

# Readiness to Flexible Learning Modality of Information Technology Students of Batanes State College

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## Abstract

The onset of the pandemic redirected educational institutions in delivering instructions specifically the shift to flexible learning modality. The primary aim of this research study is to investigate if the Bachelor of Science in Information Technology students of Batanes State College are really ready in the modality shift. The study utilized percentage and frequency distribution as well as weighted mean. There were 53 respondents of the study, 70% of which are male and 30% are female. Each of the respondents answered a questionnaire through Google Form aligned with flexible pedagogies. Given its result, a wider research should be conducted to investigate the readiness of other disciplines in the College.

**Keywords:** flexible learning, pandemic, flexible pedagogies

## INTRODUCTION

The onset of the COVID-19 pandemic had caused a massive impact in education (Aristovnik, et. al, 2020) which led to non-conduct of face-to-face classes of educational institutions worldwide (UNESCO, 2020). The Philippines is not an exempt to this crisis which first recorded its first COVID-19 case on January 20, 2020 (WHO, 2020). On March 16, 2020, nearly two months after the first case, the Enhanced Community Quarantine in the Entire Luzon, pursuant to Proclamation Nos. 929 and 922 (s. 2020) had been implemented. This is to ensure public health and mitigate its wide spread (COVID-19, HRP-PHILIPPINES, 2020). Thus, Higher-Education Institutions (HEIs) redefined the teaching-learning process and shifted to flexible learning (Alipio, 2020) (Narmada and Somasundaran, 2020) (Barrera, et.al, 2020).

According to Rappler, educational institutions in the Philippines are trying to make sure that learning is unhampered during the health crisis. The use of technology in delivering instruction (Alipio, 2020) (Paul and Jefferson, 2019) (Bali and Liu, 2018) is already incorporated in the classroom before the pandemic. However, teaching and learning process is still implemented greatly on a face-to-face modality where the students are met in a classroom with a predefined time of class meeting (Mpungose, 2020). After all, education and learning should not be hampered or stopped by a pandemic. Thus, in its desire to be true to its vision and mission to deliver instruction amidst odds, the Batanes State College implemented flexible learning.

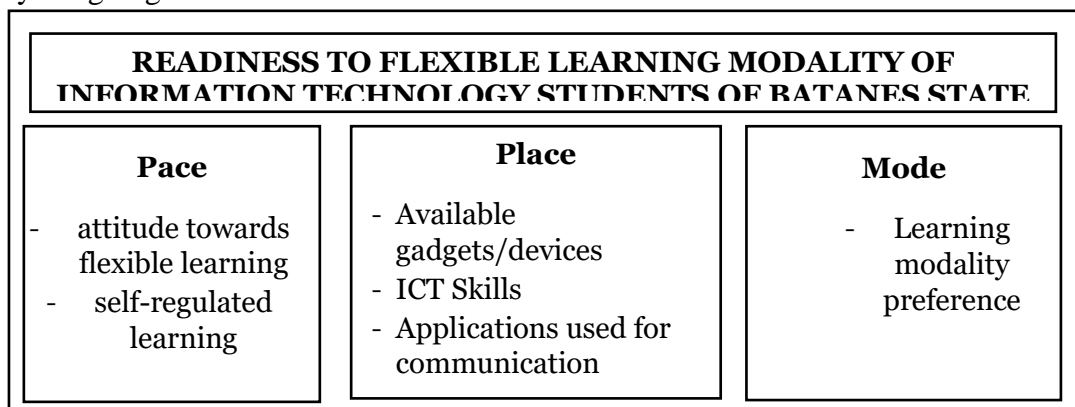
Commission on Higher Education (CHED) in its Memorandum Order No. 4, s. 2020, also known as the “Guidelines on the Implementation of Flexible Learning”, defined flexible learning as a “pedagogical approach allowing the flexibility of time, place and audience, but not solely focused on the use of technology. Its implementation may vary on the levels of technology, availability of devices, internet connectivity, level of digital literacy and approaches.” This emphasizes the present need of continuing the teaching and learning process beyond the traditional mode of instruction (CHED, 2020).

