

The Advent of Disruptive Innovation in the New Normal Educational Landscape: Challenges and Future Directions

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Abstract: The advent of disruptive innovation is gradually penetrating education and changing the way learning is delivered in the new normal educational landscape. The study aims to describe the models of flexible learning modalities, the challenges amidst the advent of disruptive innovation in the new normal educational landscape, and the proposed future directions toward the new normal educational landscape. The study used content analysis of literature reviewed in understanding, analyzing, and synthesizing significant knowledge and ideas. The findings revealed that flexible learning modalities continuously invade and redefine the educational system which promotes learning continuity according to learners' needs. The study suggests to intensify readiness for the delivery of a technology-enhanced learning environment efficiently and effectively in the new normal educational landscape not only in the midst of crisis. Thus, strengthen parent's and stakeholder's support; provisions of fast and reliable internet connectivity; appropriate budget and procurement; right attitude and highly motivated users; current technical training; and availability of adequate yet more inclusive technology resources and facilities.

Keywords: Disruptive Innovation, New Normal, Flexible Learning Modalities, Information Communication Technology, Technology Enhanced Learning Environment

INTRODUCTION

The advent of disruptive innovation and state-of-the-art technology platforms enhances the learning environment as its growing importance which creates an opportunity to harness training, technology, and pedagogical approaches which are considered the future of education across borders (UNESCO, 2011; McRae, 2013; APEC, 2015). The rapid change of disruptive innovation in the fourth industrial revolution ignites the rising demand that yields another challenge to education. In the Philippine setting, the majority of the schools in the country manifested a lack of infrastructure, connectivity, and technical skills, which perhaps, is still considered a challenge in the present education system (Education For All (EFA), 2015). Though, the indispensable convergence of technology is one of the important features of a curriculum that encompasses the use of a technology-enhance learning environment. However, the present scenario of Philippine education, especially the public institutions in the fourth industrial revolution rooted in technological phenomena are more likely deficient in the availability of the educational technology tools and facilities necessary for a technology-based learning environment (World Bank, 2019b; SEAMEO INNOTECH, 2016; World Economic Forum (WEF), 2017). Such challenges are related to infrastructure and technical issues such as lack of access to technology or poor connectivity, and other barriers include the lack of relevant content in a language understood by the user and limited access to open education resources (UNESCO, 2011). One aspect of modernizing the national basic education system is establishing and strengthening the capabilities of our schools in information communication technology that offers the means to enhance learning and teaching approaches from a global perspective (SEAMEO INNOTECH, 2016). Organizing teaching-learning resources and activities and

integrating technology-based instructions bring students learning experience to a different level as they share links and offer digital discussions Aguirre (2016). Thus, learners in the 21st-century generation are pronounced as digital natives who are capable of easily understanding the features of computer-aided platforms.

This challenge and perspective open an opportunity for the Department of Education (DepEd) to establish the national continuity plan of action toward digital rise transformation. The DepEd envisioned to deliver flexible teaching-learning modalities as a “New Normal” that is accessible to all through the use of DepEd Commons Online Educational Resources (OER) and other appropriate learning platforms. Study shows that students who engaged in technology-mediated instructions improve their ability to personalize learning, engagement, and motivation that producing positive learning outcomes in international and local schools. Relative to the “New Normal”, DepEd and its constituents believed that this is highly dependent on a curriculum support system to adopt such change which plays a vital role as a springboard towards achieving quality education and breaking down barriers to delivering teaching-learning amid the crisis. This effort of transforming education is driven by roles, responsibility, and determination in pursuit of achieving the goals of the department of education.

The pronounced “New Normal” approach is somehow related to the different models of blended or hybrid learning that are embedded in the curriculum in different countries. These platforms create a meaningful influence on the education sector, responding to the needs of diverse learners. In fact, flexible learning modalities have been always part of the basic education curriculum as key to developing 21st-century skills such as critical thinking, information, media, and technology skills for lifelong learning and continuously rethink to learn, relearn, and unlearn.

