

**EXAMINING COLLEGE STUDENTS' FLEXIBILITY IN
HANDLING HYFLEX LEARNING: MOTIVATION,
BEHAVIOR, STRESS, TIME MANAGEMENT,
AND COPING MECHANISM**



PSYCHOLOGY AND EDUCATION: A MULTIDISCIPLINARY JOURNAL

Volume: 17

Issue 9

Pages: 974-986

Document ID: 2024PEMJ1623

DOI: 10.5281/zenodo.10818481

Manuscript Accepted: 02-15-2024

Examining College Students' Flexibility in Handling Hyflex Learning: Motivation, Behavior, Stress, Time Management, and Coping Mechanism

Angel Lhi D. Alcalde, * Kent Mahathir T. Kamal, Ted Anthony L. Singco,

Yman Bynch C. Tuya, James N. Cantor

For affiliations and correspondence, see the last page.

Abstract

The pandemic pressed frantically every institution to adopt online learning to cover the possible learning losses brought by the phenomenon. With the novelty of the different learning modalities implemented by each school, this study explored the flexibility of college students in handling the HyFlex learning modality in terms of their motivation, behavior, stress, time management, and coping mechanisms. It was conducted in Midsayap, North Cotabato, Philippines, involving 25 college students who experienced the HyFlex learning modality. A researcher-made questionnaire was used to gather the demographic profile of the respondents and their motivation, behavior, stress, time management, and coping mechanisms in handling the HyFlex learning modality. Results showed that Most of the students who experienced the HyFlex learning modality were from Midsayap and College of Education BSED-Science 1st year and 2nd-year students with a monthly income of 5,000 to 10,000 Philippine pesos. Moreover, according to the department, no significant difference was found in handling HyFlex learning. Lastly, there is a significant difference in handling HyFlex learning according to locality and economic income.

Keywords: *HyFlex learning, difference in handling HyFlex learning according to department, locality, economic income*

Introduction

The system of higher education was disturbed by the pandemic of 2019. But it also gave educational institutions the chance to reconsider their methods of instruction and implement new, adaptable ones. Among these is HyFlex learning, which thrived due to the obstacles the pandemic presented. A HyFlex course provides online synchronous, online asynchronous, and in-person education modes all at once. Pupils are welcome to attend whichever session that best suits their needs at the time. Despite being around since 2006, not much study has been done on how the HyFlex modality affects learning and learner satisfaction, particularly for non-traditional students (Bouchra, 2021).

A hybrid-flexible course, also known as a HyFlex course, combines synchronous online video sessions, asynchronous content delivery, and in-class instruction into a student-centered class delivery approach. Nevertheless, students have three options for attending: they can watch a videotape of the class, join by video conference, or come in person. For students, this strategy offers the greatest flexibility. It can be difficult from the instructor's point of view since there are several audiences to consider and prepare for (University of Buffalo, 2022). Universities and colleges, such as Lehman College in New York City, are updating their spaces to accommodate students' demands for flexibility through courses that offer both online and in-person options, as they become more at ease with the growth of online learning options (Moorhouse, 2020; Van Nuland et al., 2020).

Hybrid Flexible (or "HyFlex") courses were introduced by Malayan Colleges Mindanao, A Mapua School, giving students the option of attending synchronous or asynchronously in-person or online. In order to establish hybrid learning environments, Malayan Colleges Mindanao has installed video cameras and dispersed microphones around its classrooms (HyFlex Classrooms). Students that are in-person or remotely can participate in synchronous learning sessions by using video conference software like Zoom, MS Teams, and Engageli (Malayan Colleges Mindanao, 2022).

The HyFlex learning modality has been introduced to college students at Notre Dame of Midsayap College as a new learning modality for about a month. Hybrid learning and flexible learning are combined to create hyFlex learning. All pupils' and teachers' educations were disturbed by the pandemic. One of the new learning modalities that assisted students in completing their studies was the HyFlex modality.

Research Questions

This study focused on the flexibility of college students in handling HyFlex learning. Specifically, it sought to answer the following questions:

1. What is the respondents' demographic profile of the respondents in terms of:
 - 1.1 department;
 - 1.2 location; and
 - 1.3 economic income?
2. What are the impacts of motivation, behavior, stress, time management, and coping mechanism on HyFlex learning modality?

3. Is there a significant difference in the flexibility of college students in the HyFlex learning modality when group according to profile?

Literature Review

The goal of implementing pedagogy and technology in education is to provide students with 21st-century capabilities and help institutions best adapt to the modern environment. Academic institutions are also striving to make learning experiences accessible to students wherever they may be in the world. Different online, hybrid, and blended learning instructional methods have been used to provide this access to education (Irvine, 2020). HyFlex training is one kind of online distance learning format that universities are beginning to investigate and use, as was previously indicated. In order to accommodate both in-person and online learners concurrently, Wang et al. (2017) also investigated the progressive introduction of a mixed synchronous learning environment. Following each of the four iterations of blended synchronous learning implementation, the researchers polled graduate students. According to surveys, graduate students were pleased with the blended synchronous learning environment; however, a number of design principles needed to be taken into account. These included making activities more inclusive of remote learners, implementing a partnership strategy to improve communication and attention between the instructor and all students, providing pre-training on the learning environment to minimize technical issues, and providing clear video communication (Wang et al., 2017). With an emphasis on academic success rates, Bourdeau et al. (2018) evaluated in-person, online, and HyFlex learning and found that in-person learning had fewer failures than online learning, which had less failures than HyFlex learning.

The researcher also observed that different teachers were present throughout different class periods. For instance, the unusual problem of communicating with online students via a screen caused misunderstanding during conversations. The findings showed that when students had to rely more on auditory and visual signals to interact with their virtual classmates, social presence flourished. Lastly, to determine the technological design of a hybrid synchronous environment for a graduate-level course intended as here or there (HoT), Angelone et al. (2020) adopted a case study approach. The objective was to investigate how the learner experience was impacted by the technology architecture of blended synchronous learning environments. According to the study, which used an iterative and contextual approach, incorporating just the technology required to enhance teaching and establish co-presence between and among learners was critical to creating more seamless experiences. Angelone et al. (2020) also determined that co-presence can be enhanced using visual and physical connections and inclusive language.

HyFlex Learning Modality

Helario (2023) claims that a variety of circumstances have recently caused a shift in the direction of education in the Philippines. Despite certain difficulties, the shift allowed institutions to reconsider how they teach, opening the door for new innovations and technologies. In light of these circumstances, there was a significant paradigm shift in the Philippine educational system that brought new modalities and the integration of technology into the classroom. Schools that offered both synchronous and asynchronous classes started using online learning. Although they both use the internet, the former makes use of video calls and chat (like a virtual classroom). The latter, on the other hand, involves learning independently and at your own pace by responding to modules and assignments through forums, LMSs, or emails. It is anticipated that these new modes will stick around and be incorporated into conventional in-person classes now that the schools have reopened. This is now referred to as HyFlex, or Hybrid-Flexible, a novel learning style that blends online and face-to-face (F2F) instruction. Every class session is accessible online for students who are unable to attend a synchronous session on a particular day, in person, and synchronously via a video conferencing technology. A few academic institutions have already trained teachers in this type of instruction and implemented the necessary facilities and technology. Additionally, it gives students more opportunities to participate in and attend classes.

