

INNOVATIONS

Adjusting to the New Normal: Exploring Alternative Learning Strategies for Development Communication Students

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Abstract : Students enrolled in higher education institutions today belong to a generation cohort whose learning and communication behavior is dependent on interactive technology and are not always comfortable with traditional information transfer. In addressing these problems, the study implemented action research on the use of Blended Learning (BL) approach, utilizing different modalities such as web-based learning management systems, recorded video lectures, games, and face-to-face lectures, to deliver selected Development Communication subjects for 2nd semester of A.Y. 2019-2020. The approach integrated synchronous traditional classroom meetings with asynchronous online activities/assessments which lets students learn at their own pace and choose what requirements they want to do first. Before the second half of the academic semester when the action research was implemented, the COVID-19 pandemic forced educational institutions in the Philippines to wrapup early. The objectives of the study were then modified to include determining alternative teaching and learning strategies for DevCom students given the “new normal”. Using the data from the BL approach, a Flexible Learning Strategy was formulated which categorized students based on their resources and capabilities for different learning modes. The overall experience of the students using the BL approach was relatively positive with 46.2% of the students rating their experience as positive. In accessing the internet, 66.2% of the students only rely on data connection through their smartphones. According to students, they prefer the use of Google Classroom more than Edmodo and Schoology as the interface of Google is more user-friendly. Traditional oral discussion, where the teacher would explain the lesson is still preferred. Advantages of the BL approach with the highest agreement from the students is “it is easier to review materials and repeat discussions when needed”. As for disadvantages, the highest statement with an agreement is that the cost of the internet is relatively expensive (4.32), Majority of the respondents said that both online and face-to-face should be integrated. Real-time video lectures can only be accessed by Type A and B students as an internet connection is needed. Pre-recorded video lectures can be

uploaded online via video-hosting sites such as YouTube or via cloud storage. E-copy of module/handouts can serve as complement material for the lectures. Printed modules/handouts are also meant for Type D students who neither have an internet connection nor gadgets to view electronic materials. Although Development Communication students were able to experience online platforms using the Blended Learning Approach, the majority of them still do not like to do pure online distance learning. Hesitations to use online mode is mainly due to their lack of learning resources such as personal computers and internet connection. Moreover, their expectation of online learning was rooted in their blended learning experience which has the following features: (1) all course materials are available from the beginning of the semester, (2) learning is asynchronous, and (3) deadlines are flexible. The flexible learning strategy was patterned after the result of the BL evaluation and has considered the preferences of students.

Keywords: 1. Blended Learning 2. Education, Flexible Learning 3. New Normal in Education

Introduction

People process information presented to them differently. Each individual has their cognitive process which is based on their learning style preference and experiences in learning (Bencheva, 2010). This cognitive process affects the effectiveness of the learning process of students and their academic performance. College students enrolled in higher education institutions (HEIs) today belong to a demographic cohort called Zoomers or Generation Z (Gen Z). According to Sladek&Grabinger (2014), the Zoomer generation of learners are digital natives and are highly reliant on technologies that affect not only their behavior and attitudes but also alter how they learn and communicate inside and outside the classroom (Okaz, 2015). With the current technology today, information and knowledge are easily accessible to Zoomers, enabling them to learn things beyond what is offered inside the classroom.

According to Okaz (2015) face-to-face lectures, which are the most commonly used teaching approach in higher education, do not encourage participation and critical thinking nor provide space for collaborative learning between students to students and teachers to students. Gen Z, who has grown up with interactive technology, may not always be comfortable with the information transmission approach of traditional lectures. With the current ability and characteristics of the Gen Z cohort, there is a need for higher education institutions to examine its current practices and provide students with an opportunity to engage in creative reflections and discourse.

In addressing the issues above, the Department of Development Communication (DevCom) in Central Luzon State University, implemented action research where the Blended Learning approach was used to deliver two major subjects for 2nd-semester A.Y. 2019-2020. The said subjects were (a) Introduction to Development Communication for 1st-year students and (b) Communication Theory for 2nd-year students. However, before the end of the second term of the semester, the Philippines was placed under lockdown due to the spread of the COVID-19 virus, and schools were forced to either close the semester early or resort to distance learning to ensure the safety of students and faculty members alike. Thus,

the action research with the BL approach was cut short and the face-to-face activities for the final term were not executed. As new problems arise with the limited mobility due to community quarantine protocols, the DevCom department decided to use the available data from the BL action research to formulate an alternative learning strategy for their students.

