

Challenges of Students in the Era of Academic Disruption: The Case of a College in The Philippines

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ABSTRACT The abrupt shift to online and flexible learning during the COVID-19 pandemic has underscored both opportunities and persistent challenges in higher education. This study investigated the experiences of undergraduate students in a state college in the Philippines, within the policies of the Commission on Higher Education involving n=1,558 undergraduate students. Focusing on barriers such as unstable internet access, limited digital infrastructure, overwhelming workloads, and insufficient feedback practices. Using a quantitative design supported by interviews, the research highlights how inequitable access, technological limitations, and heavy academic demands contribute to stress, disengagement, and reduced learning motivation. Findings reveal that online education cannot succeed by relying solely on digital device ownership or content delivery, rather, requiring supportive structures, dialogic feedback, and learner-centred approaches that balance rigour with student well-being. Addressing infrastructure gaps, refining assessment practices, and fostering social presence emerge as crucial strategies for ensuring equitable and meaningful participation in flexible learning environments.

INTRODUCTION

The COVID-19 pandemic has profoundly disrupted higher education systems worldwide, forcing a rapid and unplanned transition from face-to-face classes to online and flexible learning modalities. This abrupt shift, widely referred to as emergency remote teaching, has challenged the resilience of both institutions and learners, revealing systemic weaknesses and widening existing inequalities in access to education (Baticulon et al. 2020). In the Philippines, where more than 28 million learners were displaced by the nationwide closure of schools, higher education institutions were compelled to adopt digital learning environments despite limited preparedness and uneven access to technology (Fabito et al. 2020).

The academic disruption particularly burdened state colleges, which often serve students from rural or low-income backgrounds. These institutions generally operate with limited technological infrastructure and financial resources, leaving students highly vulnerable to the consequences of academic disruption. Several studies conducted in 2020 documented the barriers encountered by Filipino students during the pandemic. Baticulon et al. (2020), in a national survey of medical students, identified unreliable internet access, lack of devices, and domestic responsibilities as major impediments to online learning. Similarly, Gocotano et al.

(2020) reported that students in rural areas struggled with weak connectivity, insufficient digital literacy, and a lack of supportive learning environments. These findings underscore that the challenges of online education are multidimensional, encompassing not only technological deficits but also personal, domestic, and institutional factors.

Equally important are the psychosocial pressures that emerged alongside these logistical challenges. Students reported heightened stress, anxiety, and difficulty balancing academic demands with household responsibilities during the pandemic (Jaca 2020). In many cases, homes were not conducive to learning, being either noisy, overcrowded, or lacking adequate study space. Such conditions compounded the problem of academic workload, leaving students at risk of disengagement, burnout, and poor academic performance. These concerns highlight that the shift to online learning was not merely a technical adjustment but also a major social and psychological disruption.

Recent international scholarship has continued to document how the prolonged reliance on remote and flexible learning reshaped student engagement, well-being, and institutional practices beyond the initial emergency phase. Comparative analyses across multiple countries revealed that universities struggled not only with technological

deployment but also with sustaining pedagogical quality and student interaction, emphasizing the need for intentional digital learning design rather than ad hoc delivery (Crawford et al. 2021). Studies on learner engagement further demonstrated that students experienced reduced motivation and participation when courses lacked structured interaction, timely feedback, and collaborative opportunities, underscoring the central role of instructional design in online environments (Bond et al. 2021). Research focusing on student readiness found that adaptability, self-regulation, and access to supportive learning spaces significantly predicted academic success, suggesting that the digital divide is as much behavioral and environmental as it is technological (Aguilera-Hermida et al. 2021). From a psychosocial perspective, higher levels of stress, loneliness, and academic burnout were reported among university students navigating isolation and increased workload, conditions that negatively influenced persistence and performance (Besser et al. 2022). Evidence from developing-country contexts likewise showed that structural inequalities—such as unstable connectivity, limited institutional resources, and constrained home learning environments—continued to shape students' capacity to participate effectively in flexible learning systems (Mseleku 2022). Collectively, these post-pandemic studies highlight that academic disruption has evolved into a long-term transformation of higher education, requiring institutions to address technological capacity, pedagogy, and student well-being simultaneously.

Despite these documented difficulties, most existing studies from the Philippines and other countries focus on either broad national samples or select private institutions, thereby overlooking the localised realities of students in individual state colleges. This constitutes a significant research gap because the challenges of academic disruption are not homogenous, they are mediated by institutional capacities, socio-economic contexts, and geographic factors. Thus, while national surveys provide valuable insights, they cannot fully capture the specific lived experiences of students in state colleges, where infrastructural and financial constraints are most pronounced.

