



Long Paper

# The Constructs of Seamless Blended Digital Learning Program from the Lenses of Faculty and Students of Laguna University: Towards A Sustainable Program

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## Abstract

*Purpose* – The study (re)constructed views of faculty and students on Seamless Blended Digital Learning Program of Laguna University vis-à-vis its impact on Teaching and Learning; Achievement of learning outcomes; Assessment; Synergy between and among faculty and students; and Acquisition of soft skills.



*Method* – This research is designed to explore modular distance learning as contemporary teaching strategy, but specifically, it will address the instructors and learners’ perceptions enclosed to their teaching and learning experiences under the new normal education settings. This research will be purely qualitative in its methods of data collection and analysis.

*Results* – It was assumed that the faculty members and students, both psychologically unprepared on drastic educational change, view Seamless Blended Digital Learning Program of Laguna University, similarly, based on their background and teaching/learning conditions at home.

*Conclusion* – SBDLP is a change in the educational system, which must be accepted, embraced, and lived by the University. Both faculty members and students noted time as one of the major demands of the new learning platform; and accepted the need to adjust technologically and academically with the implementation and possible continuation of SBDLP.

*Recommendations* – For the students, a seminar/webinar on independent learning or distance learning should be prepared for the students to avoid dropouts or Leave of Absence in the midst of pandemic. For the faculty they should take a more active role in the learning and training process. They can invite and encourage team members to help in shaping the modules for the courses.

*Research Implications* – A benchmarking study of the construct of SBDLP among schools having a learning management system, variables like satisfaction and academic performance can be considered.

*Keywords* – Seamless Blended Digital Learning Program (SBDLP), perceptions, focus group discussion, modular teaching, online education

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## **INTRODUCTION**

In 2020, the Philippines was hit by the novel coronavirus (SARS-CoV-2, previously known as 2019-nCoV), which started in China and almost infected every country in the whole world. The education sectors have been greatly affected by extraordinary challenges posed by the COVID-19 pandemic. UNESCO (2020) reported that to restrict the spread of the COVID-19 pandemic and reduce infections, most countries throughout the world have temporarily shuttered educational institutions. More than 1.2 billion students throughout the world have been affected by this closure, including more than 28 million students in the Philippines (UNESCO, 2020). Students and teachers have been forced to study and work from home as a result of responses such as community lockdown and community quarantine in numerous nations, resulting in the development of online learning platforms.

In this time of the pandemic, face to face classes which have been the norm of education have been cancelled due to the risk of getting infected of Covid-19. That is why; there are different learning modalities being implemented by the Department of Education (DepEd) and the Commission on Higher Education (CHED).

Along this, is the change of assessments being used to measure the learners' knowledge and understanding. For the Elementary education where Modular (Printed) is implemented, there are two types of assessment used where their grades are generated from, and these are summative assessment in a form of quiz or called as "written works" and performance assessment which is called as "performance outputs". CHED issued CMO No. 04 s. 2020 titled Guidelines on the Implementation of Flexible Learning that will ensure effective delivery of education needs to the students. Flexible learning, according to this CMO, is the creation and delivery of programs, courses, and learning initiatives that meet the needs of individual learners in terms of learning pace, location, process, and outcomes.

The majority of academic institutions in the Philippines have deliberately committed to a larger usage of modular distant learning and e-learning to improve students' educational experiences. In view of Laguna University's vision of being a socially responsive educational institution, it implemented Seamless Blended Digital Learning (SBDL). The term "seamless" assure that education continues while COVID-19 is in effect. Technology has improved the education styles: students choose to learn and develop the quality of their knowledge. A Learning Management System (LMS) is an application software that plays an important role in educational technology (Shayan & Zaanen, 2019).

Laguna University facilitated the improvement of iLearnU: An Information system used in uploading and downloading the modules prepared by the faculty members of Laguna University. Faculty members were trained and capacitated on the development of learning modules. Further, they were given academic freedom in choosing an online platform like Google Classroom and Edmodo, among others to facilitate the teaching-learning process.

Alongside, broad commitments to flexible delivery, student-centered learning approaches and the development of desired attributes of student learning can be found in institutional plans and policies of the University.