Relevance of HyFlex on Today's Education

This model's primary advantage is that it offers students more options for where to attend classes. However, it makes use of cutting-edge technologies to provide interactive learning for students inside the confines of a classroom. Teachers can also use HyFlex to incorporate asynchronous learning by giving students who are unable to attend in-person or online classes access to the lecture recording at any time.

This concept is a fantastic advancement for the education industry since it makes it easier for teachers to fulfill the demands of a variety of students. In addition, HyFlex gives students the opportunity to become digitally savvy so they can keep improving their digital abilities prior to graduating and starting their careers.

Implementing HyFlex Learning in Classrooms

HyFlex learning requires complete backing from both the administration and the students in order to be implemented. Teachers and students need to develop various resources to assist this model of learning once they are able to apply it to their learning. Because HyFlex blends synchronous and asynchronous online encounters to accomplish certain learning goals, institutions need tools to enable it. Because learners must participate in both online and in-person activities, this model requires tools like projectors, TV displays, laptops, and open-line communication platforms. One of the most important tools for educators is a reliable internet connection in the classroom. In addition, they must provide a dependable video conferencing software that allows students to participate virtually. An

interactive lecture, in which lecturers use captivating presentations for students both within and outside the classroom, is essential to successful HyFlex learning.

It would be beneficial for students attending in-person classes to have access to their devices during class. To access the lecture notes with their hands, it can be a laptop, tablet, or phone. To level things up, the teacher can develop a virtual test that students can take jointly at home and in person to increase student enjoyment while studying. However, remote learners should also have a gadget that they can utilize in class ready. The students must be ready to participate in a breakout room, which is typically requested by the teacher.

The Role of a Reliable and Innovative LMS in Enabling HyFlex Learning

In order for educators and learners to successfully implement this approach, they want an inventive and dependable Learning Management System (LMS) platform that is user-friendly, accessible, and able to accommodate all learning styles. There is nowhere for the two modalities—online and face-to-face—to "meet" and communicate without an LMS. The good news is that Schoology offers an intuitive platform with a wealth of capabilities that facilitate HyFlex learning, ease the burden on instructors and students, and strengthen the foundation for education going forward. Teachers and students can use this platform to provide virtual assignments and require students to attend virtual classes. Assignments and resources can be created, managed, and shared by users of Schoology, an educational learning management system. The cloud-based platform offers tools to manage classrooms or blended learning. It is sometimes referred to as a virtual learning environment or web content management system. Learner choice, equivalency, reusability, and accessibility are some of these tools. When a course offers relevant various modes of participation, learners are given the freedom to select the one that best suits their needs. Equivalency describes how different modes, while not identical, yield learning outcomes. Reusability, on the other hand, refers to the artifacts from learning activities in each mode that are captured and can be reused in other modes. All students are encouraged to reflect, contribute emerging ideas, and communicate with their peers during the learning process. The final aspect of accessibility is when students have the technological know-how and resources to equally access all participation modes. Representations of in-class activities, such as recordings and discussion notes, are made available online for all students, and activities created by online students, such as asynchronous discussions and posted files, connect to and support all students.

Motivation and Learning Online

Motivation can affect what we learn, how we choose to learn it, and when we choose to learn it, according to Schunk, Pintrich, and Meece's (2008) definition of motivation as "the process whereby goal-directed activity is instigated and sustained." Studies reveal that motivated students are more likely to take on difficult tasks, participate fully, love and embrace a deep learning approach, and demonstrate improved performance, perseverance, and originality. Modern theories emphasize the contextual, interactive interaction between the learner and the learning environment and link motivation to people's cognitive and affective processes, such as thoughts, beliefs, and goals (Brophy, 2010).

The quantity and breadth of studies examining the motivation to learn in online environments are very small (Artino, 2008; Bekele, 2010). Research that has already been done has a tendency to have a narrow perspective on motivation, which ignores the complexity and dynamic interaction of variables that affect learning motivation. Rather, there has been focus on creating inspiring learning environments (ChanLin, 2009; Keller, 2008). It is common to see motivation as an innate quality that is mostly unaffected by circumstances and surroundings. Research that have embraced this paradigm have concentrated on compiling lists of attributes of effective online learners, and the results show that intrinsic motivation is a prevalent feature. Results from research comparing online and on-campus students also point to the fact that online students, both undergraduate and graduate, exhibit higher levels of intrinsic motivation overall than their on-campus counterparts. Although research that approaches intrinsic and extrinsic motivation as a dichotomy may give an unduly simplified perspective of both contextual effects and motivation itself, intrinsic drive may influence initial engagement and retention in online study.

Behavior

Mostly, they do not like distance learning because of the inability to communicate face-to-face with other students and my professor. However, one thing that is good about distance learning is that most of my classes are asynchronous, meaning they can get online whenever they make plans during the day and do my classwork when they get home later. Also, with distance learning, we can never get authentic hands-on experiences that can only be achieved by in-person learning, such as some lab courses requiring specialized equipment and programs only the institution can provide (Correa, 2021).

Stress

The HyFlex model is distinctively different from the traditional HyFlex model because it was forced on students under stressful, pandemic-related circumstances and lacked sufficient pedagogical infrastructure. Implementing the COVID-19 HyFlex model might have brought unprecedented challenges for students and faculty. Furthermore, students' attendance choices influence their outcomes. Therefore, any difference in learning outcomes between F2F, hybrid, and remote modes is potentially biased due to the student's characteristics. Based on deterrence and neutralization theories, they investigate how the HyFlex COVID-19 learning environment will likely amplify any personality effect on academic dishonesty. This is vital for the validity and success of HyFlex programs.

Time Management

The value of hybrid learning formats, in general, has been shown consistently over the past decade or more of educational research in higher education. A recent meta-analysis of 45 studies comparing online learning to face-to-face learning environments found that “on average, students in online learning conditions performed modestly better than those receiving face-to-face instruction (Means et al., 2010). The difference between student outcomes for online and face-to-face classes—measured as the difference between treatment and control means, divided by the pooled standard deviation—was larger in those studies contrasting conditions that blended elements of online and face-to-face instruction with conditions taught entirely face-to-face.”

In a HyFlex class, the instructor is challenged to design practical learning experiences for students online and in-class modes throughout the study. This may remove some instructor design flexibility to require all students to participate fully online or in-class for a particular session, but well-designed instruction can almost always be created for both modes of instruction with additional effort; mostly time, but sometimes additional resources such as interactive or archiving technology solutions are needed. The additional resources provided for online students and the additional time available when the asynchronous online mode is available, may directly improve learning for students who take advantage of either or both.