This study therefore seeks to investigate the challenges of students in one state college in the Philippines during the era of academic disruption. By situating the analysis in a local institutional

context, the research aims to provide a more nuanced understanding of how students negotiate educational barriers under crisis conditions. The findings are expected to contribute to institutional policy development, particularly in strengthening academic resilience, ensuring equitable access to learning resources, and preparing for future educational disruptions.

Objectives of the Study

The general objective of this study is to determine the challenges of students of Camarines Sur Polytechnic Colleges during educational disruption, specifically, it sought to address the following objectives:

1. Determine the profile of the students
2. Determine the challenges encountered by the students during educational disruption in terms of:
 - a. Technology Use
 - b. Device and Materials
 - c. Time on Task
 - d. Instructional Delivery
 - e. Learning Assessment and Requirements
 - f. Teachers' Engagement
 - g. Motivation to Learn
3. Determine if there is a significant relationship on the challenges encountered in flexible learning of the respondents on their profiles.
4. Propose an intervention program to help students cope in flexible learning during academic disruption.

MATERIAL AND METHODS

This study employed a descriptive-correlational quantitative research design, complemented by qualitative validation, to systematically examine the challenges experienced by college students during the transition from traditional classroom instruction to flexible or online learning modalities. The design was chosen as it systematically measures the extent of the experienced challenges and determine the relationships among varied factors during their transition to flexible learning. Additionally, descriptive quantitative design was appropriate as it allows for the objective measurement of students' perceptions and behaviours across several dimensions of academic challenges using numerical data, thereby facilitating the iden-

tification of trends and relationships among variables (Creswell and Creswell 2018). To ensure triangulation and to capture the contextual depth of students' experiences, follow-up semi-structured interviews and two virtual focus group discussions (FGDs) were also conducted with a purposively selected subset of participants (10 interviewees and 12 FGD participants). These qualitative components provided elaborative narratives to support and validate the quantitative findings.

The number of interviewees and FGD participants was determined based on data saturation, as recurring insights emerged with no substantially new themes arising. All sessions were conducted virtually, recorded with informed consent, and transcribed verbatim; transcripts underwent systematic coding through open coding to identify significant statements, axial coding to cluster related codes, and selective coding to generate overarching themes. Thematic categorization aligned with key survey domains to ensure convergence and meaningful integration of quantitative and qualitative results.

The total population ($N = 10,384$) refers to all officially enrolled undergraduate students across the seven colleges and one extension campus of Camarines Sur Polytechnic Colleges during Academic Year 2021–2022, which served as the defined sampling frame based on institutional enrolment records. The study population comprised all undergraduate students enrolled at Camarines Sur Polytechnic Colleges (CSPC) and its one extension campus during the academic year 2021–2022, totalling approximately 10,384 students across seven colleges. Using Slovin's formula at a 95 percent confidence level and a 2.5 percent margin of error, the computed representative sample size was $n = 1,558$, ensuring sufficient precision while maintaining feasibility (Tejada and Punzalan 2012). Slovin's formula was used to provide a valid means to estimate a representative sample size for a heterogeneous population. A Stratified Sampling was employed to ensure the equitable representation from each of the seven colleges and one extension campus accounting for program and year-level diversity (Etikan and Bala 2017). In applying Slovin's formula, the parameters used were: population size ($N = 10,384$) and margin of error ($e = 0.025$), which produced the required sample size of $n = 1,558$ at a 95 percent confidence level, thereby balancing statistical reliability with fieldwork manageability.

Additionally, the sampling technique followed a proportionate stratified sampling approach, where students were grouped according to college affiliation and year level, and respondents were randomly selected within each stratum to ensure that all academic units were adequately represented. While, the relatively large sample ($n = 1,558$) was justified by the heterogeneity of the student population in terms of academic programs, geographic location, and access to learning resources during the pandemic, necessitating broader representation to increase precision, reduce sampling error, and strengthen the generalizability of the findings across the institution.

Prior to data collection, the availability of students with internet and email access was verified through the institutional Google Workspace database, which lists all active student accounts. Only those verified as active users of institutional email and online learning platforms (Google Classroom, LMS or Messenger groups) were included in the sampling pool. Data were collected through an online survey distributed via official CSPC student mailing lists and verified social media class groups to ensure wide coverage and convenience during pandemic restrictions.

The research instrument used was a self-administered survey questionnaire designed to assess students' challenges in flexible learning. It consisted of 77 items distributed across seven dimensions, namely, technology use, device and materials, time on tasks, teaching strategies, learning assessment and requirements, teacher engagement, and motivation to learn. The items were developed after reviewing existing literature on flexible learning and validated studies on online academic challenges. The tool underwent content validation by two subject matter experts in educational technology and research methodology, ensuring content accuracy and construct alignment. A pilot test involving 15 students from a non-sampled program was conducted to check for clarity and internal consistency, resulting in a Cronbach's alpha coefficient of 0.91, which indicates high reliability (Taber 2018).