Given the abovementioned, this research will (re)construct the views of faculty and students on the Seamless Blended Digital Learning Program of the Laguna University. This study adopts the lenses of constructivism as it will make sense of research participants' constructs of Seamless Blended Digital Learning Program. Their views or constructs of this variable will be seen through the lenses of the faculty and students at Laguna University.

With the SBDLP in focus, the study will explore the perceptions of the faculty and students and its impact in many aspects like teaching and learning, achievement of learning outcomes, and assessment among others. In addition, the results of this study will guide the management to craft a policy on how they will be able to sustain SBDLP in LU.

## LITERATURE REVIEW

The following are the literature and studies reviewed to established facts and knowledge which are contributory to the present endeavor. Despite minor changes in organizational structure, instructional methodologies, and current teaching strategies, global experiences are remarkably comparable in general. This allows us to summarize the essential characteristics and benefits of distant learning. Distance learning allows learners, who do not have the opportunity to attend school for obvious reasons, to get content knowledge at full scale. Students' perceptions regarding these directions will be evaluated from the demographic variables, and elements that inspire online education according to the literature (Chaubey and Bhattacharya, 2019). Both a specific program and a standard school curriculum can be followed through distance learning. Distance learning necessitates a suitable level of expertise on the part of both the learner and the teacher.

Unal and Unal (2021) stated that a module covers either a single element of subject matter content or a group of content elements composing a discrete unit of subject matter or area of adeptness. A module has placidly defined, objectives, preferably in behavioral form. Varieties of teaching methods that will fixate on cumulating methods that can best realize the creative and constructive engagement with learning activities that leads to understanding. Even very good, designed modules, with very well-defined learning outcomes, can fail if the edification strategies employed are infelicitous to inspirit and support the learners towards meeting the desired learning outcomes.

According to Holmes and Prieto-Rodriguez (2018), focuses on students by permitting them to be trained through critical thinking, examining, and sharing information themselves. Application on proficient learning activities, by using a combined information technology network for knowledge management in synchronous and asynchronous set up to develop learning skills.

As quoted by Mahnegar (2020) to learn at a distance, each learner must have a tutor. In most cases, tutor's role is played by a parent, who also goes between the learner and the teacher. Distance learning can take a hybrid shape (include some elements of full-time education) or be completely virtual. Distance learning should have a good legal framework behind it.

As to Ninoriya, et.al. (2021) distance education can be either totally virtual or hybrid (with some elements of full-time education). A good legal framework should be in place to support distance learning. In cases when the learner is not comfortable with group lessons, online learning contributes to greater interest in learning and to better performance. Student's need in communication with the teacher sets a shape for new curricula to take.

Bradford, et.al. (2021) each module has a distinct training element; it covers either a single element of subject matter content or a group of content elements objectives; preferably in behavioral form. Coy, et.al. (2021) recognized level of proficiency or a qualification can be achieved through the completion of a series of modules. Johnson (2021) also stated that when vendors sell individualized instructional modules “the ability to manage the classroom” was mentioned frequently. Shea (2018) found that using individualized instructional modules reduces the time it takes teachers to develop a technology-based program.

Ak, et.al. (2020) one technique to individualize instruction is to use modularized instruction, where individual differences of students in their capacities to learn are taken into account. Individualized instruction develops critical thinking. Students are encouraged to question, criticize and argue their point of view. It also develops one’s self-concept by recognizing the desirability of individual differences. The basis for this approach is the fact that every student is unique with his own potentials, abilities, interests, and needs. Thus, no two students can learn the same concepts at the same rate in the same manner.

Alkaldi (2021) developed and evaluated instructional materials for the enhancement of listening skills among freshman students of St. Michael College of Laguna. Among others, she concluded that freshman students need instructional materials that will help them realize and make use of their internal language resources to be able to attend to and appreciate listening.

## **METHODOLOGY**

### ***Research Design***

Rossmann and Rallis (1998, p. 113) have noted, “few truths constitute universal knowledge; rather, there are multiple perspectives about the world”. Exploring the perceptions of individuals, who had experienced the new trend in the teaching and learning process, needs to obtain “multiple perspectives” that further our understandings on modular distance learning as contemporary teaching strategy. This research will be purely qualitative in its methods of data collection and analysis.