Coping Mechanism

The COVID-19 pandemic is regarded as one of the most remarkable disruptions and life-altering events that brought the globe to a complete stop in 2020. The epidemic had a profound impact on how universities around the world operated. A sudden shutdown in India led to a shift in education from traditional classroom settings to virtual ones, which had an impact on university students' quality of life, academic stress, anxiety, and helplessness. A total of 212 library and information science students from different Haryanan universities signed up for the study. The cross-sectional study looks at the sociodemographic information of the students, their perspectives on academic stress, and how they coped with the COVID-19 pandemic. 193 (91.04%) of the data were examined using both quantitative and qualitative techniques.

However, the study's scant results offered significant information about the COVID-19 pandemic-related academic stress and online learning experiences of the students. To retain a high quality of life while managing the stress of academics, students used a variety of coping mechanisms. Students at universities are also content with the government's decision to reduce the possibility of a COVID-19 epidemic. In order to help reducing academic stress during a global pandemic, the study also recommended strategies for online learning structure, student well-being, online stress management programs, and training in efficient coping mechanisms (Lincoln, 2022).

Flexible learning is a condition in which the constraints of place, time, and study speed are gradually lifted from teaching and learning. But this kind of adaptability persists. When it comes to learning, flexibility may be defined for students as having options for entry and departure points, learning activities, assessment tasks, and educational materials in exchange for various fees and credits. Additionally, it may entail decisions on how much time to devote to teaching as well as the way and means of communicating with students and the school. Therefore, flexible learning is not a method of study in and of itself. In a broader sense, it is a value principle in society and education, much like equality or diversity.

Flexible learning is a condition in which the constraints of place, time, and study speed are gradually lifted from teaching and learning. But this kind of adaptability persists. When it comes to learning, flexibility may be defined for students as having options for entry and departure points, learning activities, assessment tasks, and educational materials in exchange for various fees and credits. Additionally, it may entail decisions on how much time to devote to teaching as well as the way and means of communicating with students and the school. Therefore, flexible learning is not a method of study in and of itself. More broadly, it is a value principle, like diversity or equality, in education and society. Moreover, these principles are about open and equitable access to learning opportunities, flexible approaches to learning and teaching, and adopting open scholarship in education practices (Naidu, 2016).

Related Studies

As cultures work to restrict in-person interactions and the propagation of the virus, the COVID-19 pandemic has had a significant impact on teaching and learning methods in higher education. Due to this circumstance, online and blended learning are now being used worldwide. In order to continue education, these modes have included using more well-established online practices, like learning management systems, while also encouraging the use of more recent ones, like synchronous lessons delivered through video conferencing software (VCS) (Moorhouse, 2020; Van Nuland et al., 2020). Almost all students now interact with the course material, their peers, and their lecturers differently as a result of the change to online learning environments. Face-to-face instruction, the study's context in Hong Kong, was initially postponed in January 2020 and then suspended again for the duration of the spring semester in February 2020. HE institutions opted to allow limited face-to-face lessons to resume when the government allowed schools to reopen in May 2020 after mitigation efforts had steadily suppressed the virus in Hong Kong. However, it was imperative that students have an online learning option in case they are unable to attend in-person lectures because of enforced quarantines, are abroad, or are afraid of the virus. The administration of the university under investigation decided to test a HyFlex mode for courses given in the 2020 summer semester as a solution to this problem. This mode would provide students the choice to enroll in courses online, in person, or by combining the two. Teachers would provide students the option to join synchronous online courses at the same time as in-person ones via VCS. Students have more control over how they learn and participate with the course with the HyFlex mode instructional

approach. Students can select between in-person and online education in real time from a distance with HyFlex (Beatty, 2010). Additionally, HyFlex is thought to help HE professors because it eliminates the requirement for them to teach each course twice—online and in person. HyFlex has only recently become possible thanks to global advances in connectivity and VCS.

Research has examined how HE students view self-regulation and motivation in addition to synchronous and asynchronous learning (Cho & Shen, 2013; Dumford & Miller, 2018; Lee, 2017; Zheng et al., 2016). But as HyFlex is a relatively new and seldom used mode, not much study has looked at how students view it in comparison to traditional face-to-face or online learning environments.

An analysis of pertinent research on the use of technology in higher education teaching and learning, with an emphasis on blended and online learning environments. Subsequently, the technique for case studies is presented, encompassing particulars on the research setting, subjects, methods of interviewing, and evaluation. The five themes found in the data analysis are then presented and addressed, including the difficulties with communication, flexibility and getting back to normal, actively participating in the learning process, using video conferencing software, and wanting to use the HyFlex learning modality in the future.

Literature Synthesis

Compared academic success rates for in-person, online, and HyFlex learning; the results showed that in-person learning had lower failure rates than online learning, which was lower than HyFlex learning. The researcher also observed that different teachers were present throughout different class periods. For instance, the unusual problem of communicating with online students via a screen caused misunderstandings during conversations. The findings showed that when students had to rely more on auditory and visual signals to interact with their virtual classmates, social presence flourished.

Hybrid learning mixes complement in-person (synchronous) and online (asynchronous) learning experiences to support desired learning objectives. The word HyFlex combines the phrases "hybrid" and "flexible." There are many demands on online learning and the instructors who deliver it to continuously adjust to changing user needs and anticipate fresh ideas and methods. Online educators are becoming more like "meddlers in the middle," enabling technology-driven, interactive learning experiences, rather than "sages on a stage," trying to mimic regular, in-person lectures. As the ideal "meddlers," librarians collaborate with teachers to deliver relevant information literacy instruction in a distributed learning setting.

Methodology

Research Design

The descriptive research design was employed in this study. Because it represents college students' flexibility in the HyFlex learning modality, it is descriptive. It is descriptive research design because we wanted to gather information regarding the HyFlex learning modality if what was the effect and will be the impact of this new learning modality in our school. We wanted also to see if it's really a good option to continue the learning and studies of the students. This design aims and helps us to answer our questions on how the HyFlex learning modality was helpful and is good. This is also quantitative because data will be gathered via a Google form survey or questionnaire. In this quantitative study, a survey research design was used. Survey research was described as "the collection of information from a sample of individuals through their responses to questions" by Check and Schutt, as referenced in Ponto (2015). After obtaining approval from the school administrator to carry out the study, the researchers used Google Forms to send online survey questions to study participants. The form that was created after the Data Privacy Act incorporated informed consent. Because quantitative research design is the methodology used to evaluate theories about people's attitudes and actions based on numerical and statistical evidence, the researchers employed it in the collection and analysis of the numerical data.

Participants

This study was conducted at Notre Dame of Midsayap College, Midsayap, Cotabato. This school was founded in 1941 and is the first Notre Dame in Asia. This institution is located at Poblacion 5, Quezon Avenue, Midsayap, Cotabato. We choose the respondents by seeking information if who were those students who experienced the HyFlex learning. We choose them by asking the administrators if who were those students who were being exposed to the HyFlex Modality. The researchers chose 19 respondents from Bachelor of Secondary Education Major in Science, specifically first-year and second-year students, and 6 from College of Criminal Justice Education students in HyFlex modality in the Academic Year 2022-2023.

