



## Innovation of Teaching Strategies in Factors Associated with Flexible Learning of Drafting Students

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### ABSTRACT

**Purpose of the Study:** This study examines the intersection of flexible learning strategies, psychological well-being, and academic success among drafting students, a group that has received limited attention in existing academic literature. The research aims to uncover how flexible learning techniques impact students' mental health and academic performance, providing insights that inform innovative teacher training programs and instructional approaches tailored to this unique demographic.

**Methodology:** A descriptive research design was employed, using purposive sampling to select participants. Data were collected through survey questionnaires, and statistical analysis was conducted using the Statistical Package for the Social Sciences (SPSS). The study focused on drafting students aged 18 to 23, many of whom come from financially struggling backgrounds. Participants primarily accessed learning materials through mobile devices and laptops using mobile data or Wi-Fi, engaging in both asynchronous and synchronous learning formats.

**Main Findings:** The study found that students in flexible learning environments demonstrated high psychological well-being and strong academic performance. Interestingly, demographic factors, socio-economic status, and device type did not significantly impact academic success. Instead, age and internet connectivity quality played a critical role in student achievement.

**Novelty/Originality of the Study:** This research provides a novel perspective on the relationship between flexible learning and student well-being in technical education, particularly among drafting students. The findings emphasize the need for equitable digital access and highlight the importance of personalized learning models. Future research should explore learning environments, teacher-student interactions, and digital resource accessibility to further enhance student outcomes.

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## 1. INTRODUCTION

Flexible learning pertains to learner-centered and collaborative modality in which teachers and students have the ability to balance the teaching and learning process based on the situations and capabilities of the students [1]. It followed the theory in which the teaching and learning process happens when students are able to produce new knowledge based on their experiences. This learning modality gives freedom to students to choose

their own pace, area, and learning style to acquire new knowledge. It means that flexible learning offers flexibility and convenience in the learning process based on their personal schedule. There are various types categories of flexible learning but mostly, these rely on information and communication technology (ICT) in performing the teaching process such as facilitating the assessment tasks [2]-[5].

The Commission on Higher Education (CHED) recommended the flexible learning modality as an alternative to face to face set up. All students have the opportunity to learn without being infected by the virus. This learning modality is the new normal education for HEIs since no one knows when the pandemic will end. Most State Universities and Colleges used internet-based tools such as virtual meetings and learning management systems (LMS) in facilitating class activities. They provide video-based learning materials that could help students to easily understand the lessons even it is asynchronous class [6].

Moreover, the effectiveness of online learning depends on the availability of gadgets and internet connections. The students who considered online learning as an appropriate learning modality are privileged people. They have access to the right technology. Not all students have the privilege to have gadgets and internet connections. The education sector considered these factors that may hinder the progress of the students in online learning. As a result, they implemented modular learning in some locations. The effectiveness of modular learning is still uncertain but this is the appropriate modality to cater to all students, especially from low-income families [3].

There was inevitably issues in implementing these modalities and ensuring the quality of education that they provide. The government considered the factors that affect the implementation of alternative modalities; thus, the Commission on Higher Education (CHED) recommended flexible learning as the new normal education in higher education institutions (HEIs). State colleges and universities (SUCs) have the freedom to choose the appropriate modalities for their learners. It can be a combination of modular and online learning or only one type of learning modality depending on the situation in their area. Despite the good intentions, Higher Education Institutions (HEIs) faced challenges in implementing flexible learning. The shortcomings of flexible learning in third-world countries like the Philippines are clearly shown in the past one and half years. Additionally, students have the freedom to choose yet, still struggling to keep up with requirements due to socioeconomic status. Also, some psychological problems arise since the pandemic is taking a toll on the students' mental health.

Further, research about drafting students in technical and academic institutions remains insufficient while studies mostly examine students taking non-technical classes or courses in the fields of science technology engineering and math (STEM). Academic research proves the influence of digital access and socio-economic backgrounds but does not progress existing knowledge about their combined mental health effects on students. Research focused on adding new knowledge becomes essential because flexible learning stands as an essential educational practice following the pandemic. Educational institutions must develop new teaching approaches that correspond to the academic requirements of students who use digital educational tools but also experience financial and social barriers in their learning process.

This study aims to determine the relationship between the demographic profile of students and the factors associated with flexible learning as perceived by drafting students in a higher learning institution during the Academic Year 2021-2022. Specifically, it seeks to examine the demographic characteristics of drafting students in terms of age, socio-economic status, gadget profile, and type of internet connection. Furthermore, the study explores the level of psychological well-being of drafting students and assesses their mean academic performance. It also investigates whether the demographic profile significantly affects the psychological well-being and academic performance of drafting students. Based on the findings, the study aims to propose a training program that addresses the identified needs and challenges in flexible learning.