This study evaluated the blended learning approach used by the DevCom department; determined the capability and resources of DevCom students to engage in different distance learning platforms as well as their learning preferences; and suggested appropriate alternative learning strategies for DevCom students given the new normal.

There are different teaching-learning strategies used by education institutions and academic practitioners. One of the most dominant today is traditional learning which is characterized by face-to-face (F2F) classroom setting methodology. In traditional learning, classes are delivered on a fixed schedule and follow a fixed curriculum. Other learning strategies common to higher education institutions are online learning (OL) and distance learning (DL).

This teaching-learning strategy provides a middle ground between the dominant traditional face-to-face classroom teaching and online learning. Hannay&Newvine (2006) pointed out the advantages of integrating distance and traditional methods into a “hybrid” learning environment. They further explained that hybrid education, such as blended learning, provides a platform where students can take charge of their own learning experiences and work at their own pace while also having an occasional forum for face-to-face discussion.

Advantages of BL, as cited by Osguthorpe and Graham (2003), include pedagogical richness, access to knowledge, social interaction, personal agency, cost-effectiveness, and ease of revision. Having a mixture of learning preferences and styles of students, BL combines multiple modalities of learning to promote meaningful and motivating learning (Sign, 2002).

Being *flexible* means adapting to the individual learner’s needs and preferred learning modes (Nikolova& Collis, 1998). According to Nuan (1996), when delivery or learning is coupled with the word *flexible*, the intention to increase learners’ access to and control over particular teaching and learning environments is implied. Flexibility, therefore, suggests a student-centered approach to learning and by giving them the right to decide how to undertake their learning (Willems, 2005). A learner-focused education should have a learning environment where learning tasks are “communicated to learners, resources are made available for them to explore and master (Banathy, 1991)”.

Creating a flexible learning system, however, requires more time and effort from educators and teachers as they need to consider individual learners’ characteristics, preferences, resources, and capabilities.

Methodology

The study was designed as action research which enabled the researchers to examine their educational practice through a cyclic process of planning, acting, observing, evaluating, and reflecting. Through looking at actual classroom problems and experiences in academic institutions, results of action research aim to improve instruction and learning. Educators use action research in assessing instruction and learning needs, documenting the steps of inquiry, analyzing data, and making informed decisions that can lead to desired outcomes.

The study began by identifying the problem, followed by creating a plan of action, implementation, observation, reflection, and evaluation (Figure 1). Before the action research was conceptualized, teachers from the DevCom department noted during brown bag meetings problems such as lack of participation of students in class discussion as well as students' limited attention span during lectures.

Planning for action, the department decided to implement a blended learning approach in two major subjects – Introduction to Development Communication and Communication Theory. The syllabus for the subjects identified was redesigned to accommodate not only the online platforms but also other delivery methods. Learning management systems (LMS), specifically Google Classroom and Edmodo were prepared before the beginning of the semester. The BL approach was tested in 3 sections of the first years and 3 sections of the second years. Insights of the students were constantly asked during the implementation of different activities to understand students' perceptions and feelings about the approach.

The evaluation commenced after the end of the semester. Researchers opted to use online instruments in evaluating the effectiveness of the approach. Google forms were sent to students as community quarantine protocols were placed throughout the country. Respondents were composed of 61.5% 1st year and 38.5% 2nd-year Development Communication students.

Since the students experienced using online platforms in blended learning, the evaluation and analysis of BL included questions on the possible problems for distance and online learning. Reflecting on the results of the BL evaluation, a Flexible Learning Strategy was drafted and presented to the students via Zoom for comments and suggestions.

Findings

1. Evaluation of Blended Learning

1.1. Blended Learning Approach

The blended learning approach designed by the Department of Development Communication was more than a combination of traditional face-to-face and online learning through LMS. The approach was conceptualized to meet the preferences and capabilities of students by giving them options on when they want to do assessment tasks, how and when to submit their requirements, how to participate in discussions, and if they prefer to take advanced lessons. The blended learning strategy includes multiple modalities such as web-based LMS, lecture videos, games, group discussions, and F2F lectures. Moreover, both synchronous classroom settings and asynchronous learning were placed to allow students to learn at their own pace and choose what activities/assessments they want to do first.