The six-point Likert scale employed in the instrument ranged from 1 ("Not Applicable") to 6 ("Always"), designed intentionally to eliminate a neutral midpoint and encourage respondents to express a clear stance on each statement. This scale format enhances the discriminatory power of the

responses, leading to more precise interpretation of the degree of challenge experienced by students. Additionally, the absence of a neutral option minimizes central tendency bias and compels respondents to reflect more carefully on their actual experiences rather than selecting a midpoint by default. The even-numbered structure also improves variability in responses, strengthens statistical sensitivity in mean comparisons, and supports more nuanced analysis of the intensity and frequency of challenges encountered in flexible learning environments. Data collection was conducted from October to December 2021, after which responses were screened for completeness and accuracy. The quantitative data were analysed using descriptive and inferential statistics, while the qualitative inputs from interviews and FGDs were subjected to thematic analysis to contextualise numerical findings and deepen understanding of the multifaceted challenges faced by students in flexible learning settings.

RESULTS AND DISCUSSION

Profile of the Respondents

Based on the gathered data of the respondent, results surfaced as the respondents of the study found substantial data.

Table 1: Age, sex and year level of respondents

<i>Ages</i>	<i>Frequency</i>	<i>Percentage (%)</i>
18-19 yrs old	849	54.50
20-21 yrs old	593	38.10
22 years	116	7.40
Total	1558	100
<i>Sex</i>		
Male	631	40.5
Female	927	59.5
Total	1558	100
<i>Year Level</i>		
First year	824	52.9
Second year	397	25.5
Third year	206	13.2
Fourth year	131	8.4
Total	1,558	100

Source: Gathered responses from the study's participants from October-December 2021

The demographic profile of respondents revealed in the Table 1 shows that the majority of participants fall within the 18-19 years old range (54.5%), followed by those aged 20-21 years

(38.1%), and a smaller proportion belonging to the 22 years and above group (7.4%). This grouping provides a clearer view of the respondents' age dispersion and indicates that most participants are within the traditional undergraduate age bracket, consistent with typical entry and progression patterns in higher education institutions.

In terms of sex distribution, females dominate the sample at 59.5 percent, compared to 40.5 percent males. This indicates a stronger female presence in the dataset, which may reflect broader trends in student enrolment or higher female participation in the study. The gender balance underscores that while both perspectives are represented, female voices are more prominent and may shape the overall findings.

For year level, the largest group of respondents are first-year students at 52.9 percent, followed by second-year students at 25.5 percent. Third-year and fourth-year students are fewer, with 13.2 percent and 8.4 percent, respectively. This declining trend across year levels highlights a concentration of participants in the lower years, possibly due to larger incoming cohorts and attrition as students' progress. Such a distribution is important, as it suggests the results may reflect more of the perspectives and challenges experienced by undergraduates rather than those in advanced academic standing (Serrano et al. 2023).

Table 2: College department distribution of the respondents

<i>Department/College unit</i>	<i>Frequency</i>	<i>Percentage (%)</i>
College of Engineering	670	43
Buhi Extension Campus	30	1.9
College of Business Management	389	25
College of Computer Studies	231	14.8
College of Health Sciences	76	4.9
College of Arts and Sciences	113	7.3
College of Technological and Developmental Education	49	3.1
Total	1558	100

Source: Gathered responses from the study's participants from October-December 2021

Table 2 reflects the distribution of respondents by department shows that the College of Engineering (43%) has the largest representation, followed by the College of Business Management with 25 percent and the College of Computer Studies at 14.8 percent. Smaller groups include the Col-

lege of Arts and Sciences (7.3%), College of Health Sciences (4.9%), and the College of Technological and Developmental Education (3.1%). The Buhi Extension Campus has the least representation with only 1.9 percent. This clearly reflects the strong presence of COE, CBM, and CCS, which together account for the majority of participants.

Analysing this, the dominance of the College of Engineering underscores its size and influence, suggesting it likely has the largest student population or the highest engagement in the survey. Similarly, the substantial contributions from CBM and CCS highlight their significant role in shaping the overall findings. Meanwhile, the smaller percentages from CAS, CHS, CTDE, and Buhi Extension Campus reveal limited participation, though these groups still provide valuable diversity to the dataset by representing perspectives from less populous units.

The implications of this distribution are meaningful for interpreting results. Since the majority of responses are concentrated in COE, CBM and CCS, the study's findings may lean toward the experiences and concerns of students in these fields. However, the inclusion of respondents from other colleges, even in smaller proportions, ensures that the dataset reflects a broader academic landscape. This pattern highlights the importance of acknowledging department-based differences, as variations in academic focus and program size can shape student perspectives and influence the interpretation of outcomes.