### ***Respondents of the Study***

In the selection of the participants for this study, purposeful sampling was used. This type of sampling is widely used to select and identify an information-rich case which is related to the phenomenon (Patton, 2015). The researchers were guided by the work of Creswell which identified that the minimum number of participants should be 10 or less than ten (Cappetta, 2007).

Respondents of the study were 14 faculty members and 14 students coming from the following departments of Laguna University: Senior High School; College of Education; College of Engineering; College of Arts and Sciences; College of Computing Studies; College of Business

Administration and Accountancy; and College of Health Sciences. The research was conducted in Laguna University in the 2nd Semester of Academic Year 2020-2021.

### ***Data Collection***

The first and second phase of focus group discussion involved the faculty members and students, respectively. Their voices were given privileged listening. The purpose of the study was being explained to the participants. They were notified that they had the right to accept or decline to take part in the study. Participants were ensured that their personal information will be properly protected and will not be revealed to anyone. In addition, the participants were asked to sign a consent form. The researchers did not ask for their names and other particulars that would specifically identify them.

Focus group discussion (FGD) sessions were conducted via Google Meet and were video recorded. The recordings shall be deleted from the researcher's computer within two months after the completion of the study. The Focus Group Discussion Guide was composed of semi-structured questions drafted by the researchers. Questions were validated by technical experts. Average FGD was from 60-90 minutes. The FGD Guide was developed in such a way that the confidentiality and anonymity of the respondents were protected, which gave them a stronger guarantee of privacy.

### ***Ethical Issues***

The researcher developed the questionnaires in such a way that the confidentiality and anonymity of the respondents were protected which gave them a stronger guarantee of privacy. The questionnaires did not ask for their names and other particulars that would specifically identify them. The respondents participated on their own free will and gave their consent to participate as the purpose of the study was read to them. Likewise, they were fully informed about the procedures of the study. The participants were also assured of no risk physical and psychological harm.

### ***Data Analysis***

FGD results were thematically analyzed. Three levels of textual reading were adopted. The research team, immediately after transcription of audio data, was divided into two to read the transcripts and literally spot for emerging themes. General Education group worked on the faculty transcripts. Meanwhile, the CAS group worked on the student transcripts. A week later, members of the research team convened to discuss the themes identified. These themes were consolidated to arrive at commonalities or to converge themes or constructs into propositions that led to research conclusions and recommendations.

## RESULTS AND DISCUSSION

### ***Views of Faculty and Students on Seamless Blended Digital Learning Program of Laguna University***

It was assumed that the faculty members and students, both psychologically unprepared on drastic educational change, view Seamless Blended Digital Learning Program of Laguna University, similarly, based on their background and teaching/learning conditions at home. The following discussion walks us through their constructs of SBDLP in terms of (1) teaching and learning, (2) achievement of learning outcomes, (3) assessment, (4) synergy between and among faculty and students; and (5) acquisition of soft skills.

#### ***Faculty Members' Constructs of Seamless Blended Digital Learning Program***

The following table depicts how the faculty members and students view Seamless Blended Digital Learning Program related to the parameters earlier mentioned. Four categories were derived from the themes or constructs deduced collectively from actual textual responses taken from FGD transcripts. These are (1) what it ought to be; (2) what it requires; (3) what it does; and (4) what must be done. Every category has drawn up propositions, which later served as elements in this study's conclusions and recommendations. When combined, categories 1 and 3 are clearly the benefits of Seamless Blended Digital Learning Program; categories 1 and 2 as the process requirements and expectations; and categories 1 and 4 as the challenges facing faculty members and students.

#### ***What It Ought to Be?***

Generally, the faculty members view Seamless Blended Digital Learning Program as a learning management system, which resulted from an educational change brought by the pandemic. One faculty FGD participant said, "*Kitang kita ung pagtutulungan ng bawat isa para macomplete yung mga module requirements. Mas nagiging madali ang trabaho*" It is this sense of collaboration that leads SBDLP to increased success and improved communication. A collaboration among faculty members and administration was seen and that it encourages students to be independent learners. This supports the finding of Ak, et.al. (2020) that students who are more independent learners tend to have more self-confidence and have a greater sense that they are in control of their learning.