Instruments

The survey consists of two sections. The department, locality, and economic income of the respondents make up their demographic profile, which comes first. HyFlex learning, which is the second component, also assesses behavior, motivation, stress, time management, and coping skills. A particular kind of psychometric response scale where respondents indicate how much they agree or disagree with a statement using a Likert-type scale, usually in five points: (1) Strongly disagree (you completely disagree with the statement), (2) Disagree (you partially disagree with the statement), (3) Neither agree nor disagree (you are unsure about the statement), (4) Agree (you partially agree with the statement), and (5) Strongly agree (you fully agree on the statement). The questionnaire is composed of 25 items in part 2 and the questionnaire is researcher made.

Procedure

This study was conducted in an organized and methodical manner as follows:

The following are the methods used to collect the data for this study. As part of process for carrying out the study, the researchers send a letter of authorization to the Dean of the College of Education and Criminal Justice Education.

The survey questionnaire was distributed to the respondents along with the attached letter of the survey questionnaire, and they were given the appropriate guidance and instructions after the researchers received the approved letter from the College of Education and Criminal Justice Education office. After being converted into Google Forms, the survey was sent via Facebook Messenger along with a link that included detailed instructions. We gathered all of the data using Google Forms. After gathering the answers and data of the respondents we tallied and tabulated the results based on their answers and responses on the questions.

Results

Table 1. *Demographic Profile*

<i>Department</i>	<i>Frequency (f)</i>	<i>Percentage (%)</i>
CED	19	76.00
CCJE	6	24.00
Total	25	100.00
<i>Location</i>		
Midsayap	23	92.00
Libungan	1	4.00
Aleosan	1	4.00
Total	25	100.00
<i>Economic Income</i>		
5,000.00-10,000.00	19	76.00
10,001.00-20,000.00	4	16.00
20,001.00 and above	2	8.00
Total	25	100.00

In table 1, the data show that majority of the respondents were coming from the College of Education with the frequency of 19 occupying 76% while minority of the respondents were coming from College of Criminal Justice Education with the frequency of 6 occupying 24%. The location of the respondents shows that there were 23 respondents from Midsayap occupying 88% of the total population. Meanwhile, the respondents from Libungan and Aleosan were only 1 or 4% among the 25 respondents. While the economic income of the respondents shows that there were 19 respondents who have an economic income of 5,000 – 10,000 occupying 76%, 4 respondents who have an economic income of 10,001 – 20,000 occupying 16%, and 2 respondents have an economic income of 20,001 and above occupying 8% among the 25 respondents.

Impacts of Motivation, Behavior, Stress, Time Management and Coping Mechanism on the HyFlex Learning

Tables 2.1 to 21.5 show the impacts of motivation, behavior, stress, time management and coping mechanism of the respondents in handling the HyFlex Learning Modality.

Table 2.1 *Motivation*

<i>Motivation</i>	<i>Mean</i>	<i>SD</i>	<i>Description</i>
1. Overall, my instructors provided and organized learning outcomes.	4.08	0.70	Agree
2. Overall, my instructors used an assessment of ways to save subject content.	4.20	0.58	Agree
3. Overall, my instructors provided meaningful learning activities.	4.08	0.81	Agree
4. My instructors sufficiently challenged us with assignments.	4.20	0.58	Agree
5. I feel that learning management system is used effectively to present the subject content.	4.04	0.84	Agree
Overall	4.12	0.70	Agree

The data in Table 2.1 about the motivation of students shows that the overall mean is 4.12 (Agree) and the overall standard deviation is 0.70 (Agree); the highest mean is 4.20 (Agree), which says, “My instructor sufficiently challenged us with assignment.” The item with the lowest mean (4.04 = Agree) is item 5, which says, “I feel that learning management system is used effectively to present subject content.”

The data in Table 2.2 about the behavior of students shows that the overall mean is 3.69 (Agree) and the overall standard deviation is 0.83 (Agree); the highest mean is 4.20 (Agree), which says, “I possess sufficient computer keyboarding skills for doing online work.” The item with the lowest mean (3.12 = Agree) is item 2, which says, “Personal dislike of online instruction method.”

Table 2.2 *Behavior*

<i>Behavior</i>			
1. I possess sufficient computer keyboarding skills for doing online work.	4.00	0.76	Agree



2. Personal dislike of online instruction method.	3.12	0.97	Neither Agree nor Disagree
3.I am able to easily access internet as needed for my studies.	3.56	0.77	Agree
4. I feel that subject content is presented in ways to accommodate my attendance mode.	3.76	0.66	Agree
5. I feel that the learning management system is used effectively to present the subject content.	4.00	0.84	Agree
Overall	3.69	0.83	Agree

Table 2.3 Stress

<i>Stress</i>			
1. Technology support learning	4.28	0.61	Agree
2. Lack of understanding of learning content.	3.16	0.99	Neither Agree nor Disagree
3. Usefulness of class assignment completion.	3.76	0.72	Agree
4. Too much class assignment.	3.48	0.92	Agree
5. Little interaction with other student and instructor.	3.40	0.82	Neither Agree nor Disagree
Overall	3.62	0.90	Agree

The data in Table 2.3 about the stress of students shows that the overall mean is 3.62 (Agree) and the overall standard deviation is 0.90 (Agree); the highest mean is 4.28 (Strongly Agree), which says, “Technology support learning.” The item with the lowest mean (3.16 = Neither Agree nor Disagree) is item 2, which says, “Lack of understanding of learning contents.”

Table 2.4 Time Management

<i>Time Management</i>			
1. I could learn at my own pace and control my learning	3.80	0.76	Agree
2. I feel that my background and experience is beneficial to my studies.	3.96	0.61	Agree
3. As a student, I enjoy working independently.	4.08	0.70	Agree
4. Regardless of my attendance mode, I feel that course requirements and expectations are clearly stated.	3.84	0.80	Agree
5. I spend my leisure time more with face-to-face interaction than I do using online social networks (Facebook, Instagram, , etc.)	3.52	0.87	Agree
Overall	3.84	0.77	Agree

The data in Table 2.4 about the time management of students shows that the overall mean is 3.84 (Agree) and the overall standard deviation is 0.77 (Agree); the highest mean is 4.08 (Agree), which says, “I could manage my time for study and assignment for completion.” The item that got the lowest mean (3.52= Agree) is item number 5, which says, “I spend my leisure time more with face-to-face interaction that I do using online social networks (facebook, instagram, and etc.).”