Table 3: Dimensions of challenges encountered by students

<i>Dimensions on challenges</i>	<i>Overall Mean</i>	<i>Interpretation</i>
A. Technology use	4.24	Sometimes
B. Device and materials	3.17	Rarely
C. Time on tasks	4.02	Sometimes
D. Teaching strategies	3.65	Sometimes
E. Learning assessment	3.65	Sometimes
F. Teacher's engagement	3.12	Rarely
G. Motivation to learn	3.75	Sometimes

Source: Gathered responses from the study's participants from October-December 2021

The findings in Table 3 present a comprehensive understanding of the challenges students face in flexible learning environments. The results show that while flexible learning has allowed educational continuity during periods of disruption, it has

also exposed multiple layers of difficulty encompassing technological, pedagogical, and motivational aspects. The highest mean, Technology Use ($M = 4.24$), underscores that access to stable electricity and reliable internet connectivity remains a decisive factor for student success. Conversely, Device and Materials ($M = 3.17$) yielded the lowest mean, suggesting that although students have improved access to learning devices and resources, infrastructural deficiencies still hinder the full utilisation of such tools. The moderate means across other dimensions as presented in the Table 3 were, Time on Tasks ($M = 4.02$), Teaching Strategies ($M = 3.65$), Learning Assessment ($M = 3.65$), Teacher's Engagement ($M = 3.12$), and Motivation to Learn ($M = 3.75$), reveal how access-related issues intertwine with pedagogical design and emotional engagement to shape learners' overall experience.

Technology continues to serve as both an enabler and a constraint in the context of flexible learning. The high mean under Technology Use implies that unstable power supply and poor internet connectivity remain persistent barriers to meaningful participation in virtual learning. Thembane (2024) observed that recurring power interruptions and weak signal coverage create "cascading effects" on students' ability to complete tasks, meet deadlines, and sustain engagement. These technological obstacles are not merely technical inconveniences but structural inequities that amplify academic gaps. The World Bank (2025) similarly reported that digital transformation in Philippine education depends primarily on improving national connectivity and power reliability. Without this infrastructural foundation, even well-designed pedagogical strategies may not achieve equitable learning outcomes. Thus, flexible learning remains dependent not only on digital literacy and resources but on a broader socio-technical ecosystem that ensures reliability, affordability, and accessibility.

The findings regarding Time on Tasks reveal that students frequently experience fatigue, lack of rest, and difficulty managing heavy academic workloads. The results suggest that the supposed "flexibility" of flexible learning has become paradoxical, and instead of providing adaptive pacing, it often increases cognitive and temporal pressure. Andryan and Suminar (2024) noted that prolonged exposure to online environments and overlapping asynchronous tasks significantly contribute to cognitive overload and burnout among university

learners. In many cases, students perform academic duties while fulfilling domestic responsibilities, leading to exhaustion and reduced motivation. This evidence underscores that flexibility should not equate to limitless learning hours. Instead, institutions must adopt a time-sensitive approach to curriculum design, one that integrates manageable workloads, rest intervals, and asynchronous structures that respect students' home contexts.

In addition to workload concerns, the findings on Teaching Strategies and Learning Assessment (both $M = 3.65$) highlight issues in instructional clarity, feedback timeliness, and task relevance. The data suggest that many assessments remain overly theoretical, lengthy, or disconnected from course outcomes, which diminishes their value for learning improvement. Fisher et al. (2025) emphasised that timely formative feedback enhances student motivation and self-regulation, while delayed or generic feedback fosters disengagement. Likewise, Rutherford et al. (2024) found that assessments become meaningful when feedback is immediate, specific, and anchored on authentic learning goals. The current findings mirror these insights, as students perceive feedback delays and misaligned tasks as demotivating and stressful. This reinforces the importance of transforming assessment practices from being primarily evaluative to developmental, emphasising learning progress over mere grading.

The data on Teacher's Engagement ($M = 3.12$) reveal that while most teachers maintain professional conduct, communication gaps and teacher-centred methods still restrict meaningful dialogue. Students' perceptions of limited interaction and irregular synchronous sessions indicate that engagement remains inconsistent. Zhang and Lee (2025) reported that dialogic, feedback-oriented instruction significantly enhances student satisfaction, motivation, and trust in flexible learning environments. The findings in this study echo the claim that students value instructors who respond consistently, provide equitable opportunities to participate, and maintain relational presence in virtual classrooms. Hence, teacher engagement must transcend content delivery to include empathy, responsiveness, and co-construction of knowledge. Such practices not only improve academic outcomes but also humanise digital education.

