

**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 to shift to flexible learning modalities in delivering instructions. The primary aim of this research study is to investigate on the readiness of the Bachelor of Science in Information Technology students of Batanes State College (BSC) for the modality shift. The study utilized percentage and frequency distribution and weighted mean. There were 53 participants in the study, 70% of which are male and 30% are female. Each participants answered a questionnaire regarding flexible pedagogies through Google Form. Results suggest the conduct of research with a wider scope which investigates on the readiness of other students from different disciplines in college.*

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

## INTRODUCTION

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

According to Rappler, educational institutions in the Philippines are trying to assure that learning is unhampered during the health crisis. The use of technology in delivering instruction (Alipio, 2020; Paul & Jefferson, 2019; Bali & Liu, 2018) had already been incorporated in the classroom before the pandemic. However, the teaching and learning process was still greatly implemented on a face-to-face modality with a predefined time of the class meeting (Mpungose, 2020). After all, education and learning should not be hampered or stopped by a pandemic. Thus, in its desire to remain 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.” It 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, which simply means students can study lessons given at their own pace, place, and mode (Gordon, 2014). Ryan and Tilbury (2013) also indicated that instructors, learners, and learning institutions all contribute and have 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. Meanwhile, 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 devise and establish ways and means to support them and “guarantee a quality learning experience.”

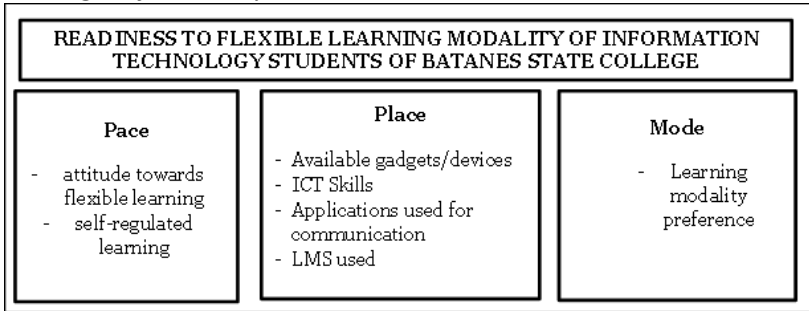
It has been two semesters since flexible learning was implemented. Faculty members succumbed to the modality the students prefer in the learning process. However, since students and faculty members alike are amateurs in the process, they encountered problems. There was also no study on students’ readiness on such modality before its implementation. Thus, this study was conceived. This study investigated the actual readiness of the Bachelor of Science in Information Technology students of BSC. The results of this study can serve as basis for formulating policies, guidelines, and actions that can help students experience a smooth delivery of instruction through flexible learning. The findings of this study can also inspire future researchers to conduct a similar or broader study.

### **Conceptual Framework**

This study used 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” fused 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 what manner (mode) they are going to learn.

**Figure 1**

*Paradigm of the Study*



The key variables shown in the framework are defined as follows:

*Pace.* This variable refers to the students' independence to acquire learning experiences as they start and complete their courses in their pace (Kocdar et al., 2018). In addition, it comprises the students' 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 for the creation of their 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 also important for successful learning (Sen, 2013).

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

*Place.* It refers to the actual location of learning, whether it takes place in a classroom, at home, or at work (Gordon, 2014). In this research study, the place will encompass available devices, ICT skills, applications used for communication, and the Learning Management System (LMS) used by the participants.

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

## **Statement of the Problem**

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

The study sought answers to the following problems:

1. What is the demographic profile of the participants in terms of age, gender, employment status, internet connectivity, and type of internet connectivity?
2. What is the attitude of the participants towards flexible learning?
3. Do the participants have self-regulated learning skills?
4. What are the available gadgets/devices used by the participants in flexible learning?
5. What are the phone or computer applications for communication that the participants use?
6. What are the smartphone or computer applications for Learning Management System that the participants use?
7. What is the level of ICT skills that the participants have?
8. What is the preferred modality of the participants?

## **METHODOLOGY**

### **Research Design**

This study utilized the descriptive research design to describe and examined the extent of readiness to flexible learning modality and profile of the participants.

## **Participants of the Study**

The study used total enumeration. The participants of this study are the 53 students from the first year to third year levels of Bachelor of Science in Information Technology of Batanes State College.