1.1.1. Implementing the Blended Learning Approach

All activities, handouts, and references for the entire course were uploaded in the LMS before the beginning of the semester. Each student was given a copy of the course syllabus and activity guide which specifies all the activities and requirements – including instructions

of how to proceed and grading rubric. There is no specific deadline for requirements and students may choose to do lessons and activities in advance or whenever convenient for them. Although there is a suggested timetable in the syllabus and course guide, the students may opt to not do things chronologically or do it asynchronously. They also have the option to submit the printed copy of the requirements or upload it via LMS. Moreover, participation in discussions or recitation can be done in either or both face-to-face discussions or the LMS forum.

The traditional face-to-face class, although done synchronously, was modified to include more games, group activities, and group discussions as well as limit the teacher's discussion time to 30-40 minutes (out of 1.5 hours). A big part of the class time is used for group discussions among students or for games which helps them analyze situational problems.

1.1.2. Level of agreement on the advantages of Blended Learning

In evaluating the BL approach, the general characteristics of BL were rated by the students wherein "1" stands for strongly disagree and "5" for strongly agree. Students agreed that (a) BL improves the learning pedagogy by providing an interactive learning environment, (b) it is student-centered rather than teacher-led, (c) it increases access and flexibility in learning without compromising traditional face-to-face, and (d) is cost-saving and improves scheduling activities (Table 1).

1.1.3 General impression on Blended Learning

The overall experience of the students using the BL approach was relatively positive with 46.2% of the students rating their experience as positive and 21.5% having a highly positive experience (Figure 2). Students were also asked to give feedback on the approach through an open-ended question.

Among the features of the blended learning approach used by the department, the asynchronous submission of the requirements, as well as the option to submit a printed copy or email the requirement, are amongst the most appreciated by the students.

Another student mentioned that she appreciated that there is an integration between online and face-to-face platforms. As all course materials are already uploaded in the LMS, some of the students accomplish lessons and activities in advance. Whenever students have questions regarding the lessons posted in the LMS, they can easily clarify them during the synchronous class discussions. Moreover, another student mentioned that she appreciated having online discussion forums because she is not good at speaking orally inside the classroom.

"It is helpful because if we don't understand something online or if there is a problem, we can clarify it to the teacher's face to face."

"Using the blended learning approach helped me a lot because I am terrible at public speaking."

Although there is positive feedback, students also mentioned some negative factors of blended learning. One student mentioned that, for those who are not disciplined with their time, the requirements could pile up as the pressure of a deadline is not present. However, another student explained that learning and doing requirements is the responsibility of the student.

“I procrastinate sometimes but I get to study in the end. You'll decide whether you will not learn or not.”

1.2.Capability and Resource of Students for Online Learning

1.2.1. Financial Resources of Students

One of the major factors restricting the capability of students is financial resources which are accounted from the income of their family and support which may come from scholarships. There were 35.4% of the students who only have less than 10,000 monthly family income, while 32.3% have less than 30,000 a month. According to the Philippine Statistics Authority, an average Filipino family will need more or less 18,000 pesos a month to live decently. However, living at less than 10,000 pesos a month will be hard for students especially for their added expenditures in school (Table 2).

1.2.2. Learning Devices

Students mostly own smartphones, with 98.5% of them stating that they own one. As for personal computers or laptops, however, only 61.5% of students own one. Having a personal computer is important in distance learning as most activities and requirements are done using computers (Figure3). Although lectures or handouts may be accessed through smartphones, it will be hard for students to write full papers using only their cellular devices.

1.2.3. Internet Access

In accessing the internet, 66.2% of the students only rely on data connection through their smartphones to access the internet. There are 26.2% who are subscribed to an internet plan or have a lined broadband connection in their homes. While 7.6% said that they need to visit computer shops to connect or access the internet (Figure 4). The figure shows that although there is an available internet connection, accessing it is still hard for some. Another concern would be the reliability of the internet connection.