## 2. RESEARCH METHOD

This study utilized a descriptive research design, a widely used approach that provides answers to questions regarding particular events and conditions. It is particularly useful for understanding and analyzing the factors affecting flexible learning among drafting students. The primary method of data collection in this research was through a survey questionnaire, enabling the researchers to obtain quantitative data regarding students' demographic profiles, psychological well-being, and academic performance [7].

Moreover, the respondents of this study were Bachelor of Science in Industrial Technology - Architectural Drafting Technology (BSIT-ADT) students enrolled in a state university during Academic Year 2022-2023. Since this study aimed to analyze the perspectives of drafting students in flexible learning environments, the researchers employed purposive sampling to select participants. Purposive sampling was chosen to ensure that only students with direct experience in flexible learning participated, maximizing the study's relevance and accuracy. This technique also helped in achieving the research objectives efficiently without unnecessary expenditure of time, money, and effort.

To collect the necessary data, a validated survey questionnaire was used as the primary research instrument. The questionnaire was evaluated and validated by experts to ensure reliability and accuracy in

measuring the targeted variables. Additionally, the data collection process involved administering self-reported survey questionnaires to the selected students. The researchers ensured confidentiality and informed consent before the data collection. The distribution was conducted through Google Forms and printed questionnaires, depending on the accessibility of the respondents.

Simultaneously, the data collected from the questionnaires were tallied, interpreted, and analyzed using the Statistical Package for the Social Sciences (SPSS). Percentage and frequency were used to describe the demographic profile, while the level of psychological well-being was analyzed using the mean and standard deviation based on a 5-point Likert scale. Academic performance was assessed using frequency, percentage, and mean. Furthermore, to determine the significant relationships between variables, Pearson's correlation analysis was employed. This method was used to estimate the statistical relationship or strength of association between the variables. The level of significance is denoted by  $r$ , where a value close to zero suggests no significant relationship between variables.

### 3. RESULTS AND DISCUSSION

This section presents the results of the study based on the data collected from the questionnaires. The findings are analyzed and interpreted to provide insights into the demographic profile of the respondents, their level of psychological well-being, and academic performance. Additionally, statistical analyses were conducted to determine significant relationships between the study variables.

Table 1. Demographic Profile of Drafting Students with regards to Age

Age Range	Frequency	Percentage
17 years old and below	1	0.3
18 years old to 20 years old	181	62.0
21 years old to 23 years old	89	30.5
24 years old to 26 years old	10	3.4
27 years old to 29 years old	5	1.7
30 years old and above	6	2.1
Total	292	100

Table 1 shows the age distribution of students enrolled in architectural drafting technology. Of the 292 respondents in the sample, 18 to 20-year-olds represent the majority of the students, or 62% (181) of the total. The age ranges of the students were 21–23 and 24–26 years old, making up 30.5% (89) and 3.4% (10) of the total. About 0.3% (1) of the students are younger than 18 years old, 1.7% (5) are between 27 and 29 years old, and 2.1% (6) are more than 30 years old. The study by Freire et al. confirms the findings of the investigation. (2016) discovered that the study's variables included the student's gender, age, and major. Since each student has a unique set of learning preferences and techniques, it is crucial to consider how their experiences and levels of maturity have affected their ability to acquire new abilities.

The results suggest that the majority of the respondents included in this research were younger (18–23 years old). The older age group included very few of the responders. Online learning platforms that support learning and skill development for learners of all ages are a unique kind of online community that has shown enormous increase in popularity over the past ten years [8]. Cognitive qualities that are critical for preserving functional independence, including picking up new skills, are frequently linked to aging. Because students have varying learning preferences and tactics, age may thus lead to differences in performance.

Table 2. Demographic Profile of Drafting Students with regards to Socio-Economic Status

Socio-Economic Status	Frequency	Percentage
Upper Income	10	2.4
Upper Middle Income	6	2.1
Middle Income	13	4.5
Lower Middle Income	39	13.4
Low Income	101	34.6
Poor	126	43.0
Total	292	100

Regarding the socioeconomic standing of the respondents, Table 2 revealed that the majority of them, or 43% (126) of the sample, come from low-income families. A little over 34.6% (101) and 13.4% (39) of the student body are from lower-middle-class and low-income homes, respectively. Thirteen students, or 4.5% of the total, identified as being from middle-class homes. Of the pupils, 2.4% (10) belonged to the top income group, and 2.1% (six) to the upper middle-income group.