Addressing the need to provide an action plan for future directions toward the new normal educational landscape would be among the objectives of the study. The context of disruptive innovation will create an avenue for the propagation of digital tools as an urgent necessity in the learning continuity plan and our daily endeavors and engagement. The disruptive innovation instructional strategies will foster a new perspective that encompasses strategic ideas; promotes support system initiatives, an interactive teaching-learning environment that creates broader learning communication and access to information; encourages transformative learning spaces prior to student’s own pace, time, and place.

It is in this context that this research was undertaken to conduct an in-depth literature review about the concepts and context of flexible learning delivery modalities as a new normal educational landscape. The output of the study would be a framework for future directions that is significant in providing an empirical perspective and awareness of the current development of the new normal educational landscape; to embrace the shift of learning delivery and overcome challenges in order to cope with the emergence of the new normal amidst crises.

LITERATURE REVIEW

The concept of disruptive innovation influences the digital transformation of education nowadays. The proliferation of disruptive innovation has a powerful impact on shaping the educational system. The term disruptive innovation is associated with the technology-enhance learning environment, web-enhanced instruction, blended or hybrid learning, and ICT resource capabilities which are often used interchangeably in the research literature.

RISE OF FLEXIBLE LEARNING MODALITIES

Personalized e-learning systems become a revolutionary force leveraging knowledge sharing and learning that could enhance individual performance through information technology-driven approaches (Teo & Gay, 2006; Chatti et al., 2007). There is a need for school personnel to capacitate the effective use of technology through the utilization of various ICT and online learning as a tool for modern learning and teaching mechanisms (Benitez, 2013; UNESCO, 2011). Likewise, Republic Act 10533 (2013) reiterates that the overarching ambitions of our education will be realized if Philippine schools embrace technology and engage learners in virtual or interactive learning, providing students with essential ICT resources in school and redefining classrooms through the incorporation of blended learning in teachers’ pedagogy. Indeed, the salient features of ICT integration into teaching and learning promote better learning and retention, motivations, individualization, consistency, learner control, high-speed personalized responses, and students have the ability to track their performance. Besides, it is autonomous, personalized learning and self-directedness that stimulates interest and increases levels of self-efficacy and cognitive strategies (Werth et al., 2013; Staker, 2011; Keskin & Yurdugal, 2019). Technology-mediated instruction is a promising best practice of blended learning pedagogies in K-12 schools and should be integrated into the curriculum (Kassner, 2013; Kellerer et al., 2014)

As digital and social media become a necessity in the life of the present generation, classrooms environments are dominantly supplemented with the use of ICTs such as web-based classrooms and other online technologies. For instance, blended learning as modern pedagogy resulted in a very good performance of the students who use Khan Academy resources compared to students who do not use the resources. et al (2010) and Vermillion (2014) identified concrete strategies that build and support engaging student-centered blended environments for K to 12 schools using Google applications such as Google Classroom Christensen and any online learning platforms. Foundational knowledge and skills, dispositions, instructional planning, instructional method and strategies, assessment, and evaluation are confirmatory factors to the K to 12 blended learning readiness (Graham et al., 2019).

IMPACT OF BLENDED LEARNING IN EDUCATION

Today, technology-mediated instructions have continuously developed perhaps many mixed instructional practices have already fit well with a vast array of hybrid face-to-face and digital experiences that students encounter in K–12 schools, including distributed learning, distance learning, or e-learning (Friesen; Horn & Staker, 2012; McRae, 2013; Refre, 2009). Study shows that students benefit from computer-mediated learning that teachers imposed in their instruction and enable students to expand learning through a variety of activities that apply to different learning styles. EFA (2015) retells that school leaders' educational support to provide varied ICT-based learning modalities suitable for individual learners and transforms the education landscape that enables learners to acquire knowledge and skills for lifelong learning. The need to modernize the national education system is so pressing aspect of modernizing our national basic education system by establishing and strengthening the capabilities of our schools that offer ways and means to enhance learning and teaching (SEAMEO INNOTECH, 2016). Blended learning enables students to master skills at their own pace, competency-based learning systems help to save both time and money and create an opportunity to achieve greater efficiency and increase productivity (Victoria Education, 2011). Learning institutions can empower students with the use of ICT tools combined with video in the classroom to make learning more relatable, reliable, enjoyable, and sustainable (Navarette, 2013; Cueto 2017). Teachers feel empowered to be facilitators of learning, adjusting opportunities to meet the needs of individual students to improve learning outcomes (Kellerer et al., 2014; Rosenworcel, 2020).