## **Instrumentation**

The study used Google forms to gather the required data. The first part of the questionnaire constituted the demographic profile of the participants while its second part focused on the participants' readiness for flexible learning. The questions were adopted from the studies of Barerra and Arcilla (2020) and Forson and Vuopala (2020).

## **Data Gathering Procedure**

The following activities were undertaken by the researchers in gathering the needed data for the study:

1. A letter of permission was personally presented to the Director for Instruction of the Batanes State College seeking approval and ensuring the cooperation of the participants during the conduct of the study.
2. Granted with the director's approval, the researchers secured informed consent forms from the study participants.
3. The gathering of the data was done through an online survey using Google forms. Students who were not connected to the internet were given a hard copy of the questionnaire.
4. Data obtained from the data gathering were tallied and subjected to data treatment.

## **Data Analysis**

The data were treated using the following statistical tools:

*Frequency and percentage distribution.* This was used to present the profile of the participants, available gadgets/devices used, phone or

computer applications for communication that the participants use, and preferred modality.

*Weighted Mean.* This was used to determine the attitude of the participants towards flexible learning, their level of skills in self-regulated learning, and level of ICT skills. The means were interpreted using the following scale:

Mean Range	Descriptive Interpretation
4.20 – 5.00	Strongly Agree
3.40 – 4.19	Agree
2.60 – 3.39	Moderately Agree
1.80 – 2.59	Disagree
1.00 – 1.79	Strongly Disagree

The overall mean for the students’ attitude and learning skills were interpreted based on the following scale:

Mean	Attitude
3.00 – 5.00	Positive
1.00 – 2.99	Negative

## 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 recommendations were based.

### I. Profile of the Participants

**Table 1**

*Distribution of Participants According to Age*

Age	Frequency	Percentage
18 - 24 years old	47	88.68
25 - 29 years old	5	9.43
30 – 39 years old	1	1.89
<b>Total</b>	<b>53</b>	<b>100.00</b>

Table 1 shows the age brackets of the student participants. Majority are 18-24 years old (47 or 88.68%), followed by 25-29 years old (5 or 9.43%), and only 1 or 1.89% of the participants belong to the 30-39 years old age group.

**Table 2**

*Distribution of Participants According to Sex*

<b>Gender</b>	<b>Frequency</b>	<b>Percentage</b>
Male	37	69.81
Female	16	30.19
<b>Total</b>	<b>53</b>	<b>100.00</b>

Table 2 displays the gender of the Information Technology student participants of Batanes State College. Of the 53 students, 69.81% are male while 30.19% are female.

**Table 3**

*Distribution of Participants According to Employment Status*

<b>Employment Status</b>	<b>Frequency</b>	<b>Percentage</b>
Employed	16	30.19
Not Employed	37	69.81
<b>Total</b>	<b>53</b>	<b>100.00</b>

Table 3 exhibits the employment status of the participants. Thirty-seven or 69.81% are unemployed, and 16 or 30.19% are employed.

**Table 4**

*Distribution of Participants According to Internet Connectivity*

<b>Internet Connectivity</b>	<b>Frequency</b>	<b>Percentage</b>
Without Connectivity	2	3.77
With Limited Connectivity	42	79.25
With Connectivity	9	16.98
<b>Total</b>	<b>53</b>	<b>100.00</b>

The distribution of internet connectivity among the participants is presented in Table 4. The findings indicate that majority of the participants have limited connectivity with 42 or 79.25%, followed by



participants with connectivity with 9 or 16.98%, then by participants without connectivity with 2 or 3.77%.

**Table 5**

*Distribution of Participants According to Type of Internet Connectivity*

<b>Internet Connectivity</b>	<b>Frequency</b>	<b>Percentage</b>
Mobile	47	88.68
Wireless/Wi-Fi	6	11.32
<b>Total</b>	<b>53</b>	<b>100.00</b>

Table 5 displays the types of internet connectivity the participants used. The survey identifies mobile internet connectivity as the most frequently used by the participants with 47 or 88.68% followed by wireless/Wi-Fi connectivity with 6 or 11.32%.