Another crucial finding pertains to students' Motivation to Learn ($M = 3.75$), which reflects

moderate but unstable motivation levels. Many students experience fatigue, isolation, and a sense of disconnection from their peers and teachers. Aguilera-Hermida (2020) earlier found that emotional exhaustion and loss of peer contact severely affect intrinsic motivation in online learning contexts. This is reinforced by Lomotos and Tagadiad (2024), who demonstrated that social presence and online learning self-efficacy are strong predictors of engagement. Students who perceive a sense of belonging and confidence in navigating online tasks exhibit higher levels of motivation and satisfaction. The current findings support this notion, suggesting that emotional and social connectedness are as vital as technological access in sustaining motivation. Hence, strategies such as collaborative online discussions, peer mentoring, and consistent teacher visibility can mitigate emotional fatigue and reinforce learners' sense of community.

Altogether, the findings present flexible learning as a complex and interdependent system where technological, pedagogical, and psychosocial dimensions interact. Technological instability heightens workload stress, unclear instructional design contributes to confusion and disengagement, and weak social presence diminishes motivation. Addressing these issues therefore requires a systemic and multi-level approach that aligns infrastructure development, pedagogical reform, and emotional support. Recent research converges on the same conclusion (Fisher 2025; Andryan 2024; Rutherford et al., 2024; Thembane 2024; Zhang and Lee 2025; World Bank 2025), that is, flexible learning will only succeed when it integrates technological reliability, time-sensitive pedagogy, and relational engagement. Ultimately, the goal is not merely to sustain education through flexibility but to transform flexibility into inclusivity, where every learner, regardless of circumstance, can access, engage, and thrive within an equitable and supportive digital learning ecosystem.

The stories of the students as reflected in Table 4 show that there is a network of experiences that are not only emotionally demanding but also structurally disjointed and unequally available to online learning. Most respondents explained how their motivation would decrease due to the lack of physical contact since they found learning in the classroom to be uninteresting without the social atmosphere that existed in the classroom. Some also indicated that they did not find any enjoy-

Table 4: Thematic analysis of learners' difficulties in virtual learning settings

S. No.	Theme	Codes (Merged)	Interview excerpts
1	Motivation, Engagement and Social Disconnection	• Lack of social interaction • Reduced motivation • Teacher communication issues	"Learning is not interesting" "I get no enjoyment..." "I am not even being told whether the teachers have already received..."
2	Clarity, Guidance and Quality of Instructional Materials	• Unclear modules • Insufficient examples • Errors in materials	"We have many things that we do not know..." "Modules have only very limited examples..." "Materials contain typographical mistakes..."
3	Assessment Alignment, Workload and Cognitive Overload	• Assessments unrelated to lessons • Heavy paperwork • Time-consuming tasks	"Assessed tasks do not correlate..." "Too much paper work..." "Activities require more hours..."
4	Collaboration and Equity in Learning Activities	• Unequal group work • Teacher bias	"Only one or two members do the group work." "Teacher is unfair or biased..."
5	Environmental, Technological and Resource Barriers	• Household duties • Limited gadgets • Platform issues	"We are more expected to assist in chores..." "I have neither a laptop..." "Platforms do not have auto-notifications..."

ment in learning virtually, and that is why they considered themselves unproductive and detached. This isolation was also enhanced by the inconsistent contact with instructors, for example, being left uninformed on whether the teachers had got their submitted assignments or not. These experiences represent the dilution of both the social and teaching presence, which current research indicates are essential factors of online interaction and continuation. Indeed, recent studies have established that in cases where instructors are disproportionate in the delivery of feedback or observable facilitation, the motivation levels of students decrease sharply since the connection signals and direction are more difficult to notice in the virtual world (Alshammari 2025; Chuane 2025).

The problems encountered by students were heightened by the fact that there was no clarity and quality in the instructional materials they received. Some of the respondents mentioned reading modules a hundred times without learning anything, and others said that the materials included very few examples or had many typing errors. These testimonies indicate breakdown in the instructional scaffolding particularly in asynchronous learning where modules are the main source of direction. In cases of unclear and inaccurate learning materials, the cognitive load is high and students

use much effort in unpuzzling materials rather than making meaningful engagement with the concepts. This is in line with the recent results that indicate that asynchronous materials, especially those with no worked examples or with no explicit structure, are highly detrimental to learning and cause students to become frustrated (Hung 2024; Wehrhahn et al. 2024). The plights of the participants thus depict not only confusion but the immediate effect of poor design and quality assurance of online instructional resources.

These problems translated to the realms of assessment where students talked of a continued lack of connection between what they studied and what they got graded. Their focus was on the fact that assessed works do not align with the lessons, and they were appalled with the paperwork that was, according to them, excessive and consumed their time, which was impossible to finish within the anticipated time. It was believed that the asynchronous activities required more hours than the subject was credited. These kinds of concerns indicate that there is no congruency that ought to exist between learning objectives, learning instructional materials and assessment tasks. Modern sources on authentic assessment emphasise that the lack of alignment contributes to the fact that students consider tasks meaningless and a nui-

sance, lowering the perceived value of learning activities (Vlachopoulos 2024). Combined with the modules that are already obscure, misaligned tests will add to the cognitive overload, which leads to fatigue and disengagement. In this way, the problem of the workload of students is not only based on the amount of work but also on the incoherence of the design of the learning process throughout.