Blended learning was an effective tool in which classroom instruction is delivered through combined face-to-face interaction and supplementary online learning where the students watch online videos of lectures, answer assessments and communicate with peers and teachers via online social media platforms, such as Google classroom and facilitate learning in the classroom (Carreon, 2018; Aradoza, 2018; Mauban et al., Mahinay; Carpio, 2017; Mula, 2016). There is nothing revolutionary pedagogy by adding engaging sessions for digitally distributed video for blended learning or students that make difference to educational outcomes such as Kahoot, Khan Academy, OER, Moodle, Edmodo, Google Classroom, and Social Media Sites and a lot more learning management system. Flipped classroom enables self-learning outside the classroom while in-class interaction facilitated personal dealings with students where students take control of learning and better class interaction, engagement, and possible impact on active learning (Nicdao, 2012; Limueco & Prudente, 2018; Nedeva et al., 2019). Meanwhile, it allows the teacher to better guide student learning and much better if all students had access to the internet. However, there were a handful of students who had difficulties regularly going online and unavailability of ICT tools at home.

Wu et al. (2010) the design of a blended learning platform and connectivity are contributing factor that stimulates interaction and collaboration and increases the satisfaction of the users with their blended learning experience. Massive Open Online Course (MOOC) is an effective self-paced learning modality for distance learning that has grown tremendously since 2008 and have drawn attention in college and universities and they are most often used to supplement the face-to-face classroom (Refre, 2009; Ritcher et al., 2018). MOOC has been integrated as a distance and blended learning model in a traditional classroom both in basic education and higher institutions that foster positive outcomes (Bralic & Divjak, 2018; Bush, 2007). DepEd implemented its version of open educational resources for teachers and students that are utilized in elementary and secondary schools. Service quality, instructor quality, and course quality are among the critical factors for students' acceptance and satisfaction in remote learning (Seman et al., 2019). Self-paced for slow and fast learners reduce stress and increases satisfaction and information retention (Horn & Staker, 2012; McRae, 2013).

RESEARCH QUESTIONS

The means of delivering the New Normal educational landscape has a strong dependence on the availability of ICT resources, internet access, and physical facilities to foster meaningful effects on the learning experiences of the users. Thus, the researchers wanted to answer the following questions:

1. What are the models of flexible learning modalities in the new normal educational landscape?
2. What are the challenges amidst the advent of disruptive innovation in the new normal educational landscape?
3. What plans for future directions could be proposed toward the new normal educational landscape?

SCOPE AND LIMITATION OF THE STUDY

The study is limited only to the literature review taken from local and international studies and intuitive analytical discussions of the researcher regarding the blended learning models and the way it reshapes the delivery of teaching-learning, the challenges towards the implementation of a technology-enhanced learning environment, and the suggested plans for future directions towards the new normal educational landscape of Philippine settings.

METHODOLOGY

RESEARCH DESIGN

A qualitative descriptive method of research was used in the study. The study is a systematic literature review and content analysis in nature to identify themes and concepts from the primary source of data. It uses documentary analysis from the local and international journals and articles to describe the models of flexible learning modalities in the new normal approach; how disruptive innovation reshaping the delivery of teaching-learning; the challenges in the implementation of a technology-enhanced learning environment, and the suggested plans future directions could be proposed towards the new normal educational landscape. The framework is anchored on Ritcher et al. (2018) which uses documentary analysis in collecting, identifying, and screening relevant articles and content analysis of themes and concepts covered in the publications.