In a similar way, another discussant considered "*SBDLP is an educational change accelerated by the pandemic.*" If this is the case, it may be a huge task to prepare all stakeholders psychosocially, mentally, and physically with the overlapping tasks to meet the educational demands. The FDG participant shares "*Parang nabigla tayo, mga teachers. How to manage our workload that we are suddenly bombarded with? Dati nman sa face-to face kaya natin i-manage yun pero sa work from home set-up, it's really a struggle.*"

The preceding constructs lead to the idea that the SBDLP must be accepted by all faculty members as a welcoming change. Since the program has been implemented for a year only, it takes time to fully achieved its desired goals. Improvements are being done by phase by the University. As one discussant said, *“gradually may improvement. For example, ung pagtake ng exams online. Ngayon, the GenEd has started to pilot test it.”*

### **What It Requires?**

Generally, the faculty members view SBDLP as a demanding process. It is something that demands (1) extensive research, (2) understanding of most essential learning competency as required by Department of Education, (3) time, (4) high toll of creativity, resourcefulness, patience, and humility, and (5) continual training of faculty members.

One discussant shared, *“if we want to achieve yung 100% achievement of learning outcomes, dapat malalalim na matutunanan ng bata ang bawat lesson. Hindi yung para makasubmit lang sila. Actually we do not based on what was written on the module, we extend our research you know, like for the example, we send youtube videos to the students so that if there’s something that they don’t understand they can understand it easily while watching the videos that we sent them on the messenger.”*

SBDLP requires faculty members to exercise soft skills such as creativity and resourcefulness. A faculty member said, *“Magsearch ka talaga ng mga materials dahil hindi enough ang module lang.”* The FGD participant also expressed that considerations must be extended to students who are having technical and emotional difficulties and acceptance that they need to be technologically adept. The discussant said, *“Humility- acceptance, my limitations. I tried my best, humble myself to ask from young ones, (2) patience- extra effort needed; Natututo na idevelop na i-stretch pa ang patience para sa mga bata.”*

Along this line, the one faculty uttered, *“We need to have an adequate training on how we can have adequate technical know-how. So that we would be able to impart our knowledge to the students without any seeing that we may not be able to do what we are supposed to do.”* This brings to fore the need to continually capacitate the faculty members so that they can deliver what is expected with much ease.

### **What it does?**

Consequently, the faculty members view SBDLP in terms of what it does positively or beneficially, such as (1) it fosters team teaching, (2) it facilitates production of faculty-authored modules, which can then be published, and (3) demands technological knowledge on top of subject-matter knowledge. *“It is very evident yung sharing of ideas on how we can improve our module,”* one FGD participant said. Meaning, it created an opportunity where faculty members can share resources and materials and ask for advice related to the subject matter. This somehow increased sense of security that comes from shared responsibility for the students’ growth. This is consistent with Crawford’s (2016 in Boulay, 2005; Davis, 1995; Friend & Cook,



2007; Letterman & Dugan, 2004) finding that team teaching as a collaborative teaching approach in which two or more teachers share the planning, curriculum and content development, delivery or presentation of teaching and learning led to increase integrity of modules developed by the teachers.

Most of the faculty members realized that they can produce modules, which may be published once clearance is given by the institution. “... pero hindi ko na expect at hindi ko naisip kahit na kailan na ako ay makakagawa ng ganong klaseng module,” one discussant declared.

Also, it was blurted by the FGD participant, “*Learning the technology while preparing course materials is too demanding, but this was done para makapagpatuloy ng serbisyo sa mga students ang Laguna University.*” Despite its rigorous processes, the faculty members are convinced that SBDLP serves the University in terms of the benefits earlier mentioned.

### **What must be done?**

Three prevailing things must be done relative to SBDLP implementation in the University. One, the achievement of learning outcomes and mastery of level of students must be evaluated. Second, to increase student satisfaction and student achievement, there is a need to heighten teacher-student engagement through remote classes. Lastly, there should be a system to address intellectual dishonesty.