Households with low socioeconomic status and those residing in underprivileged areas offered less opportunities for learning [9]. Many of the respondents came from lower-class and impoverished households, based only on the data findings. This suggests that the majority of pupils come from low-income families, with very few coming from middle-class or upper-class backgrounds.

Table 3. Demographic Profile of Drafting Students with regards to Gadget Profile

Gadget Type	Personally Owned		Shared with Family Members		None No Access	
	f	%	f	%	f	%
	Cellular Phone	270	92.5	22	7.5	-
Desktop	18	6.2	52	17.8	222	76.0
Laptop	84	28.8	88	30.1	120	41.1
Tablet	17	5.8	31	10.6	244	83.6

Table 3 appears that students most frequently own cell phones. Of the respondents, 92.5% (270) reported owning a smartphone, whereas 22 respondents, or 7.5%, claimed they share their device with family members. According to Table 3, a majority of drafting students—76%, or 222—said they did not own desktop computers, while 17.8%, or 52, said they shared their devices with family members. Few people indicated that they are unit owners. As a result, just 28.8% (84) of the respondents claimed to be laptop owners, while 30.1% (88) of the students said they shared a laptop with family. On the other hand, 41.1% of students do not own a laptop (120). Tablets are seen to be useful for flexible learning as well, particularly in synchronous classrooms. It was discovered that 244 respondents, or 83.6%, did not have one. Of the students, just 5.8% (17) have a tablet of their own, while 10.6% (31) share it with family members.

Students frequently own smartphones, according to the findings of their gadget profile. Few students have access to tablets, laptops, or desktop computers in particular. Additionally, data shows that students frequently share gadgets with their families, however regrettably, some may not have access to desktop, laptop, or tablet computers. [10] have shown the substantial impact that technology use has on students' academic achievement. When comparing the improvement of students' academic performance in blended learning to conventional learning, these technical factor variables account for 65% and 98% of the explained variation, respectively. This suggests that respondents often utilized gadgets, whether they were used alone or shared by family members, among the respondent were commonly used as a tool during the flexible learning.

Table 4. Demographic Profile of Drafting Students with regards to Type of Internet Connection

Internet Connection	f	%
Mobile Data	109	37.4
Pocket WIFI	8	2.7
WIFI Hotspots	16	5.5
Service Provider	158	54.1
No Access	1	0.3
Others	-	-
Total	292	100

Table 4 shows that 54.1% (158) and 37.4% (109) of the students, respectively, obtained internet connections from service providers such PLDT, Globe, Converge, and mobile data. Only 0.3% (1) of students reported not having access to the internet, although some students used pocket WiFi (2.7% (8) and WIFI hotspots (5.5% (16) to go online. According to the data, the majority of students paid for internet access via their mobile data plan or the provider's internet service. It is typical for students to have poor or inconsistent connectivity, which prevents them from participating completely in class [11]. As a result, students use commercial services like mobile data to stay up to speed on the course materials that professors and instructors have given.

This demonstrates that when flexible learning is used, students must have access to the internet in order to participate completely in their lessons. Students that have a reliable internet connection may access a wide range of materials and information that help them comprehend the lessons that their teachers have taught. Additionally, they connected with their classmate and sought advice from their teacher using it.