Higher learning institutions implemented flexibility in the delivery of instruction, that simply means students are able to study lessons given in their own pace, place and mode (Gordon, 2014). Ryan and Tilbury (2013) also pointed out that instructors, learners and learning institutions all contribute and has a part in flexible learning. Instructors should be able to facilitate the teaching and learning process by focusing on learner experiences instead of being the manipulator of learning content. On the other hand, learners should be able to “grasp opportunities presented to them and advocate for the method of delivery that best serves their learning”. Likewise, learning institutions should device and establish ways and means to support the and “guarantee a quality learning experience.”

It has been two semesters that flexible learning is implemented. Faculty members succumbed to the modality the students prefer in the learning process. However, since students and faculty members alike are amateurs in the process, it is likely that problems occur. There is also no study on students’ readiness on such modality before its implementation. Thus, this study is conceived. This study will look into the actual readiness of the Bachelor of Science of Information technology students of BSC. The result of this study can become a compass for faculty members and administration to formulate policies, guidelines and actions that can help students in the quest for a smooth sailing delivery of instruction through flexible learning. The findings of this study will also be an encouragement to future researchers to conduct similar or broader study.

**CONCEPTUAL FRAMEWORK**

This study will use the Flexible pedagogies: Technology-enhanced learning by Gordon (2014) which was also adopted by Barrera and Arcilla (2020) in their study Readiness for Flexible Learning amidst COVID-19 Pandemic of Saint Michael College of Caraga, Philippines infused with the conceptual framework used by Ishmael K. Forson and Essi Vuopala in their research study “Online Learning Readiness: Perspective of Students Enrolled in Distance Education in Ghana”. Their research studies posit that flexible learning enables students to decide the time (pace), the place (place) and the in what manner (mode) they are going to learn.



### 1. Pace

This refers to the students' independence to acquire learning experiences as they start their courses and completion of such at their own speed (Kocdar, et.al, 2018). This encompasses their attitude towards learning and self-regulated learning. Jossberger et. al suggested that the exerted effort of students in learning encompasses their desire, openness, curiosity, alertness and full-mindedness towards knowledge and ideas. Since the learner is the very person who is responsible in the creation of his/her own understanding and knowledge, it is very important to know what kind of attitude s/he has towards learning. Positive or negative attitudes towards learning are important for a successful learning. (Şen, 2013).

Zimmerman and Schunk (2011) on the other hand defined self-regulation as the ability of the student to formulate his/her own methods in the learning process.

### 2. Place

This refers to the actual location of learning, whether it takes place in a classroom, at home or at work (Gordon, 2011). In this research study, place will encompass available devices, ICT skills, applications used for communication and the Learning Management System used by the respondents.

### 3. Mode

This refers to the learning modality or environment of the teaching-learning process. This includes the use of technology to support learning (Ryan and Tilbury, 2013) or online mode, offline which refers to the non-use of internet connectivity or the use of printed modules or lessons placed in storage devices and blended, which is a combination of both (CHED, 2020).

## STATEMENT OF THE PROBLEM

Generally, the study aims to assess the readiness of Bachelor of Science in the Information Technology students of Batanes State College in the flexible learning modality.

The study will answer the following:

- 1) What is the demographic profile of the respondents in terms of:
  - a. Age
  - b. Gender
  - c. Employment status
  - d. Internet Connectivity
  - e. Type of Internet Connectivity
- 2) What is the attitude of the respondents towards flexible learning?
- 3) Do the respondents have a self-regulated learning skills?
- 4) What are the available gadgets/devices used by the respondents in flexible learning?
- 5) What are the phone or computer applications for communication that the respondents use?
- 6) What are the phone or computer applications for Learning Management System that the respondents use?
- 7) What is the level of ICT skills that the respondents have?
- 8) What is the preferred modality of the respondents?

## METHODOLOGY

### *Research design*

This study utilized the descriptive research design to describe and look into the extent of readiness to flexible learning modality and profile of the respondents.

### *Respondents*

The study used total enumeration. The respondents of this study are the students from first year – third year of Bachelor of Science in Information Technology of the Batanes State College which has a total of 53 students.

### *Instrumentation*

The study used Google Form to gather the required data. The first part of the questionnaire will constitute the demographic profile of the respondents while its second part will focus on their readiness to flexible learning. The questions will be adopted on the studies of Barerra and Arcilla (2020) and Forson and Vuopala (2020).

