opportunity to engage students to continue their schooling. However, online education also brings a host of equity and access concerns, misperceptions around students' technology abilities, lack of access for students with no home internet access, and unique challenges for some student populations, including special education students and English learners. During the coronavirus crisis, Philippines is one of the many countries that has been using digital online learning as mode of learning at the comfort of their own home. Vulnerable students might however have little access to such tools and require further attention and support. To respond to the challenges, government must have develop specific and innovative policy initiatives such as providing equitable and inclusive access to digital learning resources and good learning conditions, ensuring that socioemotional needs are being met, offering equitable support to students at risk of violence at home. Ensure social development of students. Support students whose parents have limited command of the language of instruction, address emotional needs of students, support education of students with special needs, ensure well-being of students, support education of underprivileged students, and the continuity of the academic learning of students. Thus, having equity in online learning is ensuring inclusive and equitable quality education and promote lifelong learning opportunities for all (Esteron, M. A. S., 2021).

In the midst of a global pandemic, what does it mean to have equity in online learning? With the ever-present threat of disease and the increasing difficulty for people to travel, many school systems are relying on technology more than ever before. While technology can be an effective tool for education, it's also a potential cause for concern. As technology becomes more prevalent in our schools and classrooms, people need to consider how it impacts children's ability to learn. The pandemic has created new challenges for online learning. While people might be worried about the financial impact, it's also important to keep in mind

that this can be a great time to make new connections and develop your network. When you have equity in online learning, it gives you more control and flexibility than you otherwise would have.

Schools should acknowledge upfront that they'll likely have less instructional time this year and should plan to identify the highest priority parts of their curriculum accordingly. Teachers will need to create flexible, adaptable assignments that students can complete in different environments and with varied levels of technology access. Experts say no students should be held back from grade-level work—instead, teachers and instructional leaders should figure out where they might need to revisit prerequisite skills in the context of instruction. That's where a rethought approach to assessment can play a role. Experts are advising educators to use standardized tests sparingly and focus more heavily on informal assessments in the classroom: well-designed activities that "assess" the few, most critical things their students haven't yet mastered for the next unit. Teachers can then remediate those gaps "just in time," instead of trying to cover every standard or skill that might have been missed last spring. Professional development will carry an outsized burden this fall, too, as school staff members require training to serve not only as instructors, but as social-emotional supports for students. Connection and trust are as central to instruction as curricular mapping and assessment. More than ever before, it's essential that instruction encourages strong, caring relationships with adults and provides opportunities for students to think deeply, to connect with their peers, and to get excited about learning again. Now more than ever, schools need to give all students access to grade-level work, experts say. Even if students had little instruction in the spring, districts should fight the impulse to require extensive remediation or reteaching of whole units from last year. Doing so can widen equity gaps. Instead, instructional leaders need to create a range of entry points into the grade-level content—scaffolds for students who require them, and places where teachers can refresh or reteach concepts that students need to understand in order to succeed this fall. Teachers' practices and routines will look different this year, whether they're holding class online or in-person. But there are some priorities—like engaging with students, providing access to cognitively demanding work, and responding to formative assessment—that teachers can address in any environment. Regular teacher-student interaction is critical to remote and hybrid learning. But districts can't expect teachers to be available 24/7—setting boundaries is essential for creating a sustainable work environment and protecting teacher mental health (Shafer, S., 2020, August 5).

Setting boundaries is an important part of creating a sustainable work environment. Teachers need to be able to establish clear expectations and make sure they understand what's expected of them. It's important for teachers to feel supported by their administrators and colleagues. If there are policies or procedures that staff members feel are not being followed, they should speak up about it as soon as possible so that it can be resolved as quickly as possible. Teachers need to be able to receive enough support from home if they want to deal with the pressures of their jobs effectively and be able to focus on their own personal goals outside of school hours. Setting boundaries can be hard, but it is important to do it. When you set boundaries, you are protecting yourself and others from harm and ensuring that everyone stays in their place. A boundary is a line that keeps people in their place and prevents them from crossing over. When they don't set boundaries, they let others cross over into our space without saying anything. This can lead to tension and conflict between people who work together. Setting boundaries helps prevent this from happening. Boundaries also help protect teachers' mental health when working with students as well as themselves during the day. Teachers need to spend time alone so they don't feel like they are being pushed aside by students or other adults in the classroom. Setting boundaries can help prevent this feeling of being left out which can lead to stress and depression among teachers. Bounds can be physical, like a classroom door that only opens when the bell rings, or they can be more abstract, like setting a goal for yourself each day and then celebrating it. Either way, the most important part of setting boundaries is knowing when to do it.

