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Flexible learning modalities in a Philippine State University: BASC Faculty perspectives with implications for integrated life and health sciences in advancing SDG 4 on quality education

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ABSTRACT

This study aims to examine the flexible learning modalities used by faculty members of Bulacan Agricultural State College (BASC) and their relationship to the challenges and opportunities encountered in delivering quality education during the strict quarantine restrictions due to the COVID-19 pandemic. The findings will assist administrators in implementing necessary interventions to enhance learning delivery. This research is grounded in the theories of flexible learning and technology-enhanced education, particularly drawing from the work of Shivangi Dhawan (2020). These frameworks highlight how educators adapt to digital learning environments and the associated challenges and benefits. A quantitative, descriptive survey method was utilized, employing a self-developed, validated four-part questionnaire to gather data. The questionnaire assessed faculty members' preferred flexible learning modalities, the challenges they faced, and the opportunities presented. The study specifically focused on the use of asynchronous learning tools such as Google Classroom and PowerPoint presentations. Findings indicate that BASC faculty predominantly relied on PowerPoint presentations shared through Google Classroom in asynchronous learning settings. Many educators used their personal gadgets and employed flexible or flipped classroom strategies. However, poor internet connectivity and time management, particularly in addressing students' difficulties, emerged as primary challenges. On the other hand, the ability of faculty members to develop new skills and adapt to digital education was seen as a key opportunity. Statistical analysis revealed no significant relationship between flexible learning modalities and the challenges or opportunities perceived by faculty members. The results underscore the need for institutional interventions to improve internet access, faculty training, and support systems to enhance the effectiveness of flexible learning. The study provides insights into how higher education institutions can refine their strategies for digital learning implementation. This study contributes to the growing literature on flexible learning in higher education, particularly in the context of pandemic-induced remote instruction. By identifying commonly used modalities and associated challenges and opportunities, the research provides valuable recommendations for improving digital education strategies in similar academic settings.

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INTRODUCTION

Academic Year 2019-2020 was put into halt due to coronavirus disease (COVID- 19), a contagious and infectious disease caused by a new strain of coronavirus-severe acute respiratory syndrome coronavirus 2 (SARS-Cov-2), which was first identified in Wuhan, China on December 2019. The outbreak closed schools, universities and other tertiary education institutions around the world, affecting more than 220 million post-secondary students, including the Philippines.

There are no data on the relative contribution of school closures to transmission control. However, there are modelling studies of COVID-19 that predicts that school closures alone would prevent 2-4% of deaths, less than other social distancing interventions. Therefore the combination of both would be more effective.

Following government directives, educational institutions close temporarily, affecting academic delivery. Thus, alternative ways are being discussed and proposed, such as the flexible learning.

Flexible learning is a method of learning where students are given freedom in how, what, when, and where they learn. Flexible learning mode refers to the way that the content is delivered by technology, typically through blended learning, fully online courses or technology-enhanced experiences, much has to be addressed to. While approaches to flexible learning will differ between elementary, secondary, and tertiary education, the needs to understand the complexity, advantage, and disadvantage of this kind of system is important to deliver knowledge effectively (Daniel, 2020; Müller and Mildenberger, 2021; Imran *et al.*, 2023).

According to Uy (2020), because face-to-face or the traditional brick-and-mortar mode of teaching is not possible, challenges arises. Both for the teachers, students as well as the parents.

Those at the lower level of society would be of great disadvantage. Additional expenses for purchase of computers or gadgets, internet subscription and module preparation is to be expected. To add to this, remote places in the country doesn't have access to fast internet connection or worse internet coverage is not available. Another issue is the increased cognitive load. Teachers would have additional preparation especially for those not familiar with technology, in terms of synchronous and asynchronous learning. It is more challenging for teachers than for their students. On the other hand, there are students who can adapt easily but there are also students who will not be interested. Teachers may also over-deliver content and activities making learners experience cognitive overload. The lack of direct supervision by teachers and the varying levels of ability among learners to comprehend and process lessons being delivered to them may result in poorer outcomes. Aside from the increase in financial expenses, parents there is an added weight on parents to juggle and cope with work, chores, family matters and in assisting their children in school activities.