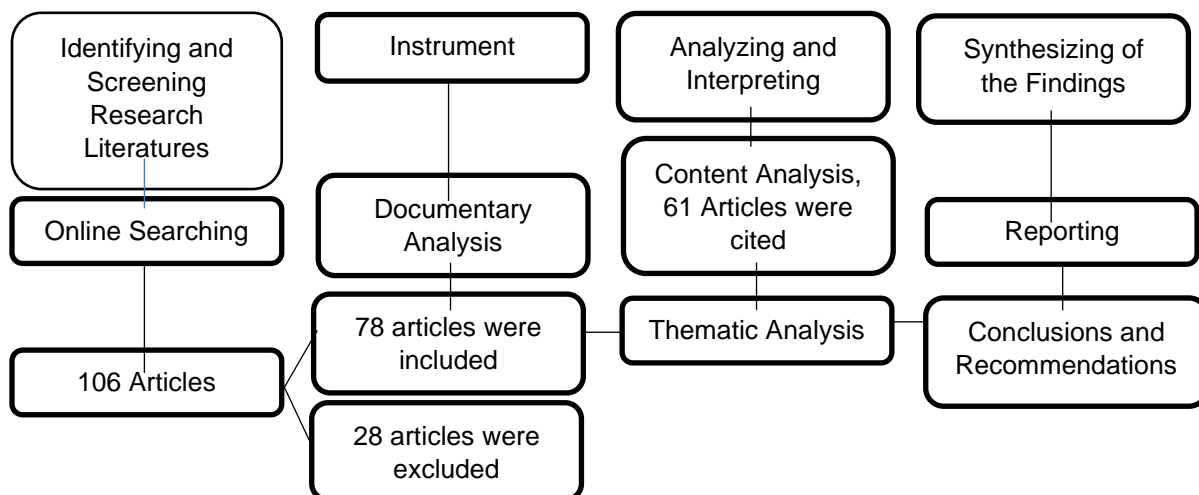


Figure 1. *Phases of the Research Process*

RESEARCH INSTRUMENT

The sources of reviewed literature are the main instrument of this research. It uses document analysis that is taken from different relevant local and international journals and articles published from different online sources. Content analysis was used to derive essential themes.

DATA GATHERING PROCEDURE

The researcher conducted the study in response to the call for a research proposal in response to the new normal. Since this research is a literature review, the researcher gathered different documents from previous studies about disruptive innovation. The investigation of the study was done through intuitive analysis of documents from different journals and articles cited from Google Scholar, ORCID Scopus Indexes, Academia, Researchgate, Mendeley, Emerald, Eric, and Ebooks. The study explores the different modalities of the enhanced technology learning environment as being pronounced as the new normal in the Philippines educational system. It also investigates how this blended learning reshapes the delivery of pedagogy, the challenges faced in the implementation of the blending learning mechanism, and the resemblance of action plans for future directions.

DATA ANALYSIS PLAN

This research is a documentary analysis in nature, it intends to explore and investigate the questions raised in this research. Data collection is based on the empirical knowledge and implications obtained from the previous research about blended learning that is found in different published journals and articles. It undergoes intuitive thematic analysis of its themes in the review of the literature.

RESULTS AND DISCUSSION

This section presents the analysis, interpretation, and synthesis of the findings of the study based on an intuitive analysis of the reviewed literature to answer the specific questions raised in this study.

Research Question 1. What are the models of flexible learning modalities in the new normal educational landscape?

Flexible learning delivery models are alternative ways that enable learners to choose what, how, when, and where they learn in a highly personalized learning approach and more flexible control of the learning environment as to where they should access learning materials and lessons are up to them with minimum supervision. Whether they use a mobile device, tablet, laptop, or desktop according to the learners' convenience, preferences, and learning needs. Flexible learning modalities enable learners to access lessons, participate, and collaborate in activities in an asynchronous synchronous manner in a remote or distance education.

Asynchronous is done by which the students take a class at their own time and place; lectures, reading materials, assignments, examinations or assessments, and other appropriate activities are made available within a specific time frame with a set deadline which the students will finish at their own pace.

Synchronous is done by which the teachers and students interact through a specific medium and within a scheduled time; lectures, discussion, presentations, reading materials, assignments, examinations or assessments, and other suitable activities can only be taken at the scheduled or specified time. Educators must be able to maximize the use of technology and be aware of their learners' preferences to apply different approaches and strategies in the new normal educational system.

1. Face-to-Face Learning – This is the traditional learning environment where the students and the teachers are both physically present in the classroom which promotes the opportunity for active learning, instantaneous feedback, and socio-emotional development of learners. In times of pandemic or crisis, this learning delivery modality is subject to physical distancing and with minimum health standards, optimum security, and safety. It also reduced class size, observes enhanced health and hygiene measures, and shifts schedules, and preferably teachers within the locality are assigned to face-face instruction.