1.2.4. Learning Management System

The graph below shows the distribution of usage and preference for use in the LMS used. According to the students, they were able to encounter three LMS during the 2nd semester of 2019-2020. These LMS are as follows: Edmodo, Google, and Schoology – where 46.2% of students have used Edmodo, 64.6% have used Google, and 84.6% have used

Schoology (Figure 5). However, according to students, they prefer the use of Google Classroom more than Edmodo and Schoology as the interface of Google is more user-friendly.

1.3.Learning Preferences

In discussions, traditional oral discussion, where the teacher would explain the lesson is still preferred (Figure 6). They also prefer having PowerPoint presentations and other visual aids. Playing online content and other recorded materials are in between *agree* and *neutral*. This may be attributed to the fact that these students have been exposed to this kind of discussion method since their earlier education. As for taking notes (Figure 7), students prefer having printed handouts to writing down notes and having electronic copies of handouts. Although having electronic copies is seen by some students as more convenient, some still prefer having printed forms, especially when reviewing or preparing for assessments. As for requirements (Figure 8), students prefer that requirements are submitted online and all the requirements and deadlines are set at the beginning of the semester.

1.3.1. Level of agreement on the advantages and disadvantages of Blended Learning

Advantages of the BL approach with the highest agreement from the students are as follows: (a) it is easier to review materials and repeat discussions when needed (b) there is no fixed time of learning as assessment activities are flexible, and (c) there is freedom in choosing what material or activity you are going to learn or do first (Table 3).

Another advantage according to one student is the ability to express themselves more in answering the insight. Some students are not comfortable expressing themselves orally in a face-to-face setting, the virtual classroom helps them participate in class discussion and share their thoughts and opinions.

As for disadvantages, the highest statement with an agreement is that the cost of the internet is relatively expensive (4.32), followed by interaction and collaborative thinking are hard in an online platform (3.86) (Table 3). For those who rely on data connection, the cost of accessing the internet is relatively expensive especially if they have to download materials which would take up a lot from their load balance. As for doing collaborative work, chatting sometimes is not effective while video conferencing is also hard for some due to poor connectivity and expenses for a load. Other disadvantages cited by the students are:(a) they are easily distracted in social media, (b) it is hard to follow some guidelines, and (c) not everyone owns a laptop or other devices.

1.3.2. Agreement on Using Online Mode for Distance Learning

When students were asked if they would agree on using an online platform in delivering distance learning for the semester considering the pandemic, more than half of them disagrees with 55.4%. The most common reason why students do not agree with the

online mode is that they are more used to the traditional F2F mode of learning, while 36.36% states that their internet connection is weak and not reliable. On the other hand, those who have agreed to have an online mode, 44.6%, except that the online mode would have readily available course materials and flexible deadlines (Table 4).

1.3.3. Delivery Mode for New Normal

When students were asked which among the learning delivery options will be most effective considering the *new normal*, 75.4% of the respondents said that both online and face-to-face should be integrated or use blended learning. Other students still prefer traditional face-to-face, 18.4%, if possible. While 6.2% said that there is no other way but to go pure online for the coming semester 2020-2021 (Figure 9).

1.3.4. Concerns in the change of learning strategies in complying with the “new normal”

The department offered interventions that can be executed if ever online distance learning will be implemented. These interventions are providing load for internet data, flash drive with course pack, printed handouts, and creating flexible deadlines. Among the interventions, giving flexible deadlines is considered as the most helpful and appropriate by the students with 33.53% of them agreeing to the said intervention (Table 5).

As for concerns regarding the learning strategies for the new normal, 46.29% of the students have stated concerns related to internet connectivity and lack of learning resources such as laptops and other gadgets.

Another significant concern is with the new learning delivery mode as students fear that it will be hard for them to cope-up. One said that the “new normal” learning strategy should be specific and considerate to the characteristics of each student. While another still prefers traditional learning as she doubts if she can understand or follow the lessons.