2.1. Research Questions

This study is focused on determining the possible effectiveness of the use of Project LUMVAN (Localized Undertaking using Mobile Video Attachment in New-Normal) in teaching and learning continuity in Lumban Central Elementary School

Specifically, it seeks to answer the following question.

- What is the mean level of academic performance of learners without the use of Project LUMVAN (Localized Undertaking using Mobile Video Attachment in New-Normal)
- What is the mean level of academic performance of learners with the use of LUMVAN (Localized Undertaking using Mobile Video Attachment in New-Normal)?
- Is there a significant difference in the academic performance of learners with and without the use Project LUMVAN (Localized Undertaking using Mobile Video Attachment in New-Normal)? And
- What is the implication of the use of Project LUMVAN (Localized Undertaking using Mobile Video Attachment in New-Normal) in the area of school administration and supervision?

2.2. Scope and Limitation

The Department of Education, Lumban Districts, is one of the smaller units of the DepEd Division of Laguna that would like to investigate on the teaching and learning continuity amid pandemic among public elementary schools. The district has 9 public elementary schools.

3. Research Methodology

3.1. Participants

There were 9 public elementary schools' data managers who responded in an online survey containing the qualitative and quantitative questions.

3.2. Data Gathering Methods

There were two ways in which data were collected. First was the online survey through Google form. ICT teachers and data managers in DepEd Lumban were enjoined to answer qualitative questions contained in the online form. Participants were instructed to provide answers in at least two sentences so as to provide clear picture of their answers. After this online survey, participants were purposively selected for them to be part of the focused-group discussion, moderated by the author. Note taking were done to encode salient responses from the participants. Audio recording, through the permission of the participants, were also done so as to back up the note-taking.

3.3. Ethical Issues

To ensure proper treatment of the participants and of the data as well, the following actions were taken:

- Indorsement from the Public Schools District Supervisor of DepEd Lumban that signifies her permission to conduct the study in the district, and to ask guidance and advice as well in coming up with a comprehensive study.

- Voluntary participation was the approach as the Google form was distributed to elementary teachers and they are free to choose whether to participate or not.
- Information obtained using Google Form was kept secured, not divulging personal information from the participants, but only the responses to qualitative questions.
- Informed consent was secured from the selected participants of focused group discussion so as to gain their commitment in being part of the study.
- Noted and recorded responses were not also divulged in terms of the personal data of the participants, but only the qualitative data obtained from the focused group discussion.

4. Discussion of Results

4.1. Mean Level of Learners' Academic Performance without the use of Project LUMVAN

Table 1. Mean percentage score (MPS) and overall mean of nine schools in Lumban District without Project LUMVAN

SCHOOL	MPS 2020-2021
Lumban Central ES	78.81
Caliraya ES	80.4
Concepcion ES	73.82
Lewin ES	77.6
Maytalang 1	71.88
Maytalang 2	69.56
Santo Nino ES	80.61
Wawa ES	70.68
Balubad ES	71.68
Mean	**75.00**
SD	**4.36**

The table above shows the mean level of academic performance of learners in terms of mean percentage score (MPS) from the nine elementary schools in DepEd Lumban District, during the school year when Project LUMVAN was not yet being implemented. The average MPS of the nine schools is 75.00, signifying moving to mastery level. The standard deviation of 4.36 signifies heterogeneity and can be attributed to different factors such us school culture, teacher factors, student factors, and even family support.