Table 2.5 Coping Mechanism

<i>Coping Mechanism</i>			
1. I believe looking back on what I have learned in a subject will help me to remember it better.	4.20	0.65	Agree
2. Overall, my instructors provided meaningful learning activities.	4.16	0.69	Agree
3. As a student, I enjoy working with other student as a group.	4.08	0.57	Agree
4. I am willing to actively communicate with my classmate and instructors electronically.	3.92	0.76	Agree
5. I could manage my time for study and assignment completion.	4.28	0.54	Agree
Overall	4.13	0.80	Agree
Grand SD and Mean	3.88	0.80	Agree

<i>Legend:</i>	<i>Scale</i>	<i>Range</i>	<i>Description</i>
	5	4.50 - 5.00	Strongly Agree
	4	3.50 - 4.49	Agree
	3	2.50 - 3.49	Neither Agree nor Disagree
	2	1.50 - 2.49	Disagree
	1	1.00 - 1.49	Strongly Disagree

The data in table 2.5 about the coping mechanism of the students shows that the overall mean is 4.13 (Agree) and the overall standard deviation is 0.65 (Agree); the highest mean is 4.28 (Agree), which says “I believe looking back on what I have learned in a subject will help me to remember it better. The item with the lowest mean (3.92 = Agree) is item 4, which says, “I am willing to actively communicate with my classmate and instructors electronically.”

Significant Difference in HyFlex Learning According to Department

The tables below present the differences in handling HyFlex Learning according to department, location, and economic income.

The table below presents the difference in handling HyFlex learning according to the department.

Table 3.1 *Difference in HyFlex Learning According to Department*

Variables	N	Df	p-value	Indication	Decision
CED	19	23	0.00	S	Reject the Null Hypothesis
CCJE	6				

NS – Not Significant at 0.05 level of significance

S – Significant at 0.05 level of significance

Table 3.1 shows degrees of freedom (df), p-value, and the decision of the difference in handling HyFlex according to the department. The difference is determined by how the learners handle HyFlex learning according to the department. Results show that the p-value of 0.00 is lesser than the significance level of 0.05. Thus, the null hypothesis is rejected. The test utilized here is a t-test.

Table 3.2 *Difference in HyFlex Learning According to Location*

Variables	N	Df	p-value	Indication	Decision
Midsayap	23	24	0.92	NS	Accept the Null Hypothesis
Libungan	1				
Aleosan	1				

NS – Not Significant at 0.05 level of significance

S – Significant at 0.05 level level of significance

Table 3.2 shows degrees of freedom (df), p-value, and the decision of the difference in handling HyFlex according to locality. The difference is determined by how the learners handle HyFlex learning according to location. Results show that the p-value of 0.92 is greater than the significance level of 0.05. Thus, the null hypothesis is accepted. The test utilized here is ANOVA.

Table 3.3 *Difference in HyFlex Learning According to Economic Income*

Variables	N	df	p-value	Indication	Decision
5,000-10,000	18	24	0.90	NS	Accept the Null Hypothesis
10,001-20,000	5				
20,001 and above	2				

NS – Not Significant at 0.05 level of significance

S – Significant at 0.05 level level of significance

Table 3.3 shows degrees of freedom (df), p-value, and the decision of the difference in handling HyFlex according to economic income. The difference is determined by how the learners handle HyFlex learning according to economic income. Results show that the p-value of 0.90 is lesser than the significance level of 0.05. Thus, the null hypothesis is accepted. The test utilized here is ANOVA.

Discussion

The Flexibility of College Students in HyFlex Learning Modality

Motivation

The item got the highest mean rating: "My instructor sufficiently, challenged us with assignment." indicates that the majority of respondents report that their instructors are giving them difficult assignments. This suggests that pupils' motivation may work to their advantage. It confirms Xu's (2022) assertion that online learning is a rapidly expanding global phenomena in higher education and that many online learners face serious issues related to motivation. On the other hand, little is known about students' motivational beliefs regarding online assignments and how those beliefs impact students' behavior related to online assignments. Understanding online assignment motivation profiles can offer new insights into promoting an adaptive online learning environment and help online instructors enhance and sustain their students' motivation with online assignments (e.g., to provide differentiated support based on the motivational needs of online students in each profile) Xu's (2022). These findings highlighted the need of developing multiple motivational beliefs to better promote online assignment behavior self-regulation.

On the other hand, item that got the lowest mean rating: "I feel that learning management system is used effectively to present subject content." It suggests that using a learning management system successfully is necessary. Consequently, it lends credence to Ahmad et al.'s (2021) contention that instruction and learning in technical and vocational schools require the use of Learning Management Systems. It helps students, instructors, and administrators to track their learning outcomes if utilized continually. However, as the quickly growing online learning environment has developed, a major concern has been a loss of motivation. Extrinsic and intrinsic motivation are important when utilizing a learning management system, as previous research has shown.

Behavior

The item got the highest mean rating: "I possess sufficient computer keyboarding skills for doing online work." This indicates that the majority of responders are aware of how to use keyboarding techniques on computers for work done online. Typing, or keyboarding, skills enable you to type on a keyboard with accuracy and speed. It suggests that college students are proficient computer keyboard operators. It backs up the editorial team's (2023) assertion that these abilities can be crucial in a variety of jobs and settings, particularly

those that require computer use. This fundamental ability gives you the capacity to perform tasks accurately and precisely. It entails close observation, getting rid of distractions, and understanding and using the procedure necessary to provide an accurate result. This process might refer to applying grammatical knowledge and proofreading your typed input for keyboarding. Accuracy can help you avoid typing mistakes.

On the other hand, item that got the lowest mean rating, which says “Personal dislike of online instruction method.” It indicates that the respondents dislike online learning or are incapable of doing so. It suggests that the majority of college students dislike online learning environments. They dislike remote learning largely because they can't interact with my lecturer and other students in person, which is in line with Correa's (2021) theory. The majority of my sessions are asynchronous, so students can access the internet whenever they choose during the day and do my coursework when they get home, which is a benefit of distance learning. Also, with distance learning, we can never get the authentic hands-on experiences that can only be achieved by in-person learning, such as some lab courses that require specialized equipment and programs that only the institution can provide.

Stress

The item got the highest mean rating, which says, “Technology support learning.” It indicates that the majority of participants concur that technology aids in their education. It suggests that college students can continue their education with the aid of technology. It supports the premise of Correa (2021) Technology have profoundly transformed the way people obtain information, carry out study, and connect with others worldwide. Distance is no longer a barrier to higher education because of technology, which allows for good instruction to reach everyone. In order to enhance teaching and learning, technology integration is being employed in education more and more. The rapid growth of technology integration has facilitated the identification of innovative instructional techniques. A study of the literature found that the use of technology in the classroom significantly enhances the teaching and learning of English language proficiency (Gilakjani, 2017). This suggests that the current research is in agreement with this and that the HyFlex model differs significantly from the typical HyFlex model as it was implemented in an unfavorable way under pandemic-related stress and with insufficient educational framework.