## **II. Attitude towards Flexible Learning**

**Table 6**

*Readiness to Flexible Learning Modality through Attitude towards Flexible Learning*

<b>Attitude Towards Flexible Learning</b>	<b>Weighted Mean</b>	<b>Descriptive Value</b>
1.I would be able to understand course-related information when it is presented in video formats.	3.83	Agree
2.I would be able to make a 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	Agree
3.I think the online learning mode provides the flexibility to study at a time convenient to the learner.	3.66	Agree
4.In my opinion, it is time for the College to implement an online learning platform.	3.42	Agree

5. Staying at home and having live lectures over the internet on weekends would be very challenging.	3.79	Agree
6. I think there is that possibility for live lectures over the internet, as is done in the classroom.	3.38	Moderately Agree
7. I believe learning is the same for both classroom face-to-face and online lectures.	2.81	Moderately Agree
8. I feel that learning on the internet outside of class will be more motivating than face to face course.	2.79	Moderately Agree
9. I don't foresee any usefulness of online learning in our country.	2.58	Disagree
<b>Overall Weighted Mean</b>	<b>3.32</b>	<b>Positive</b>

Table 6 displays the attitude of Bachelor of Science in Information Technology students towards flexible learning. The data reveals that the participants agree that they can understand course-related information when it is presented in uploaded video formats to which they make a note on, similar with how they would study during the face-to-face setting with weighted means of 3.83 and 3.62, respectively. Participants also agree that the online-learning mode provides flexibility and convenience to them with a weighted mean of 3.66, and that it is time for the college to implement an online learning platform with a weighted mean of 3.42. Moreover, they agree that staying at home and having live lectures over the internet will be very challenging with a weighted mean of 3.79.

On the other hand, the participants neither agree nor disagree that there is a possibility for live lectures over the internet, as is done in the classroom with a weighted mean of 3.38, that learning mode is the same for both classroom face to face lectures and online lectures with a weighted mean of 2.81, and that the feeling that learning on the internet outside of class will be more motivating than face to face course with the weighted mean of 2.79. With a weighted mean of 2.58,

the participants disagreed with the statement, “I don’t foresee any usefulness of online learning in our country.”

The overall weighted mean is 3.32 which implies that the students have a positive attitude towards flexible learning. The result is incongruent with the studies of Müller et al. and Forson, et.al on attitudes and perceptions of students on flexible learning. This finding further indicates that the Bachelor of Science in Information Technology students of Batanes State College prefer the flexible learning mode over the traditional face-to-face mode since they can learn at their most convenient time (Forson et. al, 2019).

### III. Self-Regulated Learning Skills

**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	Agree
2. When preparing for a test or exam I put together the information from class and other sources.	3.91	Agree
3. I do isolate myself from anything that distracts me when studying on my own.	3.74	Agree
4. When it comes to academic work, I evaluate my goals periodically.	3.38	Moderately Agree
5. I can organize my studies and change my plans when the need arises.	3.68	Agree
6. When it comes to academic work, I am a self-directed person.	3.43	Agree
7. I can adhere to study time effectively and easily complete assignments on time.	3.06	Moderately Agree

8.I would be able to stay focused on my academic work even when there is a distraction in my home. (e.g., television, children, and such).	2.66	Moderately Agree
9.I would be able to remain motivated even though the instructor is always not online.	3.40	Agree
<b>Overall Weighted Mean</b>	<b>3.45</b>	<b>Positive</b>

Table 7 reflects the self-regulated learning skills of students. The findings imply that students agree on the following statements: that they set goals and have a high sense of initiative toward achieving their goals with a weighted mean of 3.77; when preparing for a test or exams they put together the information from class and other sources with a weighted mean of 3.91; they isolate themselves from anything that distracts them when studying on their own with a weighted mean of 3.74, they can organize their studies and change their plans when the need arises with a weighted mean of 3.68, they are self-directed when it comes to academic work with a weighted mean of (3.43), and they remain motivated even if the professor is always not online with a weighted mean of (3.4). On the other hand, students neither agree nor disagree with the following statements: “When it comes to academic work, I evaluate my goals periodically” with the weighted mean of 3.38, “I can adhere to study time effectively and easily complete assignment on time.” with a weighted mean of 3.06, and “I can adhere to study time effectively and easily complete assignment on time” with a weighted mean of 2.66.

The overall weighted mean of 3.45 implies that students have a positive attitude towards their self-regulated learning skills. It further suggests that the participants are “purposive and goal-oriented,” persistent, and open to incorporate and apply different strategies to improve their academic performance (Xiao, et.al., 2020; Virtanen, 2020).