2. Proposed Flexible Learning Strategy for Development Communication Students

2.1. Student category based on resources

Students will be categorized based on their resources, capabilities, and needs. There are four categorizations of students (Table 6). Type-As are those who can do full online learning and can perform all LMS activities as they have available computers and internet access. Type-Bs are also as capable as type-As, however, they cannot perform some activities that would require them to use computers – which means that it will be hard for them to do term papers and projects on LMS. Type-C students have the necessary gadgets but no/bad internet connection. As these students may be living in far-flung areas where connectivity is hard, it will be impossible for them to enroll in LMS and do online activities. Since they have gadgets, electronic modules and lectures will be provided to them. Type-D students are those

with no internet connection as well as smartphones and computers. Printed modules will be provided to these students as well as audio-recording of lectures which they can play on their mobile phones. As these students don't have the necessary gadgets, they will be given an option to submit hand-written reports. Students will be the ones to determine what kind of learning they will have.

Teaching Platform for flexible learning

Real-time video lectures can only be accessed by Type A and B students as an internet connection is needed (Table 7). In video conferencing, students will be able to participate and ask questions in real-time, however, the teacher must consider the features of the different conferencing applications and the internet data needed to access the sites. Pre-recorded video lectures can be uploaded online via video-hosting sites such as YouTube or via cloud storage (Table 7). The good thing about the pre-recorded video is that students can easily go back or review the lectures, however, real-time participation and feedback can't be done. Pre-recorded audio lectures can also be uploaded via the cloud or can be burned in CDs or saved in drives (Table 7). Audio lectures are meant for Type D students since it will be hard for them to study the modules on their own without explanation from teachers. E-copy of module/handouts can serve as complement material for the lectures (Table 7). Printed modules/handouts are also meant for Type D students who neither have an internet connection nor gadgets to view electronic materials (Table 7).

2.2. Assessments for students

Assessment includes quizzes, activities, recitation/class participation, term projects, and term exams. The main challenge for teachers in doing assessments for flexible learning is how to make it specific for each type of student while maintaining a standard grading for the whole class.

If possible, all term examinations and quizzes will be done in a scheduled F2F setting. However, if F2F is not allowed, then alternative platforms such as mail or online exam can be used. Requirements must be adjusted also based on the "new normal" guidelines. Give at least only one quiz, assignment, project, and exam per term as to not give pressure on students.

Table 8 shows how each assessment can be conducted on different platforms. Those students who have internet access should be given a choice as to whether they would have their quizzes and activities done OL or F2F. However, as for requirements such as assignments and term projects, Type A&B should be encouraged to submit it online. As for type C and D students, offline quizzes can be given through phone calls or SMS. Their assignments and term projects may be submitted through courier or via F2F. If students opt for F2F or courier, one-time submission of all requirements per term is encouraged to lessen physical contact.

Conclusion

Although Development Communication students were able to experience online platforms using the Blended Learning Approach, the majority of them still do not like to do pure online distance learning. Hesitations to use online mode is mainly due to their lack of learning resources such as personal computers and internet connection. Moreover, their expectation of online learning was rooted in their blended learning experience which has the following features: (1) all course materials are available from the beginning of the semester, (2) learning is asynchronous, and (3) deadlines are flexible. The flexible learning strategy was patterned after the result of the BL evaluation and has considered the preferences of students.

Acknowledgment

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Figures 1-9 - Adjusting to the New Normal: Exploring Alternative Learning Strategies for Development Communication Students