One FGD participant highlighted the need to assess whether the students have understood the topic and that they have reached mastery of the subject considering that there is a rapid change in learning platform utilization. The discussant said, “*Kailangan mapag-aralan kung natuto ba talaga ung mga bata sa ganitong pamamaraan, dahil sa dami ng kinahaharap ng mga bata eh ginagawa na lang nila para makasubmit lang*” This is consistent with Unal and Unal (2021) research results that getting into difficulties with technology may result into abandoning the learning and eventual failure of technological applications.

“Sana mas madaming interaction sa students kasi madami talaga ang nagiiinquire sag c about the lessons,” a discussant shared. The result of this study supports the findings of Mahnegar (2020) that in online courses, Interactions are an important factor in perceived learning and student motivation. Coy, et.al. (2021) found that the interaction between students and teachers was the most important factor in "student satisfaction" and "student learning outcomes."

Lastly, the University needs to ensure that intellectual honesty is observed in all class. One FGD participant said, “*lahat na lang ni-download from Google.*” The faculty members must be taught of teaching strategies for minimizing academic dishonesty. Similarly, students must be taught on paraphrasing to avoid plagiarism.

Table 1. Faculty Members' View of Seamless Blended Digital Learning Program

Themes	Constructs
What it ought to be?	SBDLP is a learning management system. SBDLP is an educational change accelerated by the pandemic. SBDLP teaches independent learning. SBDLP is a collaborative effort. SBDLP is a change that must be accepted and embraced by the faculty members.
What it requires?	SBDLP requires extensive research in order to procedure a well-written module. SBDLP requires understanding of most essential learning competency SBDLP requires creativity and resourcefulness in delivering for laboratory courses SBDLP demands time and continual training of faculty members SBDLP requires patience and humility,
What it does	SBDLP fosters team teaching. SBDLP facilitates production of faculty-authored modules, which can then be published. SBDLP demands technological knowledge on top of subject-matter knowledge
What must be done?	SBDLP must be evaluated in terms of achieving learning outcomes and mastery level of students SBDLP must heighten teacher-student engagement through remote classes SBDLP needs to devise a system, which will address intellectual dishonesty

### **Students' Constructs of Seamless Blended Digital Learning Program**

There may be semblances in how the students construct their views of SBDLP comparative to the faculty members, but as seen, the students have a unique, concrete ways of viewing SBDLP. This segment of the discussion focuses on these unique constructs.

#### **What It Ought to Be?**

The students view SBDLP as a challenging but organized, accessible, and convenient flexible learning system. It empowers, fosters creativity, and stretches students. One FGD participant said, *“convenient dahil para po sya sa mga walang pang araw-araw na load.”* It was confirmed by another participant who shared, *“we can view it offline without the need of internet. Pwede po syang basahin and at the same time pwede syang sagutan na pa-handwritten.”* It was also explained that *“marami pong bagay yung nastretch sa akin, lalo na po at napagsasabay-sabay ko po yung work at study.”*

## **What it Requires?**

Generally, the students view SBDLP as a learning platform that needs to be supplemented with other video conferencing tools, emails, instant message for collaboration purposes and video presentations and resources to supplement the module. It also needs administration support in terms of provision of library resources and internet connectivity. Also, to ensure that students understood the lesson, the faculty members must be available for online inquiries.

*“... kahit papaano na online class once a week para mameet namin yung mga prof namin. Dahil di po lahat ay effective sa kanila ang reading lang. lalo na po kung merong mga jargons or technical terms,”* one FGD discussant shared. To address the multiple intelligences of the students, varied activities must be created by the faculty members. It was supported by one student who shared, *“Yung akin po is sana magkaroon ng platform na matututukan yung actual, hindi puro theories lang.”*

One FGD discussant shared, *“Hindi po 100% naiintindihan naming yung module. Gumagawa kami ng other way para maintindihan naming yung lessons like sa YouTube.”* This was affirmed by another discussant who said *“Actually di kami masyado natututo sa module, mas natututo kami sa internet.”*

From the study of Holmes and Prieto-Rodriguez (2018), the most common student techniques included resource management and utilization, help-seeking, improving technical aptitude, time management, and learning environment control. Short of saying, for SBDLP to work properly, the interplay of technology, support services, manpower, and learning outcomes must be well-studied.

