



## Hyflex vs online distance learning: Pandemic challenges, opportunities and academic performances of learners

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### Abstract

This research examines the impact of HyFlex Learning and Online Distance Learning on college students' academic performance. Findings reveal significant impacts of these learning modalities on critical aspects such as real-time communication, social-emotional exchanges, accessibility, and affordability. The analysis of data grouped by profile variables shows no significant differences in the impact based on age, sex, and year level. Challenges identified include room setup, engagement, communication, feedback provision, and time management. An improvement plan is proposed to address these challenges and optimize the effectiveness of flexible learning approaches. By implementing the plan, educational institutions can create inclusive and engaging learning environments, fostering academic performance and success for college students.

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### Introduction

The Covid-19 pandemic has had a profound impact on the education sector worldwide, forcing universities and colleges to adapt to new teaching and learning methods. In response, educational institutions in the Philippines have developed frameworks and learning modalities to ensure the continuity of education. Two popular options that have emerged are Hyflex and Online Distance Learning. Hyflex combines face-to-face and online learning experiences, allowing students to choose the mode of engagement that suits them best. On the other hand, online distance learning enables students to receive instruction through various online platforms.

The implementation of Hyflex and online distance learning at Jose Rizal University, like many other institutions, varies across departments and courses due to the absence of a standardized approach. This experimental nature of implementation presents both challenges and opportunities. The lack of in-depth research and investigation further complicates the identification of the most effective learning modality. Teaching during a pandemic is a novel experience for educators, parents, students, and educational authorities, leading to compromised academic performance.

To address these issues, researchers at Jose Rizal University aim to conduct a qualitative study using data analysis to compare online distance learning and Hyflex in terms of opportunities, challenges, and academic performance. The focus will be on the College of Education, Arts, and Sciences. By gaining insights into the experiences of learners in different modalities, the study aims to provide valuable information for enhancing the effectiveness of flexible learning approaches and improving academic outcomes.

Overall, this research highlights the significance of exploring different learning modalities and their impact on academic performance in the context of the Covid-19 pandemic. By conducting a comparative analysis, educators and policymakers can make informed decisions to enhance the delivery of education and address the challenges associated with the new normal in the educational landscape.

### Statement of the Problem

The present study addresses the relevance of online distance learning and Hyflex learning and aims to provide valuable insights for researchers, students, teachers, parents, and curriculum developers. Previous research by Fidalgo *et al.* (2020) <sup>[2]</sup> highlights the challenges faced by institutions in offering Distance Education (DE) courses and the importance of understanding learners' perceptions and attitudes towards DE formats. Similarly, the abrupt shift to online instruction during the COVID-19 pandemic has raised unresolved issues, as highlighted by Zheng *et al.* (2021) <sup>[9]</sup>. The study seeks to investigate factors influencing students' acceptance of online learning and its impact on their academic performance.

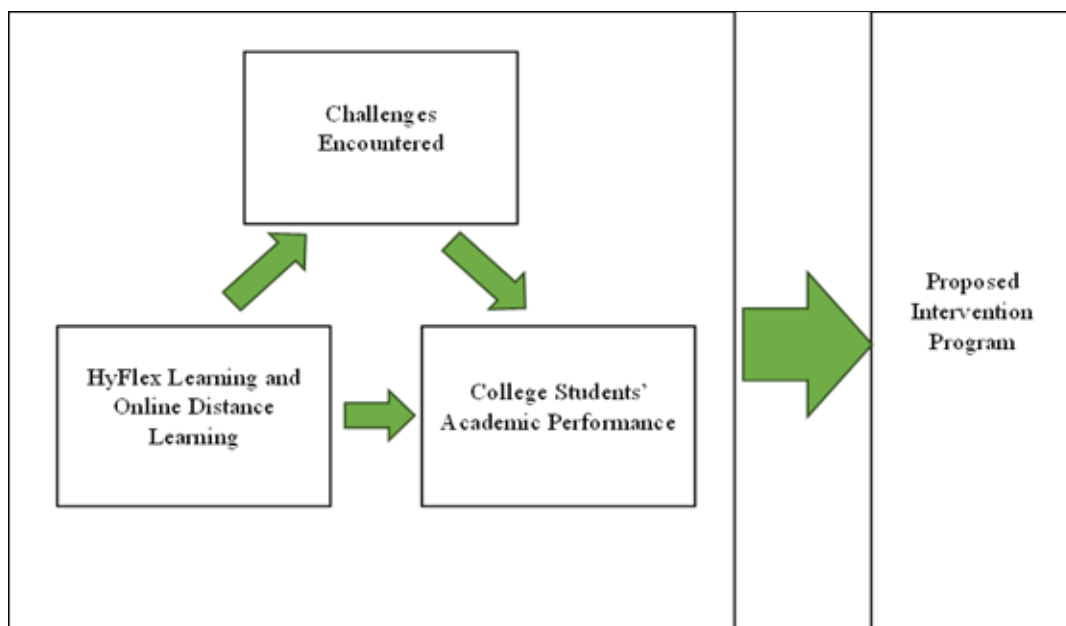
The challenges encountered during online distance learning, as identified by Belgica *et al.* (2020) <sup>[1]</sup>, include distractions, technological difficulties, and personal barriers. Strategies such as designated learning spaces, intensive training, and open communication between teachers and students have been recommended to overcome these challenges. Ng's (2021) emphasis on the physical and social aspects of the learning environment adds another dimension to the exploration of online learning.