On the other hand, item that got the lowest mean rating, which says, “Lack of understanding of learning contents.” It indicates that the respondents are finding it challenging to comprehend the course material. It suggests that college students did not comprehend the material they were studying. Therefore, it validates Correa's (2021) theory, according to which growing class numbers and the impact of technology on education at all levels pose serious obstacles for educators trying to help individual pupils. Without a question, technology offers significant benefits to students by allowing them to instantly and anytime access knowledge from all over the world. The advantages and disadvantages of more frequent technology use among students are becoming clear. They look into how the HyFlex COVID-19 learning environment will probably increase any personality effect on academic dishonesty, based on deterrence and neutralization theories. This is essential to the efficacy and legitimacy of HyFlex programs.

Time Management

The item got the highest mean rating, which says, “I could manage my time for study and assignment for completion.” This indicates that most responders are able to effectively manage their time so they can study and finish their projects. It suggests that the majority of college students are capable at time management. It validates the hypothesis of Nasrullah and Khan (2015), who said that the goal of the current study was to ascertain how students' academic success and time management abilities related to one another. Effective time management is essential and can impact an individual's overall productivity and accomplishments. All of these, nevertheless, have to do with how people organize their time to fit into their daily schedules or to ensure that it flows smoothly. Along with their lecturers' excellent lectures, students will achieve better results in conducive settings and locations. However, one factor that can influence a student to be a good student is their ability to manage their time well. For pupils to succeed, time management skills are essential. Some students, however, struggle with time management, which has a detrimental impact on both their academic performance and quality of life. Students' everyday habits and activities have an impact on how they use their time in higher education institutions. Because they have to balance their academic obligations and personal goals, students' time management skills can also have an impact on their stress levels.

On the other hand, item that got the lowest mean rating, which says, “I spend my leisure time more with face-to-face interaction than I do using online social networks (facebook, instagram, and etc.)” It indicates that the respondents dislike squandering their free time on social media sites like Facebook and Instagram. It suggests that the majority of college students prefer to spend their free time with people in person rather than on social media websites. It bolsters the argument made by Perrin and Jiang (2018) that stable Wi-Fi access is essential to helping students complete their academic work, especially in light of the fact that most students choose blended learning environments.

Coping Mechanism

The item got the highest mean rating: "I believe looking back on what I have learned in a subject will help me to remember it better." According to the majority of respondents, reviewing previous lessons will help them succeed academically. It suggests that the majority of students think that reviewing their prior knowledge can be beneficial. It validates the claim made by Brown et al. (2014) that a large number of undergraduate courses necessitate memorization of vast volumes of data. It can be challenging to memorize material for a

single class, but it can be even more annoying to have many classes. A lot of pupils believe that their memory is weak. Thankfully, memorizing is not limited to a select few who are gifted with the ability from birth; anyone can practice and improve their memorization skills. Competitive memorizers assert that they can recall vast amounts of material quickly by using memory tricks and visualization techniques. Studies reveal that pupils who employ memory techniques outperform their peers. You can access long-term memory and increase the size of your working memory with memory tricks.

On the other hand, item that got the lowest mean rating, which says, “I am willing to actively communicate with my classmate and instructors electronically.” It indicates that the respondents dislike interacting with teachers and other students. It suggests that students in college should interact with their teachers and fellow students in a proactive manner. It confirms the research of Alwamleh et al. (2020) that communication, particularly in the educational field, requires investigation since it can enhance the learning environment and foster positive interactions between teachers and students. Transferring information from one individual or group to another is the essence of communication. Effective communication is the process of expressing concepts, ideas, information, and knowledge in a way that best fulfills the objective or intended. In other words, it's just the sender's viewpoints conveyed in a form that makes the most sense to the recipient. The goals of online and in-person communication are the same: strengthening relationships, sharing knowledge, and feeling heard and understood. Encouraging a feeling of community among students enrolled in online courses will enhance their learning experience and enable them to maintain connections over the duration of the course. Whether in an in-person or virtual classroom, instructors connect with students in order to impart knowledge, gather information, foster understanding, and build relationships. Because there is no body language in the online setting when interacting with students, it takes a little more preparation and thought than when speaking with them in person. In person instruction, instructors can utilize facial expressions and body language to establish a connection with their students and convey their information effectively. Instructors do not have the benefit of employing body language to aid in communication when working with students in an online course. They may make more informed decisions about how to engage with their online students and develop timely and suitable communications if they are aware of the communication shortcomings that exist in online contexts.

Difference in HyFlex Learning Modality According to Department

According to the department, the result revealed no substantial difference in HyFlex learning. HyFlex still need further study, as the majority of articles discuss adapting students, their happiness, or even their performance in these kinds of classes. It suggests that there are no appreciable variations in HyFlex learning modalities by department. The hypothesis put forth by Binnewies and Wang (2019) that aimed to address student involvement in a HyFlex course and the accompanying instructional tactics is supported by this study. Even though they included a few T&L exercises to get students involved, their findings were more concerned with a general evaluation and the perceived value of these activities based on students' opinions than with measuring how involved the students were in the course.

Difference in HyFlex Learning Modality According to Location

The outcome showed that HyFlex learning varied significantly depending on location. HyFlex is a course concept that allows students a customizable course layout. It suggests that there is a notable variation in the respondents' locations. It backs up the notion that students can engage in class online by watching the live stream, attend in-person, or do both in Smothers (2021). With this concept, students can change their method of attendance (virtual or in-person) every week based on the theme of the session or their own requirements or preferences. The availability of appropriate technology is the main obstacle to the delivery of HyFlex courses. Every HyFlex course needs a real classroom equipped with technology that allows students to see the lesson at home on a video feed. The capacity of the lecturer to conduct the lesson in person while simultaneously streaming it live online presents one problem for classroom management. HyFlex necessitates giving students who are enrolled digitally or in a physical classroom the tools they need to participate in active learning and have an equal educational experience. Stated differently, the instructor would have to concurrently prepare for two distinct modes of instruction for the same course.

Difference in HyFlex Learning Modality According to Economic Income

The findings showed that there was a substantial variation in HyFlex learning based on economic income. Higher Education Institutions (HEIs) in the Philippines have switched from on-campus to flexible learning due to the COVID-19 pandemic. It suggests that the majority of college students' financial backgrounds differ significantly from one another. This research investigates students' obstacles to the implementation of flexible online learning at a remote institution, drawing on their experiences and background. It thereby validates the hypothesis put forth by Broadbent (2017). This used an interview and a survey, respectively, to collect data from 639 university students using quantitative and qualitative methodologies. The data were analyzed using both descriptive statistics and narrative analysis. The majority of moms have a high school degree, according to the results, whereas males are typically from low-income homes and only have an elementary education. The majority of students own smartphones, and they mostly access the internet via mobile data, which can have a decent or bad connection. Furthermore, the majority lack sufficient proficiency in digital media. The absence of a network, unstable economic conditions, the digital divide, a dearth of digital gadgets, an unfocused classroom, costly internet service, health issues, a lack of resources, a deficiency in digital literacy, and a lack of drive were among the difficulties faced by students. Therefore, even while flexible online learning is the ideal way for the university to substitute in-person instruction, it is only really appropriate for certain students who come from low-income households and live in remote areas or other areas with

inconsistent internet. During the epidemic, administrators and teachers must think of alternate teaching strategies that take into account the backgrounds of their students, such as employing non-digital tools.