Table 5. Level of Psychological Well-Being of Drafting Students

Indicative Statement	WM	SD	Modal Statistics
1. I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people.	3.86	0.86	Agree
2. In general, I feel I am in charge of the situation in which I live.	3.91	0.86	Agree
3. I am not interested in activities that will expand my horizons.	3.05	1.14	Undecided
4. Most people see me as loving and affectionate.	3.88	0.91	Agree
5. I live life one day at a time and don't really think about the future.	3.26	1.28	Agree
6. When I look at the story of my life, I am pleased with how things have turned out.	3.83	0.95	Agree
7. My decisions are not usually influenced by what everyone else is doing.	3.88	0.87	Agree
8. The demands of everyday life often get me down.	3.63	1.03	Agree
9. I think it is important to have new experiences that challenge how you think about yourself and the world.	4.41	0.69	Agree
10. Maintaining close relationships has been difficult and frustrating for me.	3.67	1.11	Agree
11. I have a sense of direction and purpose in life.	4.15	0.81	Agree
12. In general, I feel confident and positive about myself.	3.98	0.92	Agree
13. I tend to worry about what other people think of me.	3.86	1.09	Strongly Agree
14. I do not fit very well with the people and the community around me.	3.47	1.05	Agree
15. When I think about it, I haven't really improved much as a person over the years.	3.46	1.13	Agree
16. I often feel lonely because I have few close friends with whom to share my concerns.	3.38	1.24	Agree
17. My daily activities often seem trivial and unimportant to me.	3.19	1.23	Agree
18. I feel like many of the people I know have gotten more out of life than I have.	3.52	1.11	Agree
19. I tend to be influenced by people with strong opinions.	3.73	1.05	Agree
20. I am quite good at managing the many responsibilities of my daily life.	3.90	0.89	Agree
21. I have a sense that I have developed a lot as a person over time.	4.04	0.84	Agree
22. I enjoy personal and mutual conversations with family members or friends.	4.14	0.87	Agree
23. I don't have a good sense of what it is I'm trying to accomplish in life.	3.23	1.18	Agree
24. I like most aspects of my personality.	3.96	0.89	Agree
25. I have confidence in my opinions, even if they are contrary to the general consensus.	3.85	0.85	Agree
26. I often feel overwhelmed by my responsibilities.	3.98	0.82	Agree
27. I do not enjoy being in new situations that require me to change my old familiar ways of doing things.	3.47	1.09	Agree
28. People would describe me as a giving person, willing to share my time with others.	3.93	0.88	Agree
29. I enjoy making plans for the future and working to make them a reality.	4.08	0.85	Agree
30. In many ways, I feel disappointed about my achievements in life.	3.37	1.16	Agree
31. It's difficult for me to voice my own opinions on controversial matters.	3.87	1.02	Agree
32. I have difficulty arranging my life in a way that is satisfying to me.	3.52	0.97	Agree
33. For me, life has been a continuous process of learning, changing, and growth.	4.35	0.83	Strongly Agree
34. I have not experienced many warm and trusting relationships with others.	3.42	1.15	Agree
35. Some people wander aimlessly through life, but I am not one of them.	3.71	0.94	Agree
36. My attitude about myself is probably not as positive as most people feel about themselves.	3.75	0.94	Agree
37. I judge myself by what I think is important, not by the values of what	3.92	0.89	Agree

others think is important.			
38. I have been able to build a home and a lifestyle for myself that is much to my liking.	3.90	0.86	Agree
39. I gave up trying to make big improvements or changes in my life a long time ago.	3.34	1.22	Agree
40. I know that I can trust my friends, and they know they can trust me.	4.13	0.82	Agree
41. I sometimes feel as if I've done all there is to do in life.	3.67	0.99	Agree
42. When I compare myself to friends and acquaintances, it makes me feel good about who I am.	3.49	1.07	Agree
AVERAGE	3.73	0.98	AGREE
INTERPRETATION	<i>The level of psychological well-being of drafting students are remarkably high.</i>		

In table 5, the students answered “Agree” to the majority of the psychological well-being questionnaire, including “I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people,” “I have a sense of direction and purpose in life,” “I am quite good at managing the many responsibilities of my daily life,” “Some people wander aimlessly through life, but I am not one of them,” and “To me, life has been a continuous process of learning, changing, and growth.” However, the choice “Undecided” is frequently given for “I am not interested in activities that will expand my horizons.”

Drafting students have an exceptionally high degree of psychological well-being since the majority of students agree with statements on assessing one’s psychological well-being. This is corroborated by a study [12] which showed that students valued healthy coping strategies that reflected the self-care practices found in this research, such as time management, self-compassion, emotional release, and spiritual practices, despite the difficulties posed by the pandemic and online learning. This presents that, in spite of the difficulties caused by the pandemic and, in particular, the adjustment to a new standard of education, they are functioning and in good health. The psychological discomfort that the students experienced, such as loneliness and worry, was manageable. Consequently, there will be general contentment and happiness.

Table 6. Academic Performance of Drafting Students

Academic Performance	F	%	Wm	Interpretation
Range				
1.25 - 1.00	9	3.10	1.17	Excellent
1.75 - 1.24	204	69.90	1.42	Very Good
2.25 - 1.74	66	22.60	1.98	Good
2.75 - 2.24	12	4.10	2.52	Fair
5.00 - 2.74	1	0.30	1.00	Poor
Total	292	100	1.62	Very Good

Table 6 displays the distribution of the general weighted average (GWA), which is a measure of students’ academic achievement. A GWA range of 1.24-1.75 for about 204 students indicates that they perform exceptionally well academically. The GWA range of 2.25–1.75, which had 66 students, came next. Just 12 pupils received a fair grade, while the remaining students had exceptional (9) and low (first) academic performance. Online learning and the impact of modular learning technique bolster the study’s findings [13], [14]. They said that there was a favorable correlation between students’ academic achievement and these two learning modes, both of which are elements of flexible learning. There are several factors that affects to the students achievement but their willingness to participate and learn is the most important key [15].The students fared better than while utilizing the typical classroom setup because these two modalities show flexibility, accessibility, learning autonomy, outstanding learning engagement, and motivation-boosting qualities.