Besides assessment issues, the students also came up with reports of unfair experiences in group work. Most of them shared that during virtual sessions, group work was left to only one or two students, with others thinking that teachers were unfair or biased when making calls to students. These testimonies indicate some loopholes of accountability in online collaboration, where the process of tracking participation becomes harder and the distribution of free-riding is more prevalent. According to recent studies, online group work requires a clear structure, role distribution, and system of peer evaluation to be able to operate in an equal manner (De Bruijn-Smolders 2024; Simon 2025). The lack of these systems leads to the inequality in collaboration, and the ideas of unfairness towards peers and instructors spread. The experiences of the participants thus show design failures in the way collaborative work and interaction between the teacher and the students were handled in the online setting.

Lastly, the technological and household background of the students was a crucial background that influenced all the areas of their learning. Most of them attributed the problem as being at home added more responsibilities to them, since they were expected to help with the chores and thus hard to stay focused in the academic schedules. Others suggested the lack of devices and their lack of a laptop, only having mobile phones with small hard disk space, which could not allow them to manipulate files. Even limitations to the platform like lack of auto-notifications also led to missed deadlines. These experiences reflect national and regional surveys in 2024-2025 that the digital divide is still a major impediment to equal learning outcomes especially in developing contexts where connectivity, device access, and house conditions differ significantly. It is demonstrated that these structural and environmental bottlenecks have a direct impact on academic performance, engagement, and persistence in online environments (Phil-

ippine Digital Inclusion Reports 2024). These obstacles are systemic and not personal and it highlights the role of socioeconomic fact that collide with pedagogical architecture in determining how students go through the learning process.

Combined with each other, the stories on the Internet bring online learning to a system of interacting pressures like emotional detachment undermines motivation, an inability to comprehend content raises the cognitive load, the lack of alignment between evaluations increases stress, a lack of trust underlies the inequity in collaboration, and environmental and technological limitations reduce the ability of students to interact at all. These themes are not isolated, they enhance each other and they show that the problems faced by students cannot be solved by solving single problems. Rather, there is evidence of the necessity of holistic redesign, which is to enhance the presence of instructors, enhance material quality, focus more on alignment, organise collaboration, and eliminate the socioeconomic obstacles that essentially influence the learning conditions of students.

Table 5: Reliability test for questionnaire

Scale reliability statistics	Cronbach's α	McDonald's ω
Scale	0.975	0.977

Source: Gathered responses from the study's participants from October-December 2021

The internal consistency of the instrument was evaluated using both Cronbach's α and McDonald's ω . As presented in Table 5, the results yielded very high coefficients ($\alpha=0.975$; $\omega=0.977$), which substantially exceed the conventional threshold of 0.70 for acceptable reliability (Nunnally and Bernstein 1994). These results indicate that the items comprising the scale are highly consistent in measuring the intended construct, reflecting minimal measurement error and strong item interrelatedness.

Although Cronbach's α remains the most commonly reported index of reliability, it assumes tau-equivalence, or equal item contributions to the latent construct, which is rarely met in practice. McDonald's ω , by contrast, provides a more robust estimate of reliability, as it does not rely on this assumption and is particularly appropriate for multidimensional scales (Dunn et al. 2014). The close

convergence of α and ω in this analysis underscores the stability of the findings and provides compelling evidence of the scale's psychometric soundness. These results have several implications. First, the exceptionally high coefficients suggest that the scale demonstrates strong construct coherence, ensuring that the observed responses can be interpreted with a high degree of confidence. Second, the reliability indices confirm that the instrument is suitable for use in research on flexible learning and can be expected to perform consistently in similar contexts. Finally, the strength of these indices enhances the overall methodological rigour of the study, reinforcing the validity of subsequent analyses and the credibility of conclusions drawn from the data.

This reliability analysis provides robust evidence that the questionnaire is a reliable and internally consistent measure. The findings strengthen confidence in the instrument's capacity to generate stable and replicable results, thereby contributing to the study's overall methodological robustness.

Relationship of the Challenges in Flexible Learning to the Profile of the Respondents

A chi-square test of independence presented in Table 6 was used to test the connections between the age of students and difficulties with flexible learning. The findings showed that there was

a statistically significant association, $\chi^2(20, N = 1558) = 35.7, p = 0.017$, but the effect size was insignificant (Cramer $V = 0.08$). It means that age has a certain impact on the experience of students but other variables (socioeconomic background, access to technology, and instruction practice) have more significant variability.