Conclusion

This study concluded that college students struggle to handle and deal with HyFlex learning. They must be made aware and ready to shift into the new curriculum. The students were making a big adjustment. They must adapt as soon as possible to have better grades and to excel academically. Students can also encounter internet and current interruptions, which might hinder their studies and academic performance. Some students encounter challenges and problems regarding their economic status and need more financial support to sustain their needs, like load and new gadgets to support their studies. One of the reasons the students need better interactions with their instructors and classmates is that they are ashamed to open up about their opinions and ideas regarding the subject content. Therefore, it is concluded that HyFlex learning affects their motivation, behavior, stress, time management, and coping mechanisms differently. This study also helps the next researcher to be guided on how this study was made. To further develop this study it must be discussed furthermore and the future researchers must use this as their reference. The HyFlex learning modality can help the institution to be guided if the learning modality is really effective to the studies of the students.

References

- Adiewere, P., Gillis, R., Imran Jiwani, S., Meal, A., Shaw, I., & Adams, G. (2018). A systematic review and meta-analysis of patient education in preventing and reducing the incidence or recurrence of adult diabetes foot ulcers (DFU). *Heliyon*, 4(5), e00614. <https://doi.org/10.1016/j.heliyon.2018.e00614>
- Alawamleh, M. (2020). "COVID-19 and higher education economics", *Journal of Economics and Economic Education Research*, Vol. 21 No. 2, pp. 1-2.
- Allen, I. E., Seaman, J., Poullin, R., & Straut, T. T. (2016). Online report card: Tracking online education in the United States, 1-4. <http://onlinelearningurvey.com/reports/online-report-card.pdf>
- Amabile, T. M. (1983). The social psychology of creativity: A componential conceptualization. *Journal of Personality and Social Psychology*, 45(2), 357-376. <https://doi.org/10.1037/0022-3514.45.2.357>
- Araka, E., Maina, E., Gitonga, R., & Oboko, R. (2020). Research trends in measurement and intervention tools for self-regulated learning for e-learning environments – Systematic review (2008-2018). *Research and Practice in Technology Enhanced Learning*, 15(6), 1-21. <https://doi.org/10.1186/s41039-020-00129-5>
- Artino, A. R. (2008). Motivational beliefs and perceptions of instructional quality: Predicting satisfaction with online training. *Journal of Computer Assisted Learning*, 24(3), 260-270. doi: 10.1111/j.1365-2729.2007.00258.x
- Bamidele, A. (2021). Student-Centered Interactions within an ESL Classroom using Online Breakout Room. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3878774>
- Arguel, A., Lockyer, L., Lipp, O. V., Lodge, J. M., and Kennedy, G. (2017). Inside out: detecting learners' confusion to improve interactive digital learning environments. *J. Educ. Comp. Res.* 55, 526-551. doi: 10.1177/0735633116674732
- Beatty, B. (2010). Hybrid courses with flexible participation. HyFlex. http://itec.sfsu.edu/hyflex/hyflex_course_design_theory_2.2.pdf
- Beatty, B. J., ed. (2019). Hybrid-Flexible course design: Implementing student-directed hybrid classes (1st ed.). EdTech Books. Retrieved from <https://edtechbooks.org/hyflex>.
- Bekele, T.A. (2010), "Motivation and satisfaction in internet-supported learning environments: a review", *Educational Technology and Society*, Vol. 13 No. 2, pp. 116-127.
- Bernard, R. M., Borokhovski, E., Schmid, R. F., Tamim, R. M., & Abrami, P. C. (2014). A meta-analysis of blended learning and technology use in higher education: From the general to the applied. *Journal of Computing in Higher Education*, 26(1), 87-122. <https://doi.org/10.1007/s12528-013-9077-3>
- Binnewies, S., & Wang, Z. (2019). Challenges of Student Equity and Engagement in a HyFlex Course. In Springer eBooks (pp. 209-230). https://doi.org/10.1007/978-981-13-6982-7_12
- Broadbent, J. (2017). Comparing online and blended learner's self-regulated learning strategies and academic performance. *Internet and Higher Education*, 33, 24-32. <https://doi.org/10.1016/j.iheduc.2017.01.004>
- Broadbent, J., & Poon, W. L. (2015). Self-regulated learning strategies & academic achievement in online higher education learning environments: A systematic review. *The Internet and Higher Education*, 27, 1-13. <https://doi.org/10.1016/j.iheduc.2015.04.007>
- Brophy, J. (2010). *Motivating students to learn* (3rd ed.). New York, NY: Routledge

Campbell S, Greenwood M, Prior S, Shearer T, Walkem K, Young S, Bywaters D, Walker K. Purposive sampling complex or simple? Research case examples. *J Res Nurs* 2020 Dec;25(8): 652-661. doi: 10.1177/1744987120927206 Epub 2020 Jun 18. PMID:34394687;PMCID:PMC7932468

ChanLin, L.-J. (2009). Applying motivational analysis in a web-based course. *Innovations in Education & Teaching International*, 46(1), 91–103. doi: 10.1080/14703290802646123

Chen, L., Chen, T. L., & Chen, N. S. (2015). Students' perspectives of using cooperative learning in a flipped statistics classroom. *Australasian Journal of Educational Technology*, 31(6), 621–640. <https://doi.org/10.14742/ajet.1876>

Chen, L. (2022). Designing Online Discussion for HyFlex Learning. *International Journal of Educational Methodology*, 8(1), 191–198. <https://doi.org/10.12973/ijem.8.1.191>

Daniel, M. A., and Butler, A. C. (2011). "A contextual framework for understanding when difficulties are desirable," in *Successful Remembering and Successful Forgetting: A Festschrift in Honor of Robert A. Bjork*, ed A. S. Benjamin (New York, NY: Psychology Press), 175–198.

Dey, M. (n.d.). Academic Stress and Coping Mechanism among LIS students during the COVID-19 Pandemic – Route to Resilience and Recuperation. *Digital Commons@University of Nebraska - Lincoln*. https://digitalcommons.unl.edu/libphilprac/7036/?fbclid=IwAR2TID1NS1NzOlok368jXHF5_laizguFKFXwh0x-RJyodaJFaWUcC3Yj5Ak

Gilakjani, A. P. (2017). A Review of the Literature on the Integration of Technology into the Learning and Teaching of English Language Skills. *International Journal of English Linguistics*, 7(5), 95. <https://doi.org/10.5539/ijel.v7n5p95>

Helario, 2023. Shaping the future of learning with HyFlex Model https://mb.com.ph/2023/02/27/shaping-the-future-of-learning-with-hyflex-model/?fbclid=IwAR3_S5eSZToWW3ygdSZj6B2LmzquUaw6LD7BU7g6ugQ9H12rQ4J-hLTousA

Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. *Educause Review Online*. <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>

Indeed Editorial Team. (2023). Keyboarding Skills: Definition and How to Improve Them. *Indeed Career Guide*. <https://ca.indeed.com/career-advice/career-development/keyboarding-skills>

Lodge, J. M., Kennedy, G., and Hattie, J. A. C. (2018). "Understanding, assessing and enhancing student evaluative judgement in digital environments," in *Developing Evaluative Judgement in Higher Education: Assessment for Knowing and Producing Quality Work*, eds D. Boud, R. Ajjawi, P. Dawson, and J. Tai (Abingdon: Routledge), 70–78.