### *Data collection and procedure*

The following activities were undertaken by the researchers in gathering the needed data for the study. A letter of permission was personally presented to the Director for Instruction of the Batanes State College to seek approval and to ensure the cooperation of the respondents during the conduct of the study. Upon its approval, the researchers informed the students regarding the online survey using Google Form. Students who are not connected to the internet however, were given hard copy of the questionnaire.

### *Data analysis*

Frequency and percentage distribution were used as well as weighted mean to determine attitude towards flexible learning and self-regulated learning of learners.

## RESULTS AND DISCUSSION

This chapter covers the presentation of the analysis and interpretation of data gathered. Moreover, it presents the findings of the study from which conclusions and recommendation were based.

### **Distribution of Respondents According to Age**

Table 1 shows the age of the student respondents where majority are 18-24 years old (47 or 89%) followed by 25-29 years old (5 or 9%). Only 1 or 2% of the respondents belong to 30-39 years old age group.

**Table 1. Frequency and Percentage Distribution of Respondents According to Age**

Age	Frequency	Percentage
18 years old below	0	0%
18 - 24 years old	47	89%
25 - 29 years old	5	9%
30 – 39 years old	1	2%
40 years old above	0	0%
Total	53	100%

**Distribution of Respondents According to Sex**

Table 2 shows gender of the Information Technology student respondents of Batanes State College. Of the 53 students, most of the respondents are male with 70% while 30% are female.

**Table 2. Frequency and Percentage Distribution of Respondents According to Sex**

Gender	Frequency	Percentage
Male	37	70%
Female	16	30%
Total	53	100%

**Distribution of Respondents According to Employment Status**

Table 3 presents the employment status of the respondents. Majority of the students are not employed (37 or 70%) and (16 or 30%) are employed. The students who are employed usually Job Orders or Student Assistants.

**Table 3. Frequency and Percentage Distribution of Respondents According to Employment Status**

Employment Status	Frequency	Percentage
Employed	16	30%
Not Employed	37	70%
Total	53	100%

**Distribution of Respondents According to Internet Connectivity**

The distribution of internet connectivity is presented in Table 4. The table shows that most of the respondents had limited connectivity with (42 or 79%) followed by with connectivity (9 or 17%) and 2 (4%) without connectivity. This infers that the number of students with internet connectivity still outnumbers those that do not totally have one. This further implies that the respondents can connect to the internet for flexible learning.

**Table 4. Frequency and Percentage Distribution of Respondents According to Internet Connectivity**

Internet Connectivity	Frequency	Percentage
Without Connectivity	2	4%
With Limited Connectivity	42	79%
With Connectivity	9	17%
Total	53	100%

**Distribution of Respondents According to Types of Internet Connectivity**

Table 5 shows the types of internet connectivity the respondents use. The survey shows that internet connectivity through mobile is the most frequently used by the respondents with (47 or 89%) and only 6 (11%) are using wireless/wi-fi. This implies that most of the respondents use smart phones when connecting to the web as supported by the result of the study in Table 8.

**Table 5. Frequency and Percentage Distribution of Respondents According to Type of Internet Connectivity**

Internet Connectivity	Frequency	Percentage
Broadband	0	0%
DSL	0	0%
Mobile data	47	89%
Satellite	0	0%
Wireless/Wi-Fi	6	11%
None	0	0%
Others	0	0%
Total	53	100%

**Attitude towards Flexible Learning**

Table 6 shows that the Bachelor of Science in Information Technology students has a positive attitude towards flexible learning indicated by the overall weighted mean of 3.32 because they are able to understand course related information when it is presented in video formats (3.83) and they think online-learning mode provides the flexibility to study at the time convenient to them (3.66). The result is in congruent with Stahl, et.al (2018) and Forson, et.al (2019) studies on attitudes and perceptions of students on flexible learning. This further indicates that Bachelor of Science in Information Technology students of Batanes State College prefer flexible learning mode over traditional face to face mode since they are able to learn in their most convenient time (Forson, et. al, 2019).