However, after switching to new normal learning, it was discovered that the majority of the students performed poorly academically, which led to a high percentage of dropouts and withdrawals [16], [17]. This shows that flexible learning improved students’ academic achievement by demonstrating that they did well in their online courses.

Table 7. Effect of Demographic Profile to Psychological Well-Being of Drafting Students

Indicator	Psychological Well-Being		
	Chi-Square Statistic	<i>p</i> value	Analysis
Demographic Profile age	6.304	<i>p</i> = 0.178	Not Significant
socio-economic status	2.364	<i>p</i> = 0.883	Not Significant
gadget profile	7.411	<i>p</i> = 0.164	Not Significant
type of internet connection	1.903	<i>p</i> = 0.920	Not Significant

The calculated chi-square value for every variable is shown in Table 7. There is no significant correlation between psychological well-being and demographic profile, as indicated by the *p*-value of larger than 0.05. It follows that the students' psychological health is independent of their age, socioeconomic standing, device preferences, and internet provider. It runs counter to empirical findings, which suggests that the digital divide and the socioeconomic difference are correlated and might negatively impact students' emotional and academic achievements, particularly during pandemics [18], [19].

Furthermore, the hypothesis was approved because the psychology computed *p*-values are both higher than 0.05. According to the study's findings, the psychological well-being of drafting students in a learning institution is not significantly impacted by factors such as age, socioeconomic status, gadget profile, and internet connection during the implementation of flexible learning. It also indicated that some students' psychological wellness was rather excellent due to access to teachers and friends during their at-home studying, and appropriate facilities for them to learn [20]. This demonstrates that students' general contentment and pleasure are independent of their standing and approach to studying.

Table 8. Significant Effect of Demographic Profile to Academic Performance of Drafting Students

Indicator	Academic Performance		
	Chi-Square Statistic	<i>p</i> value	Analysis
Demographic Profile age	30.835	<i>p</i> = 0.000	Significant
socio-economic status	4.112	<i>p</i> = 0.662	Not Significant
gadget profile	6.871	<i>p</i> = 0.161	Not Significant
type of internet connection	15.200	<i>p</i> = 0.014	Significant

The calculated chi-square value for every variable is shown in Table 8. Since there is no significant correlation between socioeconomic position and gadget profile and academic achievement, the *p*-value for both variables are larger than 0.05. The results suggest that socioeconomic position and gadget profile have little effect on academic achievement. For instance, drafting students do well academically despite coming from low-income homes, and some of them do not have access to a laptop, desktop computer, or tablet. However, it was evident that there was a substantial impact on academic achievement because the *p*-value for age and internet connection type was less than 0.05. This indicates that academic success was positively correlated with age and internet connection type. Among the most important variables affecting academic achievement are the characteristics of the students, such as gender, age, status, and ethnicity [21]. Additionally, as students require an internet connection to access and download learning reference materials, the type of connection has an impact on academic achievement. [22] found that while having a strong internet connection is one of the difficulties faced by students pursuing flexible learning, they also found that students fared better in this new normal of learning when compared to in-person instruction.

The findings indicate that respondents' ages have an effect on students' academic achievement, which suggests that younger people, or Generation Z, as most of them are in the 18–23 age range, have stronger coping mechanisms when it comes to flexible learning. They rely on their internet connection, which they utilized to help with their distance education. They may interact with their professors and peers, study at their own speed, access material, and participate in virtual classrooms with the support of a robust internet connection. Additionally, kids who learn independently become more adept at taking charge of and owning their education. It improves their independence, socializing, time management, priorities, and diligent study habits. As a result, these elements enabled the students to successfully complete and manage their academic responsibilities and attain excellent academic standing.

Nonetheless, the findings also demonstrated that students' devices and socioeconomic background had little impact on their academic achievement. The study provides evidence for this, as it found no correlation between respondents' family income and their children's academic performance [23]. The findings suggest that success may occur in poverty. Despite coming from low-income homes and having restricted access to the many devices utilized in flexible learning, the children were nevertheless able to achieve excellent scores.