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#### IV. Available Devices for Flexible Learning

**Table 8**

*Devices used for Flexible Learning*

<b>Devices</b>	<b>Frequency</b>	<b>Percentage</b>
Smartphone (Android, iPhone)	52	98.11
Laptop	28	52.83
Wi-Fi/Broadband	9	16.98
Personal Computer/Desktop	5	9.43
Printer	4	7.55
Camera	2	3.77
Tablet	1	1.89
None	1	1.89

Table 8 presents the devices which the participants used for flexible learning. Majority or 98.11% of the participants have smartphones, and 52.83% have laptops, while only 1.89% of the participants have tablets. It implies that majority of the participants have available devices to connect to the internet. This finding matches the research conducted by Ali et al. Further, their study states that the use of personal mobile devices can help students in collaborating and interacting with others.

#### V. Smartphone or Computer Applications used for Communication about Flexible Learning

**Table 9**

*Smartphone or Computer Applications used for Communication about Flexible Learning*

<b>Smartphone or Computer Applications</b>	<b>Frequency</b>	<b>Percentage</b>
Facebook Messenger	48	90.57
GMail	41	77.36
Zoom	27	50.94
Google Meet	26	49.06
Phone SMS Application	10	18.87
Skype	1	1.89
Viber	1	1.89

Table 9 displays the smartphone or computer applications used by the participants for communications. The data show that 90.57% of the participants used *Facebook Messenger* for communications, followed by *Gmail* with 77.36%. Meanwhile, the least used applications are *Viber* and *Skype* applications.

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

**Table 10**

*Learning Management System used in Teaching-Learning Process*

<b>Learning Management System</b>	<b>Frequency</b>	<b>Percentage</b>
Google classroom	52	98.11
Edmodo	10	18.87
Microsoft Team	3	5.66
Schoology	3	5.66
None	1	1.89

Table 10 exhibits the Learning Management System used in the teaching-learning process. The findings reveal that *Google Classroom* is the most used LMS with 98.1% followed by *Edmodo* with 18.87%. Using *Google Classroom* can improve student-teacher interaction and classroom organization and enable teachers to facilitate assignments (Azhar, 2018).

It is noted, however, that 1.89% of the participants do not use any of the given applications as a Learning Management System.

## VII. Level of ICT Skills

**Table 11**

*Level of ICT Skills*

<b>Level of ICT Skills</b>	<b>Frequency</b>	<b>Percentage</b>
Beginner	30	56.60
Intermediate	22	41.51
Proficient	1	1.89
<b>Total</b>	<b>53</b>	<b>100.00</b>

Table 11 displays the level of ICT skills of the participants. The data reveal that majority of the students are beginners with a frequency of 30 or 56.60%, closely followed by intermediate with a frequency of 22 or 41.51%, then the lone proficient with one or 1.89%.

### VIII. Preferred Learning Modality

**Table 12**

*Preferred Learning Modality of the Participants*

<b>Preferred Learning Modality</b>	<b>Frequency</b>	<b>Percentage</b>
Traditional/face-to-face lecture	14	26.42
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
Distance Learning with Modules	7	13.21
Distance Learning with Online Platforms	4	7.55
<b>Total</b>	<b>53</b>	<b>100.00</b>

Table 12 shows the preferred learning modality of the participants. The findings indicate that most 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 or 26.42%. On the other hand, there are some participants who prefer distance learning with modules with seven or 13.21%, and a few participants who prefer distance learning with online platforms with four or 7.55%.

### CONCLUSION

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 most of the participants have internet connectivity, has available smartphones and laptops for learning and uses Learning Management System in the teaching-learning process. Moreover, the attitude towards flexible learning and self-regulated learning of the students also showed positive

results. The students, therefore, have skills in setting their goals and have a high sense of intrinsic motivation in achieving these goals. Their positive attitudes towards learning and self-regulated learning enabled them to attain academic success. These results align with the findings of the studies conducted by Quesada-Pallarès et al. (2020) and Lee et al. (2019) on factors contributing to online learners' success, self-efficacy, and self-regulated strategies.

## RECOMMENDATIONS

The Bachelor of Science in Information Technology student participants comprise just one department in the College. The researchers, therefore, recommend that other departments may investigate the readiness of their students with the new learning modality. More so, freshmen students in the next academic year 2021-2022 may also be surveyed regarding their readiness on flexible learning modality. Based on the results of the study, it is further recommended to implement the flexible learning modality considering most participants have access to an internet connection and have gadgets that can aid them with the modality.

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