2. Distance Learning – It is an autonomous approach and the most practical for independent learners supported by the constant supervision of parents or guardians. It takes place between the teacher and the learners who are geographically remote from each other during instructions. Teachers stationed in the school or at home where to facilitate online learning materials that can be accessed outside the physical classroom for online distance learning; orient, release, and receive home and self-learning kits or printed modules from parents or students for modular distance learning. Distance learning may be facilitated and supported by educational programs such as TV and radio-based instruction. In times of pandemic crisis, this learning delivery model requires optimum health conditions to ensure everybody's welfare.

3. Blended or Hybrid Learning – This is the combination of face-to-face and online, distance learning, modular distance learning, and audio-video technology media such as TV or radio-based instruction. It integrates digital, printed, recorded, and traditional activities in a planned pedagogical valuable manner. It limits face-to-face learning delivery and allows learners to access learning according to pace, time, and place. In times of pandemic or crisis, it affords social distancing and decreases the volume of people outside the home at any time, and ensures the well-being of the learners without compromising their health. The teacher serves as an online facilitator or moderator in online synchronous and asynchronous learning and manages digital content management systems. It requires online and digital literacy and skills with the support of an internet connection and device.

4. Home Schooling – An alternative delivery model that provides learners with equal access to quality basic education at home to be facilitated by eligible parents, guardians, or tutors who have undergone relevant training. It enables families to educate learners based on their faith, philosophy, and values; learning schedules may adjust to fit family schedules and other related circumstances in times of pandemic, calamities, and other forms of crisis or adversities.

The evolution of disruptive innovation in education and the utilization and integration of ICT has been around for a long time, but its terminology was not firmly established until about the start of the 21st century. As a concept, blended learning is now almost two decades old, having been imported into K to 12 schools in late 1990. Redefining the meaning of enriched curriculum, blended learning is one of 21st century pedagogical practices, and innovation is driven by students and faculty towards better performance (Bernhardt, 2015). The use of the term blended learning mostly involves combining internet and digital media or ICT tools with established classroom forms that require the physical co-presence of teacher and students and the need for effective management of this innovative teaching methodology (Bonk & Graham, 2006). Seemingly, remote learning such as blended learning and distance learning practices seen as advantageous in today's generation, transforming the educational system into more interactive, flexible frames, synchronous and asynchronous teaching-learning structure that is independent of time and place (Horn & Staker, 2012; Graham, 2013; Keskin & Yurdugal, 2019). The use of information and communication technologies in education can play a crucial role in providing new and innovative forms of support to teachers, students, and the learning process more broadly (World Bank, 2019a).

Bernhardt (2015) reiterated that the proliferation of technology shapes the K to 12 educational system typically needed to thrive in today's complex and interconnected global landscape that includes skills in digital literacy, cultural competence, inventiveness, emotional awareness, business, critical thinking, and problem-solving. The impact of disruptive innovation in education promotes student ownership of pace, time, and place to access knowledge through learning spaces (Anthony, 2012; Staker, 2011). These modalities enable students to communicate, contact, collect and exchange information anywhere anytime. Moreover, it intensifies students' interest, motivation, and competitive advantage as technologically literate learners as well as teachers' self-efficacy and commitment to adopt best practices in flexible learning options that gradually change the way teaching-learning is being delivered.

McRae (2013) retold that blended learning is one of the central features of modern school reform, with proponents proclaiming that it helps personalize education, low costs and allows students to be more productive. Today, blended learning, where students' face-to-face education blends with Internet resources or content delivered online using various technological platforms has been gaining considerable attention in educational transformation. However, it has become entangled with the ambiguous notion of personalized learning and is being positioned as the new way to individualize learning in competency-based education systems (McRae, 2013; Friesen, 2012). Blended learning is a combination of face-to-face and technology-mediated learning platforms with a variety of teaching approaches (Mancao et al., 2015; Horn & Staker 2012; Sharma, 2010)