4.2. Mean Level of Learners' Academic Performance with the use of Project LUMVAN

Table 2. Mean percentage score (MPS) and overall mean of nine schools in Lumban District using Project LUMVAN

SCHOOL	MPS 2021-2022
Lumban Central ES	81.94
Caliraya ES	81.36
Concepcion ES	78.14
Lewin ES	81.52
Maytalang 1	78.3
Maytalang 2	75.6
Santo Nino ES	81.72

Wawa ES	74.73
Balubad ES	73.3
Mean	**78.51**
SD	**3.34**

The table above shows the mean level of academic performance of learners in terms of mean percentage score (MPS) from the nine schools in DepEd Lumban District during the school year when Project LUMVAN was already implemented. The average MPS from the nine schools is 78.51, interpreted as moving to mastery level, but noticeably 3.51 points higher than the previous school year. The standard deviation which is 3.34 still connotes heterogeneity but 1.12 points lower than the previous school year, signifying better performance because of lower variability.

4.3 Difference in the Academic performance of learners with and without the use Project LUMVAN

Table 3. T-test (dependent samples) result of MPS with and without the use of Project LUMVAN

Teaching Strategy	Mean	SD	t-value	t-crit	p-value	Decision
Without the use of Project LUMVAN	75.00	4.36	5.264649	2.306	0.00076	Significant
With the use of Project LUMVAN	78.51	3.34				

alpha = 0.05

The table above highlights the difference of academic performance of learners in terms of MPS without and with the use of Project LUMVAN. Using t-test for dependent samples, it can be seen that the computed t-value is 5.264649, which is higher than the critical value 2.306. This leads to the decision that there is a significant difference between the academic performance of learners with and without the use of Project LUMVAN. This is supported by the p-value 0.00076 which is lower than the alpha value 0.05. With 95% level of confidence, it can be said that there is enough evidence to claim that there is a significant difference in the MPS of learners with and without the use of Project LUMVAN, that is, learners perform better (MPS of 78.51) when Project LUMVAN is implemented than when Project LUMVAN was not yet implemented (MPS of 75.00).

The findings in this study is in consonance with the findings of the study made by Coronado, Orijola and Pascual (2021) which concludes that the use of audio-visual equipment helps in raising learners performance, particularly in English and Science subjects.

4.4. Implication to School Supervision

The result seen in this study has implication to school supervision and educational leadership.

- School heads and master teachers can give credit to teachers using Project LUMVAN (Localized Undertaking using Mobile Video Attachment in New-Normal). On the other hand, they should not discourage traditional teaching in Mathematics with paper visual aid and chalk. This does not mean

discouraging the use of Project LUMVAN (Localized Undertaking using Mobile Video Attachment in New-Normal) but just limiting the use of it because learners will catch more on the lesson when it is taught in a step-by-step procedure.

- Acquisition of audio-visual equipment and educational software in teaching should not be missed in using Maintenance and Other Operating Expenses (MOOE) because availment of this directly concerns student's learning.
- Trainings and seminar in the use of Project LUMVAN (Localized Undertaking using Mobile Video Attachment in New-Normal) should be spearheaded by principals as the use of it will increase academic performance.

5. Recommendations and Reflection

5.1. Recommendations

With the foregoing discussion of the findings that resulted out of the study's exploration, the following recommendations are thus laid down here:

- **Teachers** should innovate as to the needs of learners and to deliver quality education by having a drive where all the teaching aids even mobile videos can be uploaded and is accessible to all teachers.
- **School heads** should initiate projects like "PROJECT LUMVAN (Localized Undertaking using Mobile Video Attachment in New-Normal)". The goal of this was to assist teachers to make the teaching and learning process easier.
- **Department of Education higher officials** should acknowledge teachers and school heads in innovating strategies and to encourage them as well to continue innovating to meet the learners' individual needs.
- **Curriculum developers** should design activities in which teachers will be given more opportunity to innovate different concepts in the real world.

5.2. Reflection

Project LUMVAN, which stands for Localized Undertaking using Mobile Video Attachment in the New Normal, was created to help students and teachers alike to integrate the use of mobile devices and online folders into their instruction. There are many benefits that come from integrating technology into educational processes.

LUMVAN is an initiative that aims to help teachers and students learn by integrating technology into their learning process. The project was a great way to gain experience and knowledge in a variety of different areas and subjects, including mathematics, science, and developing skills such as problem solving and creativity. I had a blast working on Project LUMVAN. It was such a great experience, and I really enjoyed being able to learn about the initiative and its goals. In particular, I got to work with an amazing team of people, including teachers, who are all so passionate about what they do. We all felt energized by the idea of using technology to help students learn better, and we were all able to share in that excitement as we worked together to make it happen.