Figure 1. Action research process



Figure 2. General impression on Blended Learning

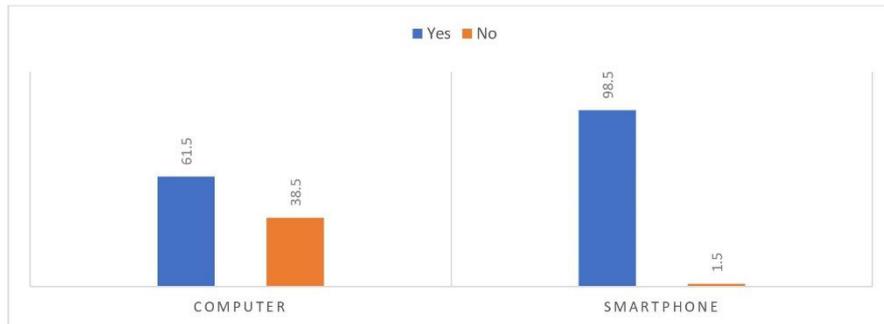


Figure 3. Learning devices owned by students

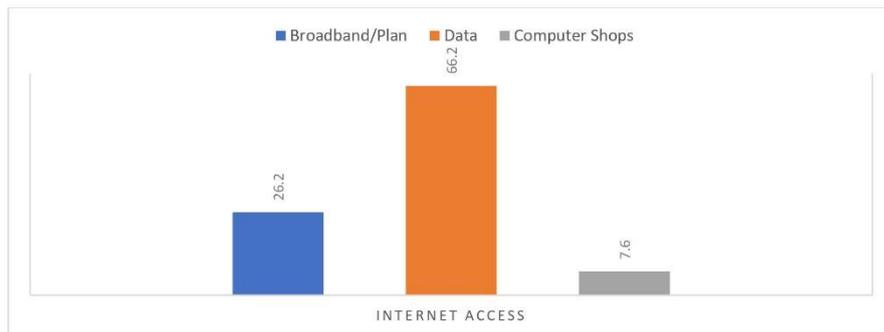


Figure 4. Internet access of students

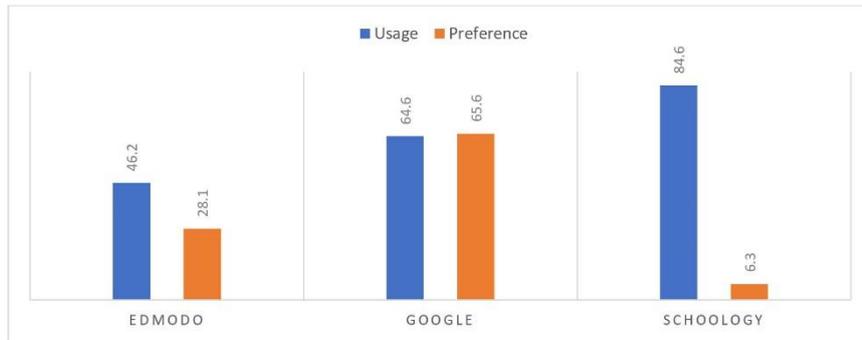


Figure 5. Usage and preference of Learning Management System

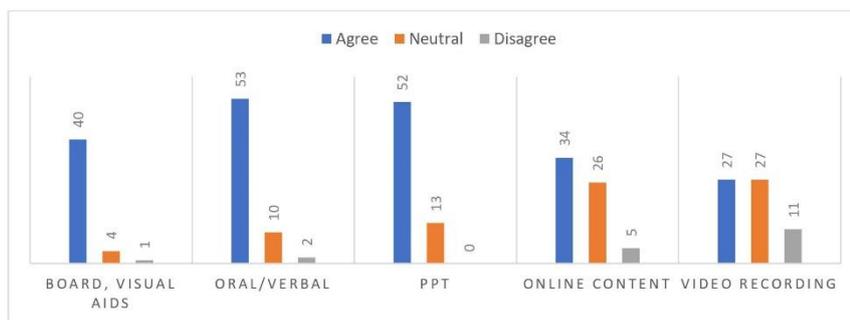


Figure 6. Students' preference on discussion

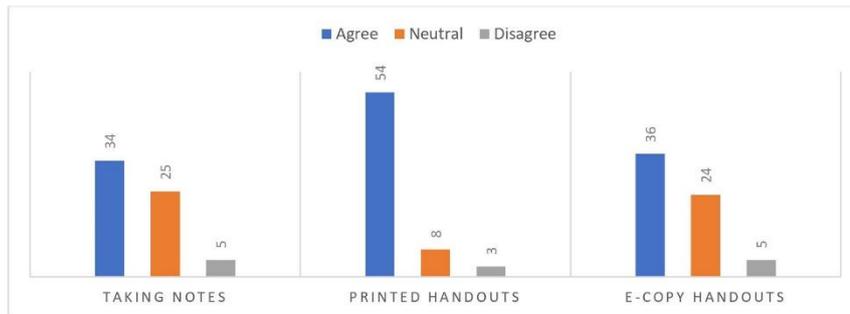


Figure 7. Students' preference on lecture notes

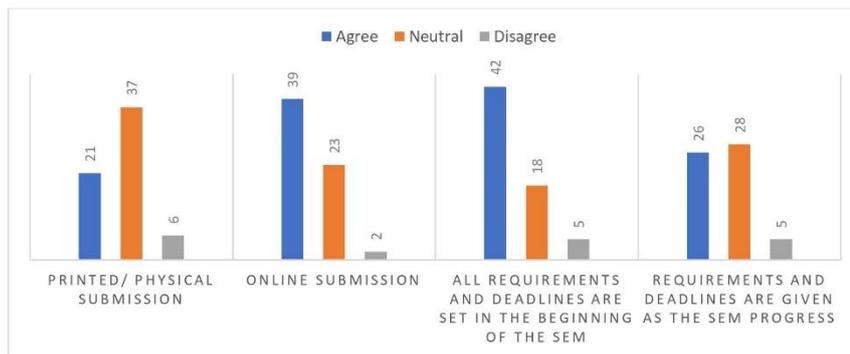


Figure 8. Students' preference on requirements

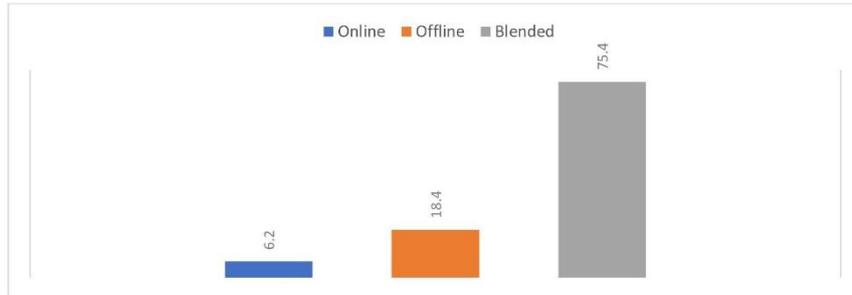


Figure 9. Preferred delivery mode considering the new normal

Tables 1-8 - Adjusting to the New Normal: Exploring Alternative Learning Strategies for Development Communication Students

Table 1. Level of agreement on the advantages of Blended Learning

Particulars	Mean	SD	Description
General			
BL improves the learning pedagogy as it provides an interactive learning environment for students	3.78	0.91	Agree
BL improves the learning pedagogy as it is more student-centered rather than teacher-led	3.60	0.96	Agree
BL increased access and flexibility in learning without compromising live interaction through traditional face-to-face contact	3.71	1.08	Agree
BL is cost-saving and improves scheduling efficiencies	3.83	1.11	Agree

Legend: 1.0-1.79 – Strongly Disagree
 1.80-2.59 – Disagree
 2.06 -33.39 – Neither

3.40-4.19 – Agree
 4.20-5.0 – Strongly Agree

Table 2. Financial resources of students