Theoretical framework

This study is grounded on the research of Shivangi Dhawan (2020) which incorporates the significance of online learning and the Strengths, Weaknesses, Opportunities, and Challenges (SWOC) analysis of e-learning modes in the time of calamity or pandemic. It opens some insights into the assistance and development of alternative teaching modalities during crises and disasters, either natural or manmade. It provides educational institutions with recommendations on how to deal with difficult situations related to online learning.

Due to the uniqueness of the researchers' study and for the tool to apply to the chosen respondents and flexible learning the conceptual framework is modified and shown in Figure 1.

The flexible learning modalities used by BASC faculty in terms of lesson templates sent to students, internet platform uses, flexible learning techniques, devices provided by the college, and personal devices used for flexible learning is the independent variable of the study. While the demographic profile served as the moderating variable, challenges encountered by the

faculty and opportunities brought about by flexible learning served as dependent variables of the study.

The null hypothesis of the study is that challenges and opportunities in Flexible Learning for the faculty of BASC have no significant effect on their flexible learning modalities.

Generally, the main objective of this study is to assess the different flexible learning modalities used by the faculty of Bulacan Agricultural State College (BASC) and the relationship between the challenges and opportunities they encountered along the way in the delivery of quality education to continuously serve the student even in this trying times. Specifically, the study aims to: (1) determine the demographic profile of respondents; (2) determine flexible learning modalities of the faculty; (3) identify challenges of flexible learning; (4) identify opportunities for flexible learning; and (5) determine the relationship between challenges and opportunities to the flexible learning modalities of BASC faculty.

Independent variable

1. Flexible learning modalities

Moderating variables

1. Sex
2. Age
3. Marital status
4. Number of children
5. Address
6. Highest educational attainment
7. Institute
8. Job tenure
9. Job title
10. Number of years in BASC
11. Medical condition

MATERIALS AND METHODS

This study is a quantitative research that utilized a correlational approach. The survey questionnaire that the researchers used is divided into four parts: the profile of the respondents, flexible learning modalities, challenges of flexible learning, and opportunities brought about by flexible learning. The instrument was approved and validated by three experts in the academe and in research from different universities in Luzon. Pilot testing was conducted at Saint Paul's University in San Miguel, Bulacan to determine the reliability of the questionnaire and assess whether the respondents comprehend the questions the way it was meant to be understood. Based on the result Cronbach's Alpha of the instrument is 85%. The outcome of the study provides reference data for faculty support in terms of training and materials needed to address the current situation of the college. It would also offer the educational community some insights about flexible learning system that was implemented in some parts of the Philippines due to COVID-19.

Data collection techniques, sampling procedure and statistical analysis

The respondents of this study were full-time faculty member of the main and DRT campus of Bulacan Agricultural State College with a probationary, temporary or permanent appointment as of June 1, 2020 composed of 157 teaching staff. To address the objective of the study, a formulated survey questionnaire was the mode of obtaining relevant data. To compute the sample size of the respondents, the researcher applied Cochran's sample size formula. Cochran allows to calculate an ideal sample size given a desired level of precision and confidence level.

The modified Cochran formula for smaller population yielded 111.67 answers or 112 rounded off to the nearest one. Therefore 112 faculty members are needed for the survey. Stratified sampling using a random technique under the probability sampling technique was also implemented. Only 73 BASC faculty responded to the online and offline distribution of survey forms. Table 1 shows the distribution of participants per institute and college.

After distributing the survey forms both through Google Forms and hard copies, the researchers ensured their prompt retrieval for data analysis. The collected data were then tallied, analyzed, and

interpreted using various statistical tools. Frequency was used to measure the number of times an event occurred, while percentage was employed to determine the respondents' demographic profiles, including gender, age, status, number of dependents, educational attainment, job title/position, and involvement in instruction, research, and extension. The percentage was computed using the formula P= (f/N) × 100, where P represents the computed percentage, f is the number of respondents and N is the total population. Additionally, the weighted mean was utilized to determine the central tendency of responses, giving more significance to specific data points. This was calculated using the formula WA= TW/N, where WA is the weighted average, TW is the sum of the products of frequencies and weights, and N is the total number of respondents. These statistical tools allowed for a comprehensive analysis of the data, ensuring accurate interpretations and meaningful insights.