Moorhouse, B. L. (2020). Adaptations to a face-to-face initial teacher education course 'forced' online due to the COVID-19 pandemic. *Journal of Education for Teaching*, 46(4), 609-611. <https://doi.org/10.1080/02607476.2020.1755205>

Moorhouse, B. L., & Kohnke, L. (2020). Using Mentimeter to elicit student responses in the EAP/ESP classroom. *RELC Journal*, 51(1), 198–204. <https://doi.org/10.1177/0033688219890350>

N. A. Ahmad, N. F. Elias and N. Sahari, "The Motivational Factors in Learning Management System," 2021 International Conference on Electrical Engineering and Informatics (ICEEI), Kuala Terengganu, Malaysia, 2021, pp. 1-6, doi: 10.1109/ICEEI52609.2021.9611140.

Naidu, S. (2016). The Case for Open Educational Practice. *Distance Education*, Vol. 37, (1–3). Retrieved from: doi:10.1080/01587919.2016.1157010.

Nasrullah, S., & Khan, M. S. (2015). The Impact of Time Management on the Students' Academic Achievements. *ResearchGate*. https://www.researchgate.net/publication/313768789_The_Impact_of_Time_Management_on_the_Students'_Academic_Achievements

Pintrich, P. R. (2000). The role of goal orientation in self-regulated learning. In M. Boekaerts, P. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 451–502). Academic Press.

Raes, A., Vanneste, P., Pieters, M., Windey, I., Van Den Noortgate, W., & Depaepe, F. (2020d). Learning and instruction in the hybrid virtual classroom: An investigation of students' engagement and the effect of quizzes. *Computers & Education*, 143, 103682. <https://doi.org/10.1016/j.compedu.2019.103682>

Raes, A., Vanneste, P., Pieters, M., Windey, I., Van Den Noortgate, W., & Depaepe, F. (2020b). Learning and instruction in the hybrid virtual classroom: An investigation of students' engagement and the effect of quizzes. *Computers & Education*, 143, 103682. <https://doi.org/10.1016/j.compedu.2019.103682>

Schunk, D.H. (2008), *Cognition and Instruction, Learning Theories: An Education Perspective*, pp. 278-323.

Serdyukov, P., & Hill, R. A. (2013). Flying with clipped wings: Are students independent in online college classes? *Journal of Research in Innovative Teaching*, 6(1), 53–65. Stelzenmüller, V., Coll, M., Mazaris, A. D., Giakoumi, S., Katsanevakis, S., Portman, M. E.,

Degen, R., Mackelworth, P., Gimpel, A., Albano, P. G., Almpandou, V., Claudet, J., Essl, F., Evagelopoulos, T., Heymans, J. J., Genov, T., Kark, S., Micheli, F., Pennino, M. G., . . . Ojaveer, H. (2018). A risk-based approach to cumulative effect assessments for marine management. *Science of the Total Environment*, 612, 1132–1140. <https://doi.org/10.1016/j.scitotenv.2017.08.289>

Smothers, A. (2022). HyFlex teaching: A flexible alternative. Center for Innovative Teaching and Learning. <https://citl.news.niu.edu/2021/08/12/hyflexalternative/?fbclid=IwAR3KqiAo3qJLF3pmz81jnieyhb8J9lhSPBXsUFKvzJ8eCoUQRKS P-Iv5ny4>

Sunstar. (2022, February 28). Malayan Colleges Mindanao introduces ‘HyFlex’ courses in Mindanao. SUNSTAR. <https://www.sunstar.com.ph/article/1922217/davao/feature/malayan-colleges-mindanao-introduces-hyflex-courses-in-mindanao?fbclid=IwAR1bDISfFYIsKp9kFpgOJLMrIlvyXTuPB1zyYVFrU3niu5FRWQrB9OurEaY>

The Hyflex Model. (2020, July 23). https://www.buffalo.edu/edc/AcademicPreparedness/HyflexModel.html?fbclid=IwAR3BZr1PYGJ_fgSDQs1x5VLB8mILwqwySk4 FyTiViz38DISNpV6SJtdEenc

Van Doorn, J. R., & Van Doorn, J. D. (2014). The quest for knowledge transfer efficacy: Blended teaching, online and in-class, with consideration of learning typologies for non-traditional and traditional students. *Frontiers in Psychology*, 17(5), 1–14. <https://doi.org/10.3389/fpsyg.2014.00324>

Van Nuland, S., Mandzuk, D., Tucker Petrick, K., & Cooper, T. (2020). COVID-19 and its effects on teacher education in Ontario: A complex adaptive systems perspective. *Journal of Education for Teaching*, 46(4), 442–451. <https://doi.org/10.1080/02607476.2020.180350>

Vallerand, R. J., Salvy, S. J., Mageau, G. A., Elliot, A. J., Denis, P. L., Grouzet, F. M. E., & Blanchard, C. (2007). On the Role of Passion in Performance. *Journal of Personality*, 75(3), 505–534. <https://doi.org/10.1111/j.1467-6494.2007.00447.x>

Weiser, O., Blau, I., & Eshet-Alkalai, Y. (2018). How do medium naturalness, teaching/learning interactions and students’ personality traits affect participation in synchronous E-learning? *The Internet and Higher Education*, 37, 40–51. <https://doi.org/10.1016/j.iheduc.2018.01.001>

Xie, K., Heddy, B. C., & Vongkulluksn, V. W. (2019). Examining engagement in context using experience-sampling method with mobile technology. *Contemporary Educational Psychology*, 59, 101788. <https://doi.org/10.1016/j.cedpsych.2019.10178>

Zheng, C., Liang, J.-C., Yang, Y.-F., & Tsai, -C.-C. (2016). The relationship between Chinese university students’ conceptions of language learning and their online self-regulation. *System*, 57, 66–78. <https://doi.org/10.1016/j.system.2016.01.005>

Zydney, J. M., Warner, Z., & Angelone, L. (2020c). Learning through experience: Using design-based research to redesign protocols for blended synchronous learning environments. *Computers & Education*, 143, 103678. <https://doi.org/10.1016/j.compedu.2019.103678>

Affiliations and Corresponding Information

Angel Lhi D. Alcalde

Notre Dame of Midsayap College – Philippines

Kent Mahathir T. Kamal

Notre Dame of Midsayap College – Philippines

Ted Anthony L. Singco

Notre Dame of Midsayap College – Philippines

Yman Bynch C. Tuya

Notre Dame of Midsayap College – Philippines

James N. Cantor

Notre Dame of Midsayap College – Philippines