Nicdao (2012) in a country like the Philippines where access to technology is gradually taking off and the use of technology has been seen as a possible way of enhancing learning wherein nowadays, syllabus, homework, communication, and announcements were through online. Horn & Staker (2012); Aleksic & Ivanovic (2013) blended learning breaks through the barriers if done right in the implementation process, this practice provides new benefits for personalization, access and equity, and cost control. Staker (2011) pointed out that disruptive innovation brings accessibility, affordability, and customization to sectors that before were complicated, expensive, and standardized, thus, blended learning has this transformative potential. Creative confidence brought by technology in education has a vast opportunity that can be strengthened and nurtured through collaborative effort and experience (Kelley, 2015). Effective online and blended learning experiences will focus on quality interactions, student engagement, and the formation of connections, not the bells and whistles of technological tools that will come and go, perhaps, instructional needs and goals should dictate what tools are utilized (Kassner, 2013).

Upon redefining, restructuring, and reshaping the way teaching-learning will be delivered, allocation and appropriation of funds are a requirement. Budgetary allotment for ICT expenses combines succession commitments that must be sustained in order to manage the design alternative delivering learning modes such as procurement of hardware, software or platform maintenance, new expenditures, and staff training (Roberts & Tim, 2009). Christensen et al. (2010) computer-based learning on a large scale is also less expensive than the current labor-intensive system and could solve the financial dilemmas facing public schools. To enable this in an education system, several policies must be protected by governments that would direct access to students outside of a school and designed around technology solutions platforms can deliver towards sustainable development. The adaptation of flexible learning delivery modalities is indicated in the learning continuity plan of sound teaching-learning practices in the new normal school and response to the 21st-century skills and the digital rise transformation (DepEd, 2020).

Research Question 2. What are the challenges amidst the advent of disruptive innovation in the new normal educational landscape?

The ICT profile capabilities of the Philippines in 2002 disclosed that only 14% of our schools have computers, only 135 of our school principals have had computer-related training, only 18% of the schools have teachers who are computer literate, and only 7% of our schools offer computer instruction to students. These small figures indicate the majority of principals and teachers with no computer capability and a big number of schools that are in no position to provide computer instruction. Seemingly, our educational system unveils that we lack preparing the vital aspects of educational reform, primarily the physical facilities, technology resources, and teachers' enhancement training on flexible learning modalities adaptation. Regardless of the types of internet connection, learners' internet connectivity in different places and access to user-friendly blended learning platforms without a sense of ambiguity is very important to respond to the needs of the learners ensuring that learning will continue. With the support of different mobile networks and wifi systems, easy access to the internet, and the availability of computer desks top, cellular phones, or tablets blended learning implementation will run smooth. However, majority of the students in the public schools, the problem encountered was basically a lack of financial support of the family to have their gadgets and internet access. In terms of annual equity for the purchase and maintenance of the computers has its own allotted budget, but the number of computers to accommodate the students is considered insufficient, slow connection and inconsistency of the internet access is a problem. Selected areas only have strong and fast internet access, especially in the urban areas. Blended learning is pronounced as remote learning, but it seems remote areas remain to have a poor internet connection. Blended learning depends on how it's implemented, and how well teachers are trained and provide each student with what he needs when he needs it (Sparks, 2014). Mancao et al. (2015) said that body discomfort and expensive internet connection brought by blended learning classes are deemed to be a disadvantage. Besides, that internet connection is considered slow and uncomfortable for computer set-up at home (Mancao et. al., 2015; Aquino, 2014).

Igniting partnerships with the government and NGOs shall be increasingly important to ensure the sustainability of the digital promise. The devotion and shared responsibilities of schools and LGUs to finance the maintenance and operation of the digital rise transformation program is a big challenge to be encountered in the provisions of necessary tools, equipment, and software for technology-based teaching-learning strategies. Such challenges include lack of time to gain self-paced learning and experience with the use of various blended learning platforms, poor access to the internet, overloaded curriculum content assessment that requires no use of the technology, and lack of specific training for using the latest blended platforms that support learning. Nevertheless, technology is an essential feature of the curriculum that needs to be employed in diverse pedagogical approaches to support the educational goals of 21st-century skills that need to be developed by the learners. Such constant constraints in the restructuring of the curriculum to integrate the application of alternative delivery modes through the combined use of ICT tools and online learning in teaching and learning practices. Moreover, the growth of ICT resources, digital media, and the world-wide-web has led to an explosion of resources and opportunities for administrators, teachers, parents, students, and communities to learn and adopt such change. The generation gap at work is really wide vast discrepancies when it comes to ICT management competency and technological literacy could be a pressing challenge that leads to increasing tensions in the workplace (Perez, 2009). In Asia, blended learning has different perceptions from teacher or instructor and students as technology-based learning platform has met with varying degree of success unlike in western culture where blended learning is well-received (Tham & Tham, 2011; Isa et al., 2016; Yasin et al., 2020). The training was identified as a primary factor supporting blended