The proposed training program for teachers to innovate their teaching strategies aims to understand how character formation plays a key role in student learning and development; equip students with interactive and enjoyable strategies and activities to help develop the full potential of the students, orient everyone on innovations and best practices in teaching and meet the 21st century students' needs, competencies and learning outcomes, and maximize the utilization of the learning tools such as cellular phones as an effective tool in teaching.

Consequently, to achieve these objectives three focus the training which are *cellular phones as important tool for teaching-learning process; mindfulness training: promoting good psychological well-being, and revitalize powerful teaching-learning strategies*. This will talk about the advantages of flexibility and expedite the potential of cellular phones as an effective tool for teaching and learning (e.g. giving examples of applications which did not require large phone storage and not consume too much mobile data). This training program will also develop understanding about the psychological well-being of the students in order to have a good conducive learning environment for everyone. This includes determining and dealing with students' anxiety, stress and depression. Additionally, this also to develop strategy that helps the students to improve ways in exploring and sustaining the good learning strategies to achieve academic success. This will also tackle about activities to help student promote good study habits, time management skills, socialization, and independence. Furthermore, in conducting these trainings, there are things to consider which are the people involve including participants, speakers, and committee. Conversely, the available budget for the training as well as the evaluation mechanisms for the improvement of the training. This also demonstrate whether the objectives are being achieved.

This research delivers useful information concerning the characteristics as well as psychological state and academic success of drafting students enrolled in flexible learning programs. The student participants comprised mostly young individuals ranging from 18 to 23 years old with economic challenges. Most students from underprivileged backgrounds possessed mobile devices like cell phones and laptops which they used for learning through mobile data and Wi-Fi connections. Multiple research reports establish that schools increasingly depend on technology for educational purposes whereas resource-limited settings prove particularly favorable to this trend [24], [25]. Additionally, the study's most important outcome was students' high psychological well-being as they faced flexible learning challenges. The research findings differ from studies indicating that online and hybrid learning models create anxious students who lose motivation [26], [27]. Schoolchildren building drafts showed resilience when they successfully handled academic work in the face of outside issues. Their previous experience with digital learning methods probably enabled their adaptation in online educational environments as research highlights this importance [28].

The research established that flexible learning approaches led to better academic results which students demonstrated through their General Weighted Average (GWA). According to research findings students who master their learning speed reach higher academic results [29]. This statement does not apply across every student because multiple elements such as learning style differences and disciplinary levels together with available resources remain important factors. Moreover, all three demographic variables including age together with socio-economic status and gadget ownership failed to demonstrate meaningful effects on psychological well-being and academic performance. The research supports academic success models because students benefit more from their digital resource skills than from resource availability [30]. The research showed that student age along with their internet connection stability directly influenced academic achievement levels whereas demographic variables remained neutral.

Further, the proposed midyear university-based training program on teachers' innovative teaching strategies carries significant implications for enhancing instructional practices, integrating technology, and fostering student well-being. The program promotes student engagement, critical thinking, and adaptability by equipping teachers with innovative strategies that align with 21st-century learning demands. The integration of cellular phones as educational tools highlights a progressive approach to technology-enhanced learning, ensuring accessibility through mobile applications that require minimal storage and data. However, institutions may establish guidelines to maximize their potential while preventing misuse. Additionally, the program's emphasis on mindfulness training acknowledges the crucial role of psychological well-being in academic success, providing teachers with strategies to address student anxiety, stress, and depression. Developing sustainable learning strategies that enhance study habits, time management, socialization, and independence is also essential in fostering self-directed learning. To ensure success, institutional support in terms of funding, expert facilitators, and participant engagement must be prioritized, along with a robust evaluation mechanism to assess the program's impact and refine future training initiatives. Ultimately, this program has the potential to transform teaching and learning practices, but its long-term effectiveness relies on continuous assessment, adaptation, and institutional commitment.

#### 4. CONCLUSION



The demographic profile of drafting students highlights significant understandings into their age distribution, socio-economic background, access to technology, internet connectivity, and psychological well-being. The majority of students fall within the 18–23 age range. Socio-economically, most students come from low-income families, which may impact their access to educational resources. Gadget ownership is heavily skewed toward mobile phones, with limited access to laptops, desktops, and tablets, demonstrating potential challenges in engaging with digital learning platforms. Internet connectivity is primarily reliant on mobile data and service providers emphasizing the need for stable and affordable internet access for effective learning. In terms of psychological well-being, students generally exhibit confidence, positive self-perception, and a sense of direction, although concerns about social connections and external influences persist. These findings reiterate that while students demonstrate adaptability and resilience, institutional support in terms of financial assistance, digital resources, and psychological support mechanisms remains crucial to fostering an inclusive and effective learning environment.