## **What it Does?**

Noteworthy here is the fact that students view SBDLP, though challenging, fosters independent learning and develops accountability among students. SBDLP allows students to complete the coursework at a time that is most convenient for them, preventing learners from having to take time out of their day to travel and sit through courses or training (Johnson, 2021) In addition to this, they also learned how to navigate different online learning tools such as Google Classroom, Edmodo, QUIZZNET, and Kahoot, among others.

## **What Must Be Done?**

Striking here is the demand of students for an increased teacher-student interaction through online classes. This was affirmed by the FGD participants when they said that, *“mas okay talaga yung may online class kaysa sa puro module.”*

Also, to ensure that all the needs of students are addressed, a variety of assessment method must be employed. Further, students need to have a hands-on exercise so they can

demonstrate the theories learned through the module. As one FGD participant shared, “*kulang kami sa skill kasi kulang kami sa experiences sa laboratory.*”

Table 2. Students’ View of Seamless Blended Digital Learning Program

Themes	Constructs
What it ought to be?	SBDLP is a flexible learning system, which uses technology to deliver lessons. SBDLP is organized. Everything that should be accomplished by the students are in explained in the module. SBDLP is accessible and convenient but very challenging. SBDLP empowers, fosters creativity, and stretches students
What it requires?	SBDLP requires the use of video conferencing, email, instant message. SBDLP requires video presentations to supplement the module. SBDLP demands time to self-study and conduct research aside from reading the module SBDLP requires administration support like borrowing of books and reliable internet connection SBDLP requires online presence of faculty members
What it does	SBDLP fosters independent learning SBDLP develops accountability among students. SBDLP makes student use different learning tools such as Google Classroom, Edmodo, QUIZZNET, Kahoot, among others
What must be done?	SBDLP needs to increase teacher-student interaction through online classes. SBDLP must explore a variety of assessment to address the needs of all types of learners. SBDLP must have extensive platform for laboratory courses. SBDLP must highlight the importance of providing immediate feedback on the submitted assessment tasks of students.

One discussant quipped, “*It will be better if the teachers will provide effective feedback for us to really maximize the system.*” However, it was negated by one FGD participant who shared that, “*Nagkakaroon po sa amin ng online kumustahan, hindi lang po sya for lectures, kundi nag aask din sila ng “how are you doing?”*”

### **Faculty Members and Students Constructs of Seamless Blended Digital Learning Program of Laguna University Compared**

When reconciled against one another, SBDLP constructs between the faculty members and students may converge in some areas. This discussion focuses on areas of convergence, rather than divergence or departures. The table summarizes these convergences (Table 3).

Table 3. A Comparative Matrix of Faculty Members and Students View of Seamless Blended Digital Learning Program of Laguna University

Themes	Students' Constructs	Faculty Members' Constructs
What it ought to be?	<p>SBDLP is a flexible learning system, which uses technology to deliver lessons.</p> <p>SBDLP is organized. Everything that should be accomplished by the students are in explained in the module.</p> <p>SBDLP is accessible and convenient but very challenging.</p> <p>SBDLP empowers, fosters creativity, and stretches students</p>	<p>SBDLP is a learning management system.</p> <p>SBDLP is an educational change accelerated by the pandemic.</p> <p>SBDLP teaches independent learning.</p> <p>SBDLP is a collaborative effort.</p> <p>SBDLP is a change that must be accepted and embraced by the faculty members.</p>
What it requires?	<p>SBDLP requires the use of video conferencing, email, instant message.</p> <p>SBDLP requires video presentations to supplement the module.</p> <p>SBDLP demands time to self-study and conduct research aside from reading the module</p> <p>SBDLP requires administration support like borrowing of books and reliable internet connection</p> <p>SBDLP requires online presence of faculty members</p>	<p>SBDLP requires extensive research to procedure a well-written module.</p> <p>SBDLP requires understanding of most essential learning competency</p> <p>SBDLP requires creativity and resourcefulness in delivering for laboratory courses</p> <p>SBDLP demands time and continual training of faculty members</p> <p>SBDLP requires patience and humility,</p>
What it does	<p>SBDLP fosters independent learning</p> <p>SBDLP develops accountability among students.</p> <p>SBDLP makes student use different learning tools such as Google Classroom, Edmodo, Quizznet, Kahoot, among others</p>	<p>SBDLP fosters team teaching.</p> <p>SBDLP facilitates production of faculty-authored modules, which can then be published.</p> <p>SBDLP demands technological knowledge on top of subject-matter knowledge</p>

Table 3. A Comparative Matrix of Faculty Members and Students View of Seamless Blended Digital Learning Program of Laguna University (cont.)