Table 1. Respondents of the study

Respondents	Population	%	Respondents	
			Minimum	Actual
1. College of agriculture	37	24 %	26	13
2. Institute of education	17	11 %	12	10
3. Institute of arts and sciences	39	25 %	28	22
4. Institute of engineering and applied technology	27	17 %	19	9
5. Institute of management	30	19 %	22	15
6. DRT campus	7	4 %	5	4
Total	157	100%	112	73

RESULTS AND DISCUSSION

Profile of the respondents

The findings in Table 2 reveal that 77% of the respondents are female, while only 27% are male. In terms of age, the majority, 49 respondents (71%), belong to the 21-40 age groups, while 11 respondents (15%) are 41-50 years old. Additionally, 10 respondents (14%) fall within the 51-60 age range, and only one respondent is 61 years old or above. Regarding marital status, 36 respondents (49%) are married, while 34 (47%) are single, and 3 (4%) are either single parents or widowed. As for the number of children, 18 respondents (25%) have children aged 0-5 years old, 16 respondents (22%) have children aged 11-15 years old, 15 respondents (21%) have children aged 16-21 years old, 14 respondents (19%) have children aged 6-10 years old, and 10 respondents (13%) have children older than 22 years old. These findings indicate that the number of children per respondent is relatively balanced across different age groups. Furthermore, the results imply that most of the 75 respondents have school-age children, which may influence their perspectives and experiences in balancing family and professional responsibilities.

Table 2. Respondents' sex, age, marital status, and number of children

Demographic Profile	F	%
Sex		
Female	56	77%
Male	17	23%
Age		
20 years old and below	0	0%
21-40 years old	52	71%
41-50 years old	11	15%
51-60 years old	10	14%
61 years old and above	0	0%
Marital Status		
Single	34	47%
Married	36	49%
Widower/Widow	3	4%
Number of Children		
0-5 years old	18	25%
6-10 years old	14	19%
11-15 years old	16	22%
16-21 years old	15	21%
Others, please specify	10	13%

Table 3 describes the respondents' addresses while working in BASC. There are 30 respondents or 41% who live outside barangay Pinaod, but within the municipality of San Ildefonso, Bulacan. Meanwhile, 26 or 36% of the respondents' addresses are within Pinaod, San Ildefonso Bulacan. Of the 73 faculty respondents 14 or 19% are living outside San Ildefonso, but within the province of Bulacan.

Finally, 3 respondents or 4% reside outside Bulacan. It shows that mainstream of the teaching force's residence who answered the survey is far from the campus.

Table 3. Respondents' age, educational attainment, institute, and job tenure

Address while working in BASC	F	%
Within Pinaod	26	36%
Outside Pinaod, but within San Ildefonso	30	41%
Outside San Ildefonso, but within Bulacan	14	19%
Outside Bulacan	3	4%
Highest Educational Attainment		
Bachelor's Degree	7	10%
Bachelor's Degree with units in MA	30	41%
Master's Degree	12	16%
Master's Degree with units in Doctorate	14	19%
Doctorate Degree	10	14%
Institute/College/ Department		
College of Agriculture	13	18%
Institute of Arts and Science	22	30%
Institute of Education	10	14%
Institute of Engineering and Applied Technology	9	12%
Institute of Management	15	21%
DRT Campus	4	5%

Because their home is outside the barangay where the college is situated. Regarding their highest educational attainment, results reveal that the majority of the respondents have only finished bachelor's degree with some units in master's degree at 30 or 41%. Among the 14 or 19% respondents graduated with their master's degree and earned some units on a doctorate. Moreover, 12 or 16 % responded that they finished their master's degree and 10 or 14% have doctorate degrees. It implies that many respondents are pursuing graduate studies. In terms of the institute or department that the respondents belonged at the time of the study, 22 or 30% of the respondents are from the Institute of Arts and Sciences, 15 or 21% from the Institute of Management, 13 or 18% are from the College of Agriculture, 10 or 15% are from the Institute of Education, 9 or 12% from the Institute of Engineering and Applied Technology, and 4 or 5% are from the DRT Campus.