Given that most students own cellular phones and rely on mobile data, the university may conduct a seminar on maximizing mobile devices for flexible and effective teaching and learning. This initiative will help students and teachers harness mobile technology for academic success. Additionally, the university can implement the proposed Midyear University-Based Training Program on Teachers' Innovative Teaching Strategies, an intensive program designed to enhance instructional quality. This training will introduce new pedagogical approaches, foster student engagement, and strengthen competencies to improve classroom performance. To assess its effectiveness, a pre- and post-training evaluation using a researcher-structured questionnaire should be conducted, measuring student progress and instructional impact. Furthermore, future research may consider additional factors, such as the learning environment and the teacher-student interaction process, to better understand their influence on students' psychological well-being and academic performance.

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#### REFERENCES

- [1] J. M. Aquino, C. Rivera, and M. A. Sancon, "A phenomenological study on the challenges experienced in the flexible learning in one higher learning institution in the Philippines," *J. Educ. Innov.*, vol. 26, no. 1, pp. 36–52, 2024, [https://so06.tci-thaijo.org/index.php/edujournal\\_nu/article/view/266471](https://so06.tci-thaijo.org/index.php/edujournal_nu/article/view/266471).
- [2] K. T. Lagat, "Education amidst COVID-19 disruption: Perceived difficulty in implementing flexible learning strategies of teacher education faculty members in a state university," *Philipp. Soc. Sci. J.*, vol. 3, no. 3, pp. 142-150, 2020, doi: 10.52006/main.v3i3.264.
- [3] A. Perez, "Comparison of hub and home mode learning: An action research from Philippines," *Int. J. Entrep. Bus. Creative Econ.*, vol. 1, no. 2, pp. 54-64, 2021, doi: 10.31098/ijebee.v1i2.579.
- [4] M. Abisado, M. Unico, D. Umoso, F. Manuel, and S. Barroso, "A flexible learning framework implementing asynchronous course delivery for Philippine local colleges and universities," 2020,
- [5] M. Bumanglang et al., "The Preparedness of the Data Center College of the Philippines to the Flexible Learning Amidst Covid-19 Pandemic," 2021.
- [6] J. M. Aquino, "Students' evaluation in the developed video-based learning materials for physical education in Higher Education Institutions (HEIs)," *Edu Sportivo: Indones. J. Phys. Educ.*, vol. 3, no. 2, pp. 111-124, 2022, doi: 10.25299/es:ijope.2022.vol3(2).9428.
- [7] Z. Almahasees, K. Mohsen, and M. O. Amin, "Faculty's and students' perceptions of online learning during COVID-19," *\*Front. Educ.\**, vol. 6, p. 638470, May 2021, doi: 10.3389/feduc.2021.638470.
- [8] R. Panigrahi, P. R. Srivastava, and D. Sharma, "Online learning: Adoption, continuance, and learning outcome—A review of literature," *Int. J. Inf. Manag.*, vol. 43, pp. 1-14, 2018, doi: 10.1016/j.ijinfomgt.2018.05.005.
- [9] M. Lörz, N. Netz, and H. Quast, "Why do students from underprivileged families less often intend to study abroad?," *High. Educ.*, vol. 72, pp. 153-174, 2016, doi: 10.1007/s10734-015-9943-1.
- [10] S. Simões, T. Oliveira, and C. Nunes, "Influence of computers in students' academic achievement," *Heliyon*, vol. 8, no. 3, 2022, doi: 10.1016/j.heliyon.2022.e09004.
- [11] F. Ferri, P. Grifoni, and T. Guzzo, "Online learning and emergency remote teaching: Opportunities and challenges in emergency situations," *Societies*, vol. 10, no. 4, p. 86, 2020, doi: 10.3390/soc10040086.
- [12] A. C. Atanes, *Study Burnout, Academic Engagement, Mindfulness And Self-Compassion In Health And Social Care Students: A Cross-Sectional Study Design*, Bangor Univ., U.K., 2020.
- [13] A. O. Asare, R. Yap, N. Truong, and E. O. Sarpong, "The pandemic semesters: Examining public opinion regarding online learning amidst COVID-19," *J. Comput. Assist. Learn.*, vol. 37, no. 6, pp. 1591-1605, 2021, doi: 10.1111/jcal.12574.