learning to be successful, the absence of training could be a barrier (Werth et al., 2013). Readiness may highly depend on the support of parents and the capability to connect to fast and reliable internet connections (Mancao et al., 2015; Mahinay, 2017; Carreon, 2018). Understanding students' positive attitudes toward blended learning can be critical in the assessment of readiness and important in achieving readiness which is essential for the successful implementation of blended learning (Tang, 2013; Mancao et al., 2015; Yasin et al., 2020). Students' technology readiness varies, mobile learning plays a more robust role in impacting the teaching-learning process in a blended learning environment than traditional routine (Geng et al., 2019; Isa et al., 2016). Blended learning needs rigorous efforts, the right attitude, an appropriate budget, and highly motivated teachers and students as well as parents for its successful implementation (Dangwal & Lata, 2017).

Research Question 3. What plans future directions could be proposed toward the new normal educational landscape?

Table 1.

Plans for Future Directions

Program	Specific Objectives	Strategies	Performance Indicator	Responsible Person	Budget
ICT Literacy and Technology Enhanced Learning Environment (Open Educational Resources) Training (Microsoft365, Office Mix, Google Learning Platforms, Virtual-Learning Sites, Blended Learning Platforms, and Teleconferencing)	To enhance teachers' proficiency in their respective teaching areas in adhering to ICT and applying the different modalities of blended learning, utilizing appropriate technology-mediated instruction, design, and techniques suitable for diverse learners.	Conduct seminar workshop related to student-centered Blended learning mechanisms.	School personnel should have attended all required seminars/training/workshops on the use of ICT and blended learning mechanisms. ICT literacy and blended learning innovative strategies should have improved the teaching-learning outcomes.	SDS, ASDS, CID, SGOD, EPS, Principal, Head Teachers, Master Teachers, Teachers	Central, Region, Division Fund, School Fund (MOOE), Personal
Implementation and monitoring of ICT integration and technology-mediated teaching-learning mechanism	Consistently maintain, timely and accurate assessment and feedback.	Regular monitoring of the management of ICT integration and blended learning mechanisms/interventions.	Teachers should have managed efficiently and effectively technology-mediated instructions, mechanisms, and interventions.	EPS, Principal, Guidance Counselor, Head Teacher, Master Teacher, Teachers, Parents, Students	School Fund Dept. Fund Personal

<i>Table Continuation...</i>					
School-Community ICT-based learning service HUB/resource area and internet connectivity	To establish sufficient ICT-based resource hubs in different community barangay that will be utilized for blended learning approaches with stable internet connection and accessibility.	Strengthen school-community partnership functional initiatives by cultivating strong collaboration and partnership of curriculum support system.	School - community collaboration and partnership that is functional and should have engaged learners in blended learning mechanisms like ICT-based learning Hub/centers that are monitored by specialized teachers and barangay staff/ executives.	EPS, Principal, Guidance Counselor, Head Teacher, Master Teacher, Teachers, PTA, Parents, Local Government, DSWD, Barangay Officials, Students	School Fund LGU Dept. Fund Personal
Provision of laboratory in different learning competencies suitable for blended learning	To intensify laboratory status that can be utilized for ICT mediated instruction and blended classrooms. Engage and sustain learners' interest in blended learning by making content meaningful, responsive, and relevant to them.	Allocate funds for the rehabilitation of laboratories to be utilized for blended learning approaches. Use of available school-community resources that support learning in a different place, time, and pace.	Established newly constructed laboratories utilized for blended learning mechanisms. Transparent and efficient project management and action plan.	Principal, Head Teachers, Master Teachers, Teachers, Students Local Government, Registered Bidder	DepEd Fund, LGU, NGO, Dept. Fund, Personal
ICT integration funding, equity, and maintenance of infrastructures and access	To sustain funding and maintenance of ICT/technology resources and access.	A shared vision for Blended Learning integration by budgeting amounts for technology purchases and incremental funding.	There is adequate funding and purchasing procedures that are organized and maintained in the acquisition of technology resources and access.	EPS Principal, Head Teachers, Master Teachers, Teachers Local Government, Registered Bidder	National Fund School Fund, LGU, NGO Dept. Fund, Personal

Table Continuation...