Table 4 presents the job tenure and medical condition of the respondents. In terms of job tenure, 34 respondents (47%) are permanent employees, 27 respondents (37%) are temporary employees, and 12 respondents (16%) are contract of service employees. This indicates that more than half of the teaching force who participated in the survey hold plantilla positions and continue to receive regular compensation even while working remotely. Regarding academic rank, the majority, 54 faculty members (74%), are instructors, followed by 10 associate professors (14%) and 9 assistant professors (12%), highlighting the significant role of instructors in implementing flexible learning at BASC. When examining their years of service, 46 respondents (63%) have been teaching at BASC for five years or less, followed by 11 respondents (15%) who have served for over 21 years. Additionally, 8 respondents (11%) have been teaching for 6-10 years, 6 respondents (8%) for 11-15 years, and only 2 respondents (3%) for 16-20 years.

Table 4. Respondents' job tenure, job title, number of years in basc, and medical condition

	Frequency	%
Job Tenure		
Contractual	12	16%
Temporary	27	37%
Permanent	34	47%
Total	73	100%
Job Title or Position		
Instructor	54	74%
Assistant Professor	9	12%
Associate Professor	10	14%
Total	73	100%
Number of years teaching in BASC		
0 – 5 years	46	63%
6 – 10 years	8	11%
11 – 15 years	6	8%
16 – 20 years	2	3%
21 years and up	11	15%
Total	73	100%
Medical Condition	Frequency	Percentag %
PWD without ID from DSWD	1	1%
Senior Citizen	1	1%
No Disability	69	95%
With Comorbidity	2	3%
Total	73	100%

These findings suggest that a large proportion of the faculty members are still in entry-level positions as they are relatively new to the institution. The medical condition of the respondents was also considered, revealing that 69 respondents (95%) reported being in good health with no disabilities at the time of the survey.

Only one respondent (1%) identified as a senior citizen, while another 1% disclosed having a disability but without official recognition from the Department of Social Welfare and Development (DSWD), indicating that the college implements the IRR of RA 10524, which expands job opportunities for persons with disabilities. Additionally, 2 respondents (3%) confirmed having comorbidities. However, these findings are based solely on the survey respondents and do not represent the total number of employees at Bulacan Agricultural State College.

Flexible learning modalities by BASC faculty

As the world adapted to the effects of the global pandemic, the Philippine educational system sought ways to continue learning despite strict quarantine restrictions. Colleges and universities were forced to close, but classes persisted through distance or remote learning, with online platforms emerging as the primary mode of instruction (Kaskrekar, 2020). Table 5 presents the flexible learning modalities used by BASC faculty during this transition. In terms of lesson templates, most faculty provided soft copies in PowerPoint format (mean= 3.66), followed by Word documents (3.25) and a combination of both (3.34), while hard copies were used less frequently. This shift replaced traditional classroom teaching with digital instruction via computers or smartphones. Dhawan (2020) identified distance, scale, and personalized teaching as key challenges in online education, highlighting the difficulty of rapidly transitioning curricula. Regarding internet platforms, asynchronous learning via Google Classroom was the most preferred (mean= 3.29), followed by synchronous sessions on Google Meet (3.10) and Facebook Groups (2.79). Other platforms such as Zoom (1.68) and Facebook Rooms (1.62) were less frequently used. Chen (2003) noted that real-time interactions, such as chat sessions, often struggle with message clarity and flow, while Okmawati (2020) emphasized that Google Classroom simplifies file sharing, easing the transition from face-to-face to online learning. Overall, while online education presented challenges, it also offered opportunities for innovation in teaching and learning.