- [14] A. T. Capinding, "Impact of modular distance learning on high school students mathematics motivation, interest/attitude, anxiety and achievement during the COVID-19 Pandemic," *Eur. J. Educ. Res.*, vol. 11, no. 2, pp. 917-934, 2022, doi: 10.12973/eu-jer.11.2.917.
- [15] J. M. Aquino and M. G. Reyes, "The relationship of sports participation in academic performance among college of arts and sciences varsity players," *Phys. Educ. Sports: Stud. Res.*, vol. 1, no. 2, pp. 107-122, 2022, doi: 10.56003/pessr.v1i2.129.
- [16] S. R. Cellini, "How does virtual learning impact students in higher education?," *COI*, 2021, doi: 20.500.12592/g8z0d0.
- [17] I. W. Li and D. R. Carroll, "Factors influencing dropout and academic performance: an Australian higher education equity perspective," *J. High. Educ. Policy Manag.*, vol. 42, no. 1, pp. 14-30, 2020, doi: 10.1080/1360080X.2019.1649993.
- [18] L. Zhao, C. Cao, Y. Li, and Y. Li, "Determinants of the digital outcome divide in E-learning between rural and urban students," *Comput. Hum. Behav.*, vol. 130, 2022, doi: 10.1016/j.chb.2021.107177.
- [19] D. V. Francis and C. E. Weller, "Economic inequality, the digital divide, and remote learning during COVID-19," *Rev. Black Polit. Econ.*, vol. 49, no. 1, pp. 41-60, 2022, doi: 10.1177/00346446211017797.
- [20] M. Wilczewski, O. Gorbaniuk, and P. Giuri, "The psychological and academic effects of studying from the home and host country during the COVID-19 pandemic," *Front. Psychol.*, vol. 12, 2021, doi: 10.3389/fpsyg.2021.644096.
- [21] N. M. Alhajraf and A. M. Alasfour, "The impact of demographic and academic characteristics on academic performance," *Int. Bus. Res.*, vol. 7, no. 4, p. 92, 2014, doi: 10.5539/ibr.v7n2p92.
- [22] J. E. Delgado and J. Arellano, "A phenomenological study of the lived experiences of graduate students adapting flexible learning modality due to COVID-19 Pandemic," *Asian J. Educ. Soc. Stud.*, vol. 15, no. 4, pp. 7-16, Mar. 2021, doi: 10.9734/ajess/2021/v15i430385.
- [23] S. Boateng et al., "Relationship between students' home background and their academic performance," *J. Educ.*, vol. 201, no. 3, pp. 153-161, 2021, doi: 10.1177/0022057420904370.
- [24] C. Cavanaugh, D. Maor, and A. McCarthy, "The role of technology in distance education during the COVID-19 pandemic: Implications for higher education," *Educational Technology Research and Development*, vol. 68, no. 5, pp. 1015-1031, 2020, doi: 10.1007/s11423-020-09879-8.
- [25] W. Bao, "COVID-19 and online teaching in higher education: A case study of peking university," *Human Behavior and Emerging Technologies*, vol. 3, no. 1, pp. 113-115, 2021, doi: 10.1002/hbe2.191.
- [26] A. Aristovnik, D. Keržič, D. Ravšelj, N. Tomaževič, and L. Umek, "Impacts of the COVID-19 pandemic on life of higher education students: A global perspective," *Sustainability*, vol. 12, no. 20, p. 8438, 2020, doi: 10.3390/su12208438.
- [27] K. Talsma, K. Robertson, C. Thomas, and M. Norris, "COVID-19, stress, and academic performance: A mixed-methods study of students in higher education," *PLOS ONE*, vol. 16, no. 8, p. e0254901, 2021, doi: 10.1371/journal.pone.0254901.
- [28] B. Means, M. Bakia, and R. Murphy, *Learning Online: What Research Tells Us About Whether, When And How*. Routledge, 2021.
- [29] J. Broadbent and W. L. Poon, "Self-regulated learning strategies & academic achievement in online higher education learning environments: A systematic review," *The Internet and Higher Education*, vol. 27, pp. 1-13, 2015, doi: 10.1016/j.iheduc.2015.04.007.
- [30] J. C. Y. Sun and R. Rueda, "Situational interest, computer self-efficacy, and self-regulation: Their impact on student engagement in distance education," *Learning and Individual Differences*, vol. 22, no. 2, pp. 173-179, 2012, doi: 10.1016/j.lindif.2011.11.017.