Themes	Students' Constructs	Faculty Members' Constructs
What must be done?	<p>SBDLP needs to increase teacher-student interaction through online classes.</p> <p>SBDLP must explore a variety of assessment to address the needs of all types of learners.</p> <p>SBDLP must have extensive platform for laboratory courses.</p> <p>SBDLP must highlight the importance of providing immediate feedback on the submitted assessment tasks of students.</p>	<p>SBDLP must be evaluated in terms of achieving learning outcomes and mastery level of students</p> <p>SBDLP must heighten teacher-student engagement through remote classes</p> <p>SBDLP needs to devise a system, which will address intellectual dishonesty</p>

Both faculty members and students look at SBDLP as a learning management system which facilitates the teaching-learning process. Also, both shared that it demands time in terms of module preparation, gathering of enriching resources in the case of faculty members and in understanding everything that has been uploaded by the teacher independently in the case of the students. Further, both acknowledges the importance of having the technological know-how on how to navigate the different eLearning tools. Lastly, both highlighted the importance of an increase teacher-student interaction to ensure student achievement and satisfaction.

In these convergent constructs, we can deduce, qualitatively, that both faculty members and students value the benefits of SBDLP. Both are open and accommodating of the challenges and opportunities posed by the learning management system.

## CONCLUSIONS AND RECOMMENDATIONS

SBDLP is a changed in the educational system, which must be accepted, embraced, and lived by the University. It is the response of Laguna University to the new normal. Both faculty members and students noted time as one of the major demands of the new learning platform. Time management is the key for the preparation and implementation of SBDLP since not are all prepared for this kind of new normal in terms of module preparation, online classes, exams and other academic-related activities.

Both faculty members and students accepted the need to adjust technologically and academically with the implementation and possible continuation of SBDLP. The direct involvement and collaboration of both the faculty and students are needed for implementing and sustaining it. The technological know-how and the use of modules and online classes are important as well as positive perception about these are vital for the sustenance of SBDLP.

Both faculty and students noted the importance of teacher-student interaction in remote classes. Faculty and students are aware of the importance of being flexible in doing remote classes. Both faculty and students have a positive experience on the implementation of SBDLP. They are both aware that it facilitates the teaching-learning experiences and they value the benefits of SBDLP. The plotted approaches may help the University in sustaining SBDLP. The various methods used in the teaching and learning process may adapt and sustain SBDLP in the midst of the changing environment of the educational system brought about by the pandemic.

Consequently, it is recommended that a seminar or webinar on independent learning or distance learning be prepared to avoid dropouts or LOA in the midst of the pandemic. This will be beneficial for students. To supplement the technological use, a mental health seminar or webinar should be available and provided at least once a year. For the faculty, (a) a mental health seminar or webinar should be available and provided at least once a year. Moreover, they should continuously develop the modules to meet the needs of their students. They should take a more active role in the learning and training process. They can invite and encourage team members to help in shaping the modules for the courses. For the MIS, they should continuously improve the SBDLP, especially the iLearnU features, to meet the needs of the users by gathering feedback and asking for recommendations regularly. Creating distinct user profiles and user groups allows for customization of the user experience so that everyone feels included. It should always be user-friendly. The iLearnU should be available anytime, anywhere, and on any device that the users prefer. Optimize the content and platform in such a way that they consume less bandwidth.

## **IMPLICATIONS**

A benchmarking study of the construct of SBDLP among schools having a learning management system, variables like satisfaction and academic performance can be considered. Basic and advance seminar on SBDLP should continuously be conducted for the faculty and students. Basic seminar includes orientation and advance seminar includes attitude and values needed for the users, and teaching methods and techniques of the teachers using different platforms among others. Employees who have higher expertise and stronger skills can directly begin to more advanced topics that help them take their skills to a new level.