The school thought that it would be helpful for teachers as well because they could use it as an example of how technology can be used in schools today instead of just showing videos from Facebook or YouTube which are popular among young people today but don't necessarily provide any real-world examples about how technology can be used in classrooms today besides showing images on computers screens. The

students were also very enthusiastic about using this new method of teaching and learning, which helped set a good tone for what was happening in the classroom.

Project LUMVAN has been a great success. The teachers are happy with the results and the students are getting so much out of the program. We have seen a lot of improvement in our students' skills, especially when it comes to using technology in their everyday lives. They are more comfortable using devices in accessing the google drive prepared by the school, which will only make them more prepared for the future. We all know that technology has changed our lives in many ways, but I think Project LUMVAN is a great example of how we can use it to make things better for everyone involved.

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References

Abramovich, S., Grinshpan, A. Z. and Milligan, D. L. (2019). Teaching Mathematics through concept motivation and action learning. *Education Research International.* Scribb. https://www.hindawi.com/journals/edri/2019/3745406/

Andrei, C., Izabela, V. P. and Valentina Z. (2014). Comparative study between study tracks: math and sciences or humanities, regarding academic motivation and learning strategies in the 9th grade students. *Procedia - Social and Behavioral Sciences.* Volume 128, pp. 432 – 437.

Balmaceda, J. M. P. (2020). The continuing value and relevance of mathematics appreciation courses. Proceedings of the 1st International Conference on Mathematics and Mathematics Education (ICMMED). Volume 550

Coronado, R. B., Orijola, J. U. and Pascual, E. A. (2021). Efficient use of audio-visual equipment in teaching and learning: Its implication to school supervision. *International Journal of Research Publications.* Vol. 87, Iss. 1, pp. 67-75. Scribbr. https://doi.org/10.47119/IJRP1008711020212350

Fehr, H. F. (1952). Teaching for appreciation of Mathematics. Presented before the Mathematics Section of the Central Association of Science and Mathematics Teachers, Cleveland, Ohio. Scribb. https://doi.org/10.1111/j.1949-8594.1952.tb06806.x

Guvendir, M. (n.d.). Students' extrinsic and intrinsic motivation level and its relationship with their Mathematics achievement.

Kislenko, K., Grevholm, B. and Agder, M. L. (n.d.). "Mathematics is important but boring": Students' beliefs and attitudes towards Mathematics. The Research Council of Norway.

Leonard. (2012, December 30). Level of appreciation, self-concept and positive thinking on Mathematics learning achievement. *The International Journal of Social Sciences*. Vol. 6, No. 1

Lin, Y., Tseng, C. and Chiang, P. (2017). The effect of blended learning in Mathematics course. *EURASIA Journal of Mathematics Science and Technology Education*. ISSN 1305-8223 (online) 1305-8215 (print). Volume 13, Issue 3, pp. 741-770. Scribb. https://doi.10.12973/eurasia.2017.00641a

Mueller, M. Yankelewitz, D. and Maher, C. (2011). Sense making as motivation in doing Mathematics: Results from two studies. *The Mathematics Educator*. Vol. 20, No. 2, 33–43.

National Association for the Education of Young Children. (2002). Early childhood Mathematics: Promoting good beginnings

Smith, M. R. (2004, fall semester). Math anxiety: Causes, effects, and preventative measures. A Senior Thesis submitted in partial fulfillment of the requirements for graduation in the Honors Program Liberty University.

Waege, K. (2009). Motivation for learning Mathematics in terms of needs and goals. Proceedings of CERME 6. January 28 – February 1, 2009. Lyon France.

Yeh, C. Y. C., Cheng, H. N. H., Chen, Z., Liao, C. C. Y. and Chan, T. (2019). Enhancing achievement and interest in mathematics learning through Math-Island. *Research and Practice in Technology Enhanced Learning*. Volume 14, Issue 5. https://doi.org/10.1186/s41039-019-0100-9