Table 5. Flexible learning modalities of the faculty of BASC

	Flexible Learning Modalities of the Faculty of BASC	Mean
1	Lesson template sent to students	2.44
	Hard copy in Word format	1.47
	Soft copy in Word format	3.25
	Hard copy in PowerPoint presentation format	1.48
	Soft copy in PowerPoint presentation format	3.66
	Hard copy of Word and PowerPoint presentation format	1.52
	Soft copy in Word and PowerPoint Presentation format	3.34
2	Internet platform used	2.44
	Synchronous or live online classes using Zoom	1.68
	Synchronous or live online classes using Google Meet	3.10
	Synchronous or live online classes using Facebook Rooms	1.62
	Synchronous or live online classes using Group Chat	2.37
	Asynchronous or not live using e-mail	2.25
	Asynchronous or not live using Google Classroom	3.29
	Asynchronous or not live using Facebook Group	2.79
3	Flexible learning technique	2.48
	Face-to-face: only the teacher delivers most of the lesson online	2.71
	Rotation: students rotate to provide reports on topics	1.63
	Flex: teachers provide online or offline topics w/ consultation to small groups	3.03
	Self-blended: students choose remote online courses through e- books and modules	2.05
	Flipped Classroom: teachers provide assignments followed by online interaction	2.99
4	Devices provided by the college	2.07
	Desktop/laptop computer	1.90
	Tablet	1.12
	Smartphone	1.29
	Printer	2.95
	Software (Microsoft Office, video editing, photo editing)	1.58
	Internet Connection	3.56
5	Personal devices used for flexible learning	3.17
	Desktop/laptop computer	3.82
	Tablet	1.78
	Smartphone	3.84
	Printer	2.63
	Software (Microsoft Office, video editing, photo editing)	3.29
	Internet Connection	3.67

Legend: 3.26-4.00-Always 2.51-3.25-Often 1.76-2.50-Sometimes 1.00-1.75-Never

Challenges encountered by the faculty of BASC brought by flexible learning

Table 6 reveal several key challenges faced by the faculty of BASC in adapting to flexible learning.

Table 6. Challenges encountered by the faculty of BASC

	Challenges Encountered by the Faculty of BASC	Mean
1	What are the possible problems in terms of technology?	2.87
	Cost of internet connection and mobile data	3.41
	Internet connectivity in the Institute	3.49
	Internet connectivity at home	2.92
	Availability of desktop, laptop, tablet, or smartphone	2.10
	Functionality of desktop, laptop, tablet, or smartphone	2.42
2	What are the possible concerns about BASC faculty's capability in flexible learning?	2.77
	Management of time	2.96
	Knowledge in the preparation of module	2.84
	Familiarity with the use of office, photo-editing, video editing, and other software	2.60
	Proficiency with the use of office, photo-editing, video editing, and other software	2.67
	Ability to cope up with distraction, frustration, anxiety, and confusion	2.78
3	What are the BASC students' difficulties in terms of flexible learning?	3.42
	Management of time	3.63
	Immediate feedback and attention	3.51
	Familiarity with the use of digital technology to communicate w/ faculty	3.21
	Proficiency with the use of office, photo-editing, video editing, and other software	3.21
	Ability to cope up with distraction, frustration, anxiety, and confusion	3.53
4	What are the supports provided by the college to the faculty?	2.71
	Provision of enough internet access	3.26
	Ensure the safety of the faculty reporting for flexible learning	3.04
	Reasonable workload and other assignments	3.01
	Concrete plan and processes to follow	2.73
	Sufficient training for module preparation and digital technology	2.68
	Establishment of a multi-media resource center	2.26
	ICT technical back-up	2.25
	Easy access to e-library	2.48

Legend:3.26-4.00-Strongly agree 2.51-3.25-Agree 1.76-2.50-Disagree 1.00-1.75-Strongly Disagree