Procurement of ICT tools and equipment and TV-Based Instruction	To manage procurement in utilizing monetary resources that upgrade school capabilities on technology-mediated mechanisms and TV-Based Instruction.	Efficient and effective management of procurement and transparent allocation of funds for technology resources and strengthening maintenance of ICT and media resources and services.	All resources shall be managed, expended, or utilized efficiently, effectively, and transparently. Adherence to the procurement system.	SDS, ASDS, CID, SGOD, EPS, Principal, LGU, NGO, Head Teachers, Master Teachers, Teachers Local Government, Registered Bidder	National Fund, School Fund, LGU, NGO, Dept. Fund, Personal or International Aid
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CONCLUSIONS

Despite this fluidity of meaning, different models of flexible learning modalities have taken shape and become a necessity in the modern educational landscape. It would be difficult to manage any use of technology in education in a context that is not embracing the advent of disruptive innovation as essential standards for the new normal education landscape while ensuring the well-being and safety of every learner. The penetration of learning spaces in the educational system is not new, rather it continuously upgrades digital domains that supplement transformative teaching-learning approaches.

Since technology-based learning is transcending as the future of our education, the education sector must invest in the necessities of today's generations that empowers both teachers and students to improve learning outcomes. The Department of Education's vision is to adopt flexible learning modalities in its digital rise transformation program which continuously strengthens its adequacy on budget allocation and appropriation of funds to maximize the provision of ICT tools, access, and training for basic education. Regardless of the average normal classroom size, added to this is the scarcity of technology resources and lack of a technology-driven management system of the schools. Knowing the fact that blended learning and distance learning has a strong dependence on the technology resources and technical know-how of the users to effective delivery these learning modalities. These aspects need to be reliable, easy to use, and up-to-date features in order to have a meaningful impact on the teaching-learning outcomes. Internet connectivity and digital literacy can serve as important factors for students attempting to get access to online learning materials, making the availability of high-quality technical and administrative support is important for communication and logistics.

Moreover, society today experiences great pressures for accelerating the inevitable pace of change. Hence, people accept and adapt to change differently, but we must embrace and go along and thrive for change. Making all stakeholders who are comfortable and motivated to change requires smart leadership in response to the ever-changing needs of the learners. A constant shift is occurring with different technology tools and equipment as well as mobile applications, software, social media tools, e-learning class, and digital management systems creating and organizing teachers and student work that provide an opportunity to blend teaching-learning anywhere and everywhere. Hence, future directions must jibe with succession planning to ensure learning continuity and the provision of digital promise towards sustainability and continuous viability.

RECOMMENDATIONS

Schools should have a sufficient number of computers at minimum standards in the school community for teaching-learning continuity in the new normal educational landscape that promotes flexible learning modality options and provide learners an opportunity to engage and collaborate on interactive pedagogy within their reach.

There is a need to continuously calibrate the influence of a technology-enhance learning environment in every school with the profound support from the government and other stakeholders for the digital rise transformation program for the maintenance of fast and reliable free internet access and continuous and sustainable training on the use of flexible learning platforms.

Allocate or prioritize monetary funds for the improvement and maintenance of school ICT facilities and create a professional learning community resulting in highly engaging flexible learning platforms for learning continuity that will maximize the improvement of student educational outcomes in the new normal educational landscape.

School leaders should be committed to the future directions of providing sustainable training, coaching, procurement, and continuous professional development on the advent of disruptive innovation in the new normal educational landscape.

For future research, the researcher suggests conducting a study about the effectiveness of different alternative delivery learning platforms and experiences of students and teachers in urban and rural areas as well as in the indigenous ethnic group.

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