Younger students (18-20 years old) had higher chances of reporting frequent difficulties and older students (21-22 years old) had low chances of reporting the difficulties. This implies that maturity and the experience of earlier academic success might improve self-control and flexibility, and younger students are still more reliant on the structure. These results would highlight the importance of institutions offering specific interventions to younger learners such as mentoring, digital literacy, and workload management support. Simultaneously, the existing systemic barriers like device disparity and unreliable internet should be mitigated in order to provide equal access among age groups. Lastly, the low correlation introduces the need to study more predictors like socioeconomic status and institutional support that might play a greater role in the experiences of students in flexible learning.

The chi-square test of independence as shown in Table 7 was used in order to determine whether the difficulties faced in flexible learning especially in online classes are connected to the sex of students. The findings showed that there was no sta-

Table 6: Relationship on challenges in flexible learning to age

Age	Challenges in flexible learning					
	<i>Often</i>	<i>Always</i>	<i>Sometimes</i>	<i>Rarely</i>	<i>Never</i>	<i>Not</i>
18 yrs old	52 (20%)	7 (24%)	127 (18%)	99 (21%)	20 (18%)	1 (12.5%)
19 yrs old	72 (27%)	7 (24%)	245 (36%)	181 (39%)	36 (32%)	2 (25%)
20 yrs old	68 (26%)	7 (24%)	175 (26%)	82 (18%)	19 (17%)	2 (25%)
21 yrs old	47 (18%)	7 (24%)	94 (14%)	66 (14%)	24 (21%)	2 (25%)
22 yrs old	24 (9%)	1 (4%)	40 (6%)	36 (8%)	14 (12%)	1 (12.5%)

Note. $\chi^2 = 35.7$, $df = 20$, $N = 1558$, Cramer's $V = 0.08$, $p = 0.017$

Table 7: Relationship on challenges in flexible learning to sex

Sex	Challenges in flexible learning					
	<i>Often</i>	<i>Always</i>	<i>Sometimes</i>	<i>Rarely</i>	<i>Never</i>	<i>Not</i>
Male	108 (41%)	12 (41%)	292 (43%)	176 (38%)	40 (35%)	3 (37%)
Female	155 (59%)	17 (59%)	389 (57%)	288 (62%)	73 (65%)	5 (63%)

Note. $\chi^2 = 4.16$, $df = 5$, $N = 1558$, $p = 0.526$

tistically significant relationship, $2(5, 1558) = 4.16$, $p = 0.053$. Because the p-value had a value greater than the 0.05 value, the factor of sex was not identified as a determining factor in the experiences of students facing difficulties with flexible learning.

This result aligns with the idea that male and female students face the same set of challenges, which means that inconveniences like weak internet connection, inaccessible devices, and too much academic work cut across racial lines. The absence of any meaningful correlation also indicates the fact that structural and contextual factors, instead of sex differences, may be a more decisive force in determining the learning experience of students. The findings highlight the need to target institutional interventions at universal impediments, but not sex-based disparities. The programs that will help in the enhancement of technological infrastructure, creation of workloads that are manageable and instructional clarity will benefit all learners irrespective of sex. In addition, the lack of sex differences supports the importance of future studies to examine other personal and situational variables (for example, socioeconomic background, academic status, or computer literacy) that may be more appropriate in understanding variations in student's experiences in flexible learning modalities.

Table 8 reflects the chi-square test of independence was used to test the relationship between the year level of the students and the challenges presented during flexible learning. The findings showed that there was a significant relationship which was statistical at $27.9, 2(15) = 1558$. The calculated Cramer V of 0.08 is however, very small implying that year level has a very small contribution to the variation in the experiences of students, and other factors are most likely to have a more unfathomable impact. The findings indicate that less experienced students (students in the lower year levels) were more likely to report difficulties

where the 1st year students represented 134 (51%) of those who often faced difficulties. Conversely, higher year level students (especially 4th year at 11%), had lower chances of such problems. The trend could indicate that 1st year students are less comfortable adjusting to the requirements of higher education and upper-year students could have better coping mechanisms, understanding of academic institutions, and resilience to deal with flexible learning environments.

There is a need to support lower-year students with specific measures, such as orientation programs, mentoring systems, and self-regulated learning and digital competence skills training, which is supported by these findings. Simultaneously, the low correlation stresses the idea that the issues under consideration cannot be exclusively assigned to year level, but the approach to systemic barriers (illustrating the unreliability of the internet, connection to devices, and the organisation of workload) should be emphasised. Lastly, other researchers should conduct more research to test other variables, which might be stronger explanatory factors in influencing the experience of students in flexible learning, and these variables include socioeconomic background, prior digital exposure and institutional support.