Particulars	Frequency (n=65)	Percentage (%)
Family Monthly Income		
Less than P10,000	23	35.4%
P10,000-30,000	21	32.3%
Prefer not to say	12	18.5%
P30,000-50,000	8	12.3%
50,000-70,000	1	1.5%
Scholarship (aside from CHED UniFast)		
Without scholarship	48	73.8%
With scholarship	17	26.2%

Table 3. Level of agreement on the advantages and disadvantages of Blended Learning

Particulars	Mean	SD	Description
Advantages			
The online platform enables students to learn from home	3.49	1.41	Agree
It is easier for students to access course materials as they are all available on one platform	3.72	1.15	Agree
It is easier for students to review materials (handouts) or	4.11	1.10	Agree

Particulars	Mean	SD	Description
repeat discussions (video lectures) when needed			
There is no fixed time of learning as assessment activities are flexible	4.05	1.09	Agree
There is freedom in choosing what material or activity you are going to learn or do first	4.03	0.98	Agree
Completing requirements online is cheaper and the use of online is more cost-effective in general	3.71	1.11	Agree
The blended approach is favorable for people with restricted mobility (such as but not limited to working students and PWDs)	3.86	0.95	Agree
Disadvantages			
It is hard to have direct communication with teachers	3.723	1.39	Agree
There is no direct communication among students	3.49	1.53	Agree
Interaction and collaborative thinking are hard in an online platform	3.86	1.25	Agree
Self-discipline and self-regulation are hard among learners	3.63	1.43	Agree
The cost of internet is relatively expensive	4.32	1.08	Agree