**Table 6. Readiness to Flexible Learning Modality through Attitude towards Flexible Learning**

ATTITUDE TOWARDS FLEXIBLE LEARNING	WEIGHTED MEAN	DESCRIPTIVE VALUE
1. I would be able to understand course related information when it is presented in video formats.	3.83	Positive
2. I would be able to make note for myself while watching the video of my instructor on the computer just as is done in a face to face setting.	3.62	Positive
3. I think online-learning mode provides the flexibility to study at the time convenient to the learner.	3.66	Positive
4. In my opinion, it is time for the College to implement an online learning platform.	3.42	Positive
5. Staying at home and having live lectures over the internet on weekends would be very challenging.	3.79	Positive
6. I think there is that possibility for live lectures over the internet, as is done in the classroom.	3.38	Positive
7. I believe learning is the same for both classroom face to face lecture and online lecture.	2.81	Positive
8. I feel that learning on the internet outside of class will be more motivating than face to face course.	2.79	Positive
9. I don't foresee any usefulness of online-learning in our country.	2.58	Positive
Overall Weighted Mean	3.32	Positive

### Self-Regulated Learning Skills

Table 7 reflects the self-regulated learning skills of students. The table further presents that students agree that they set goals and have a high sense of initiative toward achieving their goals (3.77); when preparing for a test or exams they put together the information from class and from other sources (3.91), they isolate themselves from anything that distracts them when studying on their own (3.74), they can organize their studies and change their plans when the need arises (3.68), they are self-directed when it comes to academic work (3.43) and they remain motivated even if the professor is always not online (3.4).

The overall weighted mean of 3.45 implies that students has a positive attitude towards their self-regulated learning skills. This is also aligned with the results found by Forson, et.al (2019) and Virtanen (2020) in their research studies. This further means that the respondents are “purposive and goal



oriented”, persistent, incorporates and applies different strategies to improve their academic performance (Xiao, et.al., 2020) (Vitanen, 2020).

**Table 7. Readiness to Flexible Learning Modality through Self-Regulated Learning Skills**

<b>SELF-REGULATED LEARNING SKILLS</b>	<b>WEIGHTED MEAN</b>	<b>DESCRIPTIVE VALUE</b>
1. In my studies I set goals and have a high sense of initiative toward achieving my goals.	3.77	Positive
2. When preparing for a test or exams I put together the information from class and from other sources.	3.91	Positive
3. I do isolate myself from anything that distracts me when studying on my own.	3.74	Positive
4. When it comes to academic work, I evaluate my goals periodically.	3.38	Positive
5. I can organize my studies and change my plans when the need arises.	3.68	Positive
6. When it comes to academic work, I am a self-directed person.	3.43	Positive
7. I am able to adhere to study time effectively and easily complete assignment on time.	3.06	Positive
8. I would be able to stay focus on my academic work even when there is distraction in my home. (e.g. television, children and such).	2.66	Positive
9. I would be able to remain motivated even though the instructor is always not online.	3.4	Positive
Overall Weighted Mean	3.45	Positive

**Available Devices for Learning**

Table 8 shows the respondents’ devices that can be used for flexible learning. 98.1% of the respondents have smartphones, and 52.8% have laptops, while only 1.9% of the respondents have tablets. This implies that most of the respondents have available devices to connect to the internet. This finding matches the research conducted by Guma,et.al (2020). Further, their study states that the use of personal mobile devices can help students in collaborating and interacting with others. This also implies that the respondents find it easy to use the smartphone in their learning activities, as also evident in the results of a study conducted by Adjei (2019). More so, majority of the respondents use smartphones also because of the fact that it is the latest trend in higher education, it enables learners to access their lecture materials and volumes of information quickly, and is much affordable (Adjei, 2019). This finding is however in contrast with the study conducted by Fabito et.al. (2020) where most of the respondents used laptops for online learning.



**Table 8. Devices used for Flexible Learning**

Devices	Frequency	Percentage
Camera	2	3.8%
iPad	0	0%
Laptop	28	52.8%
Personal Computer/Desktop	5	9.4%
Printer	4	7.5%
Smartphone (Android, iPhone)	52	98.1%
Tablet	1	1.9%
Wi-Fi/Broadband	9	17%
None	1	1.9%
Others	0	0%

### Phone/Computer Applications use for Communication in Relation to Flexible Learning

Table 9 shows the Phone/Computer Applications used by the respondents for communications. The table further revealed that 90.6% of the respondents use Facebook Messenger for communications followed by Gmail with 77.4%. The least used applications are Viber and Skype applications. Based on Statistica (2021), the Philippines ranks 6<sup>th</sup> on the countries with the most Facebook users in 2021. The social media platform had also been used for academic purposes because of its popularity and its features like messaging and video chat. The study conducted by Gutierrez, et.al.(2020) inferred that the use of the platform is essential in teacher to student, student to student and student to teacher communication.