The chi-square test of Independence was used to check whether the challenges faced in flexible learning were related to the department or college of enrolment of the students as shown in the Table 9. The findings showed that there was no statistically significant relationship, $2(5, N = 1558) = 4.16$, $p = 0.053$. The p-value exceeded 0.05, therefore, the department or college students who were enrolled did not prove to have any effect on the level of difficulties experienced in flexible learning.

This outcome indicates that the problem of insecure internet connection, inadequate access to equipment, and overloading academic assignments

Table 8: Relationship on challenges in flexible learning to year level

Teacher level	Challenges in flexible learning					
	Often	Always	Sometimes	Rarely	Never	Not
1 st year	134 (51%)	15 (51%)	366 (54%)	255 (55%)	51 (45%)	3 (37.5%)
2 nd year	61 (23%)	4 (14%)	185 (27%)	118 (26%)	26 (23%)	3 (37.5%)
3 rd year	38 (15%)	6 (21%)	75 (11%)	57 (12%)	28 (25%)	2 (25%)
4 th year	30 (11%)	4 (14%)	55 (8%)	34 (7%)	8 (7%)	0 (0%)

Note. $\chi^2 = 27.9$, $df = 15$, $N=1558$, Cramer's $V=0.08$, $p=0.022$

Table 9: Relationship on challenges in flexible learning to College Department

<i>College department</i>	<i>Challenges in flexible learning</i>					
	<i>Often</i>	<i>Always</i>	<i>Sometimes</i>	<i>Rarely</i>	<i>Never</i>	<i>Not</i>
CEA	104 (40%)	13 (45%)	306 (44%)	206 (44%)	44 (39%)	2 (25%)
BUHI	8 (3%)	0 (0%)	15 (2%)	6 (1%)	1 (1%)	0 (0%)
CBM	74 (28%)	7 (24%)	168 (25%)	106 (23%)	34 (30%)	0 (0%)
CCS	40 (15%)	4 (14%)	104 (15%)	65 (14%)	16 (14%)	2 (25%)
CHS	10 (4%)	2 (7%)	27 (4%)	31 (7%)	5 (4%)	1(12.5%)
CAS	16 (6%)	2 (7%)	47 (7%)	35 (8%)	11 (10%)	2 (25%)
CTDE	11 (4%)	1 (3%)	19 (3%)	15 (3%)	2 (2%)	1(12.5%)

Note. $\chi^2 = 27.9$, $df = 30$, $N=1558$, $p=0.576$

are common across all academic fields. Students across program or college affiliation indicated the same barriers, indicating that the challenges of flexible learning are pervasive and systemic and not discipline specific. Lack of considerable differences between departments highlights the fact that the issues of flexible learning must be dealt with institution-wide and not department-specifically. All students would benefit from investments in digital infrastructure, workload policies that are standardised, and the combination of learner support services, regardless of the academic program. Besides, the findings reveal the necessity of investigating additional individual- or context-specific variables (including socioeconomic status, residential conditions, and digital literacy) that could be a better explanation of differences in the flexible learning experiences of students.

CONCLUSION

The persistence of flexible learning beyond the COVID-19 pandemic underscores its role as a sustainable and adaptive educational model rather than a temporary emergency measure. This study found that flexible learning has enabled the continuation of academic instruction amid recurring challenges such as classroom shortages, infrastructural limitations, and disruptions caused by natural calamities or local events. However, the findings also revealed significant challenges that continue to hinder its effective implementation. Students reported persistent inequities in access to stable internet connection, limited availability of digital resources, heavy academic workloads, and inadequate teacher feedback and engagement. These difficulties contributed to reduced learning motivation and uneven participation across socioeconomic groups.

Overall, the study concludes that while flexible learning has strengthened institutional resilience and instructional continuity, it remains constrained by systemic barriers that must be addressed to achieve equitable and meaningful learning experiences. The results emphasise that the success of flexible education depends not only on technological access but also on pedagogical innovation, institutional support, and inclusive practices that place learners at the centre of the educational process.

RECOMMENDATIONS

Study Output: Project FLEX (Facilitating Learning for Equity and excellence)

Findings revealed that while flexible learning safeguarded academic continuity, it also magnified persistent inequities such as poor internet connectivity, limited access to devices, unclear assessments, and declining student motivation. These barriers heightened stress and fatigue, underscoring the inadequacy of institutional mechanisms to sustain resilience. Although students developed coping strategies, the absence of structured support risked perpetuating uneven learning outcomes.

Project FLEX (Facilitating Learning for Equity and eXcellence) addresses these challenges by embedding technological, academic, and psychosocial support into flexible learning systems. Through initiatives such as technology access programs, faculty training, wellness hubs, collaborative learning projects, and blended learning pilots, the program seeks to balance equity with academic rigour. By expanding access, enhancing pedagogy, promoting well-being, and sustaining

motivation, Project FLEX is expected to strengthen resilience and inclusivity while establishing a more sustainable model of flexible learning.

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