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## **DECLARATIONS**

### ***Conflict of Interest***

All authors declared that they have no conflicts of interest.

## **Informed Consent**

All participants were appropriately informed and voluntarily agreed to the terms with full consent before taking part in the conduct of the experiment.

## **Ethics Approval**

The Laguna University Research Ethics Committee duly approved this study on June 2020 after it conformed to the local and international accepted ethical guidelines.

## **REFERENCES**

- Ak, A., Topuz, V., Altıkardeş, A. & Oral, B. (2020). Development of a Remote Laboratory Infrastructure and LMS for Mechatronics Distance Education. *EURASIA Journal of Mathematics, Science and Technology Education*, 14(6), pp.2493-2508.
- Alkhaldi, T., Pranata, I. & Athauda, R.I. (2021). A review of contemporary virtual and remote laboratory implementations: observations and findings. *Journal of Computers in Education*, 3(3), 329-351.
- Bradford, P., Porciello, M., Balkon, N. & Backus, D. (2021). The Blackboard learning system: The be all and end all in educational instruction?. *Journal of Educational Technology Systems*, 35(3), 301-314.
- Cappetta, R. W., (2007). Reflective Abstraction and the Concept of Limit: A Quasi-Experimental Study to Improve Student Performance in College Calculus by Promoting Reflective Abstraction through Individual, Peer, Instructor and Curriculum Initiates. *Dissertation Abstract International*, 69(2), 541-A.
- Chaubey, A. & Bhattacharya, B. (2019). Learning management system in Higher education. *International Journal of Science Technology & Engineering*, 2(3), 158-162.
- Crawford, R. & Jenkins, L. (2016). Blended learning and team teaching: Adapting pedagogy in response to the changing digital tertiary environment. *Australasian Journal of Educational Technology*, 33. <https://doi.org/10.14742/ajet.2924>.
- Coy, K., Marino, M. T., & Serianni B. (2021). Using universal design for learning in synchronous online instruction. *Journal of Special Education Technology*, 29(1), 63-74.
- Department of Education, Philippines (2020). *DepEd Memorandum (DM) No. 15, 21, 23, 31 and 34 series of 2020: Creation of a Task Force for the Management of Department of Education Response to Novel Coronavirus Acute Respiratory Disease (2019-nCoV ARD)*. Department of Education, Philippines
- Holmes, K. A. & Prieto-Rodriguez, E. (2018). Student and Staff Perceptions of a Learning Management System for Blended Learning in Teacher Education. *Australian Journal of Teacher Education*, 43(3), 21-34.



- Johnson, H. (2021). Dialogue and the construction of knowledge in E-learning: Exploring students' perceptions of their learning while using blackboard's asynchronous discussion board. *European Journal of Open, Distance and E-Learning*.
- Mahnegar, F. (2020). Learning management system. *International Journal of Business and Social Science*, 3(12), 285-293.
- Ninoriya, S., Chawan, P.M. & Meshram, B.B. (2021). CMS, LMS and LCMS for e-learning. *International Journal of Computer Science Issues (IJCSI)*, 8(2), 644-656.
- Patton, M. Q. (2015). *Qualitative Research and Evaluation Methods (3rd Edition)*. New York: The Free Press.
- Palinkas, L. A. (2015). *Action Research Made Easy (2nd Edition)*. New York: Oxford University Press.
- Rossmann, G. B., & Rallis, S. F. (1998). *Learning in the field: An introduction to qualitative research*. Thousand Oaks, CA: Sage.
- Shayan, P., & Zaanen, M. (2019). Predicting Students Performance from their Behavior in Learning Management Systems. *International Journal of Information and Education Technology*, 9 (5) 337-341.
- Shea, P., & Bidjerano, T. (2018). Online Course Enrollment in Community College and Degree Completion: The Tipping Point. *International Review of Research in Open and Distributed Learning*, 19(2), 283–293.
- Unal, Z. & Unal, A. (2021). Investigating and comparing user experiences of course management systems: BlackBoard vs. Moodle. *Journal of Interactive Learning Research*, 25(1), 101-123.
- UNESCO. (2020). *COVID-19 Educational Disruption and Response*. Retrieved from <https://en.unesco.org/covid19/educationresponse>