Legend: 1.0-1.79 – Strongly Disagree 3.40-4.19 – Agree
 1.80-2.59 – Disagree 4.20-5.0 – Strongly Agree
 2.06 -33.39 – Neither

Table 4. Agreement on use of online platform for distance learning

Particulars	Frequency	Percentage
Online Platform		
Yes	29	44.6
No	36	55.4
Reason for Yes*multiple responses		
All course materials were readily available in an online class	23	26.14
Requirements in online classes have flexible deadlines	26	29.55
Submitting and completing requirements were more cost-effective	21	23.86
Enables coping-up with the lessons when students missed traditional class	18	20.45
Reason for No*multiple responses		
I'm more used to traditional F2F	27	40.91
I don't have an available laptop and internet	15	22.73
My connection is weak and not reliable	24	36.36

Table 5. Concerns and interventions in changing learning strategies for new normal

Particulars	Frequency	Percentage
Interventions*multiple answers		
Load for data	35	20.23
Flash drive with course pack	33	19.07
Printed handouts/module	47	27.17
Flexible deadline and schedule	58	33.53
Concerns*optional and open-ended		

Safety of students	4	7.41
Deadline and requirements	4	7.41
Internet connectivity and learning resources (laptop and other gadgets)	25	46.29
Learning delivery	21	38.89

Table 6. Student category based on resources

Category	Resources	Teaching-Learning	Assessment	Monitoring
Type A	computer, smartphone, good internet access	Online learning, video lectures, e-handouts	F2F Term Exam, online quiz & recitation	Online/Web monitoring
Type B	smartphone, good internet access	Online learning, video lectures, e-handouts	F2F Term Exam & Projects, online quiz, and recitation	Online/Web monitoring
Type C	computer, smartphone, no/bad internet access	Pre-recorded video/audio lectures via CD/USB, e-handouts	F2F Term Exam/Projects, Quiz, and Activities	Calls and SMS
Type D	mobile phone	Pre-recorded audio lectures, printed handouts	F2F Term Exam/Projects, Quiz, Activities	Calls and SMS

*F2F will be based on how much CHED will let physical classroom set-up. If F2F will not be allowed, alternative platforms for assessments such as mailed or online exams will be used.

Table 7. Teaching platforms for flexible learning

Teaching Platform	Modes	Access	Features	Limits
Real-time video lectures	- Video conferencing (Zoom, Google Meet, Webex, FB Chat, etc) - LMS	Type A, Type B	- Lectures can be elaborated. - Almost the same as F2F with real-time feedback and participation from students	Accessibility
Pre-recorded video lectures	- Google Drive/ Cloud/ YouTube/ SNS - CD/USB - LMS	Type A, Type B, Type C	- Lectures can be elaborated. - Students can review the clip whenever they can. - Asynchronous interaction can be facilitated.	No real-time feedback and participation from students.
Pre-recoded audio	- Google	Type A,	- Lectures can be	- Visual

Teaching Platform	Modes	Access	Features	Limits
lectures	Drive/ Cloud/ SNS - CD/USB - LMS	Type B, Type C, Type D	elaborated. - Students can review the clip whenever they can. - Accessible to all types of students	restrictions (complement with handout). - No real-time feedback and participation from students.
E-copy of module/lecture handouts	- Google Drive - CD/USB - LMS	Type A, Type B, Type C, Type D	- Students can review the material whenever they can. - Accessible to all types of students	- Lectures can't be elaborated - No real-time feedback and participation from students.
Printed module/copy of lecture handouts	- Print	Type A, Type B, Type C, Type D	- Students can review the material whenever they can. - Accessible to all types of students.	- Lectures can't be elaborated - No real-time feedback and participation from students. - Cost of printing

Table 8. Assessment for students

Category	Assessment				
	Quiz/Activity	Assignment	Participation	Term Project	Term Exam
Type A	OL/LMS, F2F	OL/LMS, F2F	OL/LMS, F2F	OL/LMS, F2F	F2F
Type B	OL/LMS, F2F	OL/LMS, F2F	OL/LMS, F2F	Courier, F2F	F2F
Type C	Call, SMS, F2F	Courier, F2F	Call, SMS, F2F	Courier, F2F	F2F
Type D	Call, SMS, F2F	Courier, F2F	Call, SMS, F2F	Courier, F2F	F2F