The highest mean score of 3.49, indicating a strong agreement, is associated with issues surrounding internet connectivity at the Institute, which is a significant barrier to effective teaching. Faculty members also reported difficulties with managing time (2.96) and preparing modules (2.84), suggesting that the demands of flexible learning require substantial time management skills and expertise in digital content creation. Additionally, the study highlights a gap in faculty proficiency with digital tools, such as office, photo-editing and video editing software (means ranging from 2.60 to 2.67). The support provided by the college, though generally positive, was viewed as insufficient, particularly in terms of technical support (ICT back-up) and training for digital technologies (mean scores of 2.25 and 2.68, respectively). These findings emphasize the need for greater institutional investment in internet access, faculty training, and technical support to ensure the success of flexible learning initiatives. Moreover, while faculty challenges are notable, similar difficulties are evident for students, particularly in time management and coping with distractions, further suggesting the need for a more comprehensive approach to address the digital divide and provide robust learning support for both faculty and students.

Opportunities brought by flexible learning to the faculty of BASC

The results in Table 7 highlight the various opportunities that flexible learning has provided to the faculty of BASC. The highest mean score of 3.64, indicating strong agreement, is associated with the development of adaptability skills, reflecting how flexible learning environments encourage faculty to adjust and innovate. Additionally, the faculty reported improvements in creativity (3.62) and critical thinking (3.53), underscoring the intellectual growth fostered by the adoption of flexible learning methods. Opportunities in terms of flexibility, such as the ability to access lessons from any location (3.58) and the ample time to complete tasks (3.29), were also identified as significant advantages, offering faculty greater work-life balance and autonomy.

The opportunities for innovation and modernization, with mean scores ranging from 3.40 to 3.42, suggest that flexible learning modalities have catalyzed digital development and revolutionized knowledge delivery, enabling faculty to explore new teaching methods. The study also shows that flexible learning extends the scope of education, with faculty recognizing its capacity to cater to a wide audience (3.41) and provide unlimited access to courses and content (3.10).

Table 7. Opportunities brought by flexible learning to the faculty of BASC

	Opportunities Brought by Flexible Learning to the Faculty of BASC	Mean
1	What are the opportunities in learning in terms of flexibility?	3.46
	Access lessons in any location or place	3.58
	Ample time to finish task	3.29
	Learners can be of any age	3.51
2	What are the opportunities in terms of scope while using flexible learning modalities?	3.25
	Caters to wide audience	3.41
	Unlimited access	3.10
	Wide availability of courses and content	3.25
3	What are the opportunities when it comes to innovation or modernization in using the flexible learning modalities?	3.41
	Establish digital development	3.42
	Radical in the delivery of knowledge	3.41
	Capability of re-use and sharing	3.40
4	What are the skills that faculty develop using the flexible learning modalities?	3.56
	Strengthen problem solving skills	3.44
	Reinforce critical thinking	3.53
	Brings out creativity	3.62
	Build-up the adaptability skill	3.64

Legend: 3.26-4.00-Strongly agree 2.51-3.25-Agree 1.76-2.50-Disagree 1.00-1.75-Strongly Disagree

Overall, these results suggest that flexible learning has enhanced the professional development of faculty while expanding their teaching possibilities, presenting a positive shift towards a more dynamic, inclusive, and innovative educational environment.

Relationship of flexible learning modalities to challenges and opportunities experienced by BASC faculty

Table 8 examines the relationship between flexible learning modalities and challenges, specifically problems with technology, faculty capability, student difficulties, and support from the college. The results indicate that the use of lesson templates has a significant positive correlation with institutional support (.279, p= .017), suggesting that structured materials provided by the college contribute to enhanced assistance for flexible learning. Additionally, the use of flexible learning techniques shows a strong positive correlation with support from the college (.367, p= .001), highlighting the role of institutional interventions in facilitating diverse teaching strategies. However, the provision of devices by the college presents a significant positive correlation with both technological problems (.257, p= .028) and institutional support (.251, p= .032), implying that while these devices help, they may also introduce technical difficulties for users. Other variables, including internet platforms and personal devices, show weak or insignificant correlations with faculty capability and student difficulties, indicating that these factors may be influenced by additional external challenges beyond the scope of flexible learning modalities. The findings suggest that while institutional support plays a crucial role in mitigating challenges, issues related to technology remain a significant concern in implementing flexible learning.