**Table 9. Frequency and Percentage Distribution on Phone/Computer Applications use for Communication in Relation to Flexible Learning**

Phone/Computer Applications	Frequency	Percentage
Facebook Messenger	48	90.6%
GMail	41	77.4%
Google Meet	26	49.1%
Phone SMS Application	10	18.95%
Skype	1	1.9%
Viber	1	1.9%
Zoom	27	50.9%
None	0	0%
Others	0	0%

### Learning Management System Used in Teaching-Learning Process

Table 10 shows the Learning Management System used in the teaching-learning process. The study revealed that *Google Classroom* is the most used LMS with 98.1% followed by *Edmodo* with 18.9%. *Lark* seems to be not used as a Learning Management System. Using Google Classroom can improve student-

teacher interaction, classroom organization and enables teachers to facilitate assignments (Azhar, 2018). The result also showed that majority use Google Classroom as a Learning Management System because of the fact that majority of the instructors use this platform in their online class. Moreover, the College does not need a subscription to the platform since it is free.

It is noted however that 1.9 % of the respondents do not use any of the given applications as a Learning Management System.

**Table 10. Frequency and Percentage Distribution on Learning Management System used in Teaching-Learning Process**

Learning Management System	Frequency	Percentage
Edmodo	10	18.9%
Google classroom	52	98.1%
Lark	0	0%
Microsoft Team	3	5.7%
Schoology	3	5.7%
None	1	1.9%
Others	0	0%

### Level of ICT Skills

Table 11 shows the level of ICT skills of the respondents. It further shows that majority of the students are beginners with 30 (57%) closely followed by intermediate with 22 (41%) and only 1 (1%) student is proficient. This implies that although all have knowledge on ICT, only 1% has a specialist skill while majority has considerable ICT know-how needed for basic data processing and analysis.

**Table 11. Frequency and Percentage Distribution on the Level of ICT Skills**

Level of ICT Skills	Frequency	Percentage
Beginner	30	57%
Intermediate	22	41%
Proficient	1	2%
Total	53	100%

### Preferred Learning Modality

Table 12 shows the preferred learning modality of the respondents. The table revealed that majority of the students prefer the traditional/face-to-face lecture, combination of face-to-face and distance learning with modules and combination of face-to-face and distance learning with online platforms with 14 (26.42%) as percentages. On the other hand, distance learning with modules obtained 7 (13.21%) and only 4 (7.55%) prefers the distance learning with online platforms. However, when combined against the number of respondents that prefer the traditional or face-to-face lecture alone, majority still prefers the learning modality which offers flexibility.

**Table 12. Frequency and Percentage Distribution on the Preferred Learning Modality of the Respondents**

<b>Preferred Learning Modality</b>	<b>Frequency</b>	<b>Percentage</b>
Traditional/face-to-face lecture	14	26.42%
Distance Learning with Modules	7	13.21%
Distance Learning with Online Platforms	4	7.55%
Combination of Face-to-face and Distance Learning with Modules	14	26.42%
Combination of Face-to-face and Distance Learning with Online Platforms	14	26.42%
Total	53	100%

## CONCLUSIONS

Based on the findings of the study, it can be inferred that the Bachelor of Science in Information Technology students of Batanes State College are ready for flexible learning modality because majority of the respondents have internet connectivity, has available smartphones and laptops for learning and uses Learning Management System in the teaching-learning process. Moreover, attitude towards flexible learning and self-regulated learning of students also showed positive results. The students therefore have a skill in setting their goals and have high sense of intrinsic motivation in achieving these goals. Positive attitudes towards learning and self-regulated learning enables students to attain academic success. This aligns with the findings of the studies conducted by Pallares, et al (2020) and Lee et al. (2019) on factors contributing to online learner's success as well as self-efficacy and self-regulated strategies.

## RECOMMENDATIONS

The Bachelor of Science in Information Technology student respondents comprise just one department in the College. The researchers therefore recommend that other departments may investigate if their students are also ready with the new learning modality. More so, freshmen students in the next academic year 2021-2022 may also be investigated as of their readiness to flexible learning modality. With the aid of the data gathered, it is further recommended to implement the flexible learning modality considering that most of the respondents had access to internet connection and had gadgets that can aid them with it.

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