Relationship of flexible learning modalities to opportunities

Table 9 presents the relationship between flexible learning modalities and opportunities in terms of flexibility, scope, innovation and modernization, and skills development. The results indicate weak correlations across all variables, suggesting that the impact of flexible learning modalities on these opportunities is minimal. Notably, the provision of devices by the college shows a significant negative correlation with flexibility (-.237, p= .044), implying that reliance on institutional resources may limit adaptability in learning. Other modalities, such as lesson templates, internet platforms, and personal devices, exhibit negligible correlations with flexibility, scope, innovation, and skills development, as their significance levels are above the 0.05 threshold. Interestingly, the use of personal devices shows a positive but weak correlation with innovation and modernization (.217, p= .065), indicating a potential but statistically insignificant contribution to technological advancements in learning. Overall, the findings suggest that while flexible learning modalities are essential for remote education, their direct influence on learning opportunities remains limited, highlighting the need for additional support mechanisms to enhance their effectiveness.

Table 8. Relationship of flexible learning modalities to challenges

Flexible Learning Modalities		Problem w/Technology	Faculty's Capability	Students Difficulties	Support from the College
1	Lesson template sent to students				
	Pearson Correlation	.142	-.071	.018	.279*
	Sig. (2-tailed)	.229	.553	.881	.017
2	Internet platform used				
	Pearson Correlation	.035	.014	-.060	.118
	Sig. (2-tailed)	.767	.909	.613	.318
3	Flexible learning technique				
	Pearson Correlation	.098	-.113	-.070	.367**
	Sig. (2-tailed)	.411	.341	.554	.001
4	Devices provided by the college				
	Pearson Correlation	.257*	.024	.062	.251*
	Sig. (2-tailed)	.028	.841	.605	.032
5	Personal devices used for flexible learning				
	Pearson Correlation	.040	.105	-.070	.108
	Sig. (2-tailed)	.734	.376	.554	.365

Correlation is significant at the 0.05 level (2-tailed) * Correlation is significant at the 0.01 level (2-tailed) **

Table 9. Relationship of flexible learning modalities to opportunities

Flexible Learning Modalities		Flexibility	Scope	Innovation and modernization	Skills develop
1	Lesson template sent to students	-.047	-.072	.009	.002
	Pearson Correlation	.691	.545	.942	.987
	Sig. (2-tailed)				
2	Internet platform used				
	Pearson Correlation	.076	.002	.190	-.076
	Sig. (2-tailed)	.524	.988	.107	.520
3	Flexible learning technique				
	Pearson Correlation	.126	-.015	-.090	-.045
	Sig. (2-tailed)	.290	.902	.448	.703
4	Devices provided by the college				
	Pearson Correlation	-.237*	-.153	-.092	.079
	Sig. (2-tailed)	.044	.196	.441	.509
5	Personal devices used for flexible learning				
	Pearson Correlation	.115	.060	.217	.071
	Sig. (2-tailed)	.331	.615	.065	.548

Correlation is significant at the 0.05 level (2-tailed) * Correlation is significant at the 0.01 level (2-tailed) **

Relationship between flexible learning modalities, challenges, and opportunities

Table 10 explores the relationship between flexible learning modalities, challenges, and opportunities. The results indicate that overall flexible learning modalities show a weak correlation with both challenges (r= .220, p= .061) and opportunities (r= .020, p= .865), suggesting that their impact on these aspects is not strongly pronounced. Among the specific modalities, only the provision of devices by the college has a significant correlation with challenges (r= .231, p= .049), implying that while institutional support in providing learning tools is beneficial, it may also introduce technical or usability issues. On the other hand, none of the flexible learning modalities show significant correlations with opportunities, highlighting that while these approaches address immediate learning needs, they may not necessarily enhance long-term educational benefits or innovations. The lack of strong correlations suggests that other external factors, such as digital literacy, institutional policies, and student engagement, may play a more crucial role in determining both the challenges and opportunities in flexible learning environments.

Table 10. Relationship of flexible learning modalities to challenges and opportunities

Flexible Learning Modalities		Challenges	Opportunities
	Pearson Correlation	.220	.020
	Sig. (2-tailed)	.061	.865
1	Lesson template sent to students		
	Pearson Correlation	.145	-.041
	Sig. (2-tailed)	.220	.728
2	Internet platform used		
	Pearson Correlation	.059	.068
	Sig. (2-tailed)	.621	.566
3	Flexible learning technique		
	Pearson Correlation	.112	-.015
	Sig. (2-tailed)	.346	.903
4	Devices provided by the college		
	Pearson Correlation	.231*	-.136
	Sig. (2-tailed)	.049	.252
5	Personal devices used for flexible learning		
	Pearson Correlation	.079	.139
	Sig. (2-tailed)	.505	.240

Correlation is significant at the 0.05 level (2-tailed) * Correlation is significant at the 0.01 level (2-tailed) **

CONCLUSION

Based on the results of the study, the following conclusions were drawn. Educational institutions have not been safe from the widespread effects of the pandemic. Many of the teachers are women. They are wives and mothers with many responsibilities inside and outside the school premises. Going to school every day separates her role as a mother and as a teacher. When a teacher-mother comes to school it gives her break from household chores. Although teachers bring school work at home it is not for a whole day, week, month or year. The pandemic invade the privacy of family, the classroom has been moved to homes where there are children who are also studying online, small children who are eager to learn and participate and sometimes causes trouble, husbands are also there working from home. Flexible learning creates multiple burden to women and many residential homes are not conducive to learning and teaching. Younger generation of educators quickly adapt to change. Their prior knowledge to technology coupled with handful of seminars before the start of the resumption of class made them ready to slay the virtual classroom. Teachers make use of their available resources such as smartphones, laptop, tablets, and desktop computers to create and send lessons to learners. Books have been replaced by e-books, modules, word, presentations and pdf files. Lessons and assignments are delivered using variety of methods. Google Meet, Google Classroom, Zoom, Group Chat became popular and widely used. Flexible learning conceived an array of challenges for the students, teachers, administrators, and even the educational institution. Aside from the cost and speed of the internet connectivity in the Philippines it is a test for teachers to make learners motivated, engaged, and learned because there are many distractions along the way. Although flexible learning was introduced before, the pandemic pushed the radical transformation and made people accept digital technology in the academe whether synchronously or asynchronously. Flexible learning also provides learners and educators with options of when, where, and how learning occurs. Challenges and opportunities both emerged due to the situation wherein flexible learning must be employed to be able to continuously transfer knowledge to students.

Nonetheless, in this study the null hypothesis which states that there is no significant relationship between flexible learning modalities by BASC faculty to challenges and opportunities is thereby accepted.

RECOMMENDATIONS

COVID-19 is not yet over, it is continuously evolving, new strains are being discovered from time to time. Pandemic caught the world off-guard, however, its positive effect particularly in the educational institution is worthy to be considered.

First, the administration should take a look at the situation of female faculty and ensure that the workload, environment are not adding multiple burden to the present situation of its employees, specially to women faculty. Second, traditional mode of teaching reinforce by flexible learning must be sustained. Third, clear protocols and guidelines to flexible learning should be implemented by the government in public and private educational institutions especially if another pandemic occurs. Fourth, the government funded colleges and universities should acquire license student and teacher friendly learning management system. Fifth, school administrators should provide adequate and up-to- date internet connectivity and gadget to the faculty. Flexible learning is dependent on technological devices and internet. The provision of wider internet access, equipment such as laptop or desktop for every faculty should also take into account. To meet with the demand of the new normal many faculties used their outdated technological devices. The sudden digital transformation increased the workload of educators from lesson preparation, webinars, students consultations, grade computation, enrolment, and registration, thus it is but time draw the line and identify the job description and job specification of the faculty. And sixth, further study on the continuity and effect of flexible learning after ease in quarantine restrictions is hereby suggested.

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