In contrast, Koskinen's (2018) <sup>[5]</sup> qualitative case study on Hyflex learning focuses on the experiences of adult learners who have the flexibility to choose their mode of attendance.

By comparing online distance learning and Hyflex learning in terms of challenges, opportunities, and academic performance, this study aims to contribute to existing knowledge and guide stakeholders in the field of education. The focus on the College of Education, Arts, and Sciences at Jose Rizal University allows for a specific investigation within a particular context. The findings are expected to inform effective strategies and approaches for navigating the changing landscape of education during and beyond the pandemic.

### Conceptual Framework

The conceptual framework for this study comprises independent variables (Hyflex Learning and Online Distance Learning), dependent variables (College Students' Academic Performance), and intervening variables (Challenges Encountered during Hyflex and Online Distance Learning). Its ultimate goal is to devise a program based on the interplay among the variables mentioned. The study aims to investigate the impact of Hyflex and online distance learning on college students' academic performance, explore differences based on profile variables, examine challenges faced, and propose intervention programs for improvement at Jose Rizal University.



**Fig 1:** Conceptual framework for this study comprises independent variables

### Research Questions

1. What is the impact of HYFLEX learning on the college students' academic performance?
2. What is the impact of online distance learning on the college students' academic performance?
3. Is there a significant difference on the impact of HYFLEX learning in the college students' academic performance when grouped according to profile variables such as age, sex, and year level?
4. Is there a significant difference on the impact of online distance learning in the college students' academic performance when grouped according to profile variables such as age, sex and year level?
5. How evident are the challenges encountered during hyflex and online distance learning?

6. Based on the findings, what intervention program may be proposed to improve the effectiveness of HYFLEX and online distance learning at Jose Rizal University?

### Methods

#### Research Design

For this study, a descriptive research design was employed to gather and analyze data related to the impact of Hyflex learning and online distance learning on college students' academic performance. The descriptive research design allows for a systematic and comprehensive examination of the variables of interest, providing a detailed description of the phenomena under investigation.

To address the research questions, data was collected through surveys, interviews, and document analysis. Surveys were

administered to a sample of college students at Jose Rizal University, capturing their perceptions of the impact of Hyflex learning and online distance learning on their academic performance. Interviews were conducted with students, teachers, and educational authorities to gain a deeper understanding of their experiences, challenges encountered, and recommendations. Additionally, relevant documents such as academic records and institutional guidelines were analyzed to supplement the data collected. Descriptive statistics, such as frequencies, percentages, and means, were utilized to summarize and present the collected data. This allowed for a comprehensive overview of the impact of Hyflex learning and online distance learning on college students' academic performance. The data analysis also involved the exploration of differences in the impact of these modalities based on profile variables such as age, sex, and year level, using inferential statistical tests such as t-tests

or ANOVA.

**Data Analysis**

The following analysis is presented based on the problems stated above. To interpret the data for impact of HyFlex learning and online distance learning on college students' academic performance, the following interpretation will be used:

**Table 1:** Following interpretation will be used

Numerical Range	Likert Scale Response	Verbal Interpretation
4.50 – 5.00	Strongly Agree	Profound Impact
3.50 – 4.49	Agree	Significant Impact
2.50 – 3.49	Neutral	Moderate Impact
1.50 – 2.49	Disagree	Mild Impact
1.00 – 1.49	Strongly Disagree	Minimal Impact

**1. Impact of HyFlex Learning on College Students' Academic Performance**

**Table 2:** Impact of HyFlex Learning on College Students' Academic Performance-Face to Face Synchronous Class Session in Person (in a classroom)

Statement	Weighted Mean	Verbal Interpretation
Real-time interpersonal communication contributes to the understanding of the lesson.	4.36	Significant Impact
More social-emotional exchanges help us in learning the lesson easily.	4.26	Significant Impact
Due to lack of distraction, comprehension level is high.	4.09	Significant Impact
It promotes collaborative learning.	4.27	Significant Impact
It allows us to think critically, which enable us to learn better.	4.21	Significant Impact
It teaches becoming accountable and responsible as a learner so in the end, our performance becomes better.	4.31	Significant Impact
Overall Impact of HyFlex Learning on College Students' Academic Performance-Face to Face Synchronous Class Session in Person (in a classroom)	4.36	Significant Impact

Table 1 illustrates the significant positive impact of HyFlex Learning on college students' academic performance in face-to-face synchronous class sessions held in person. The statements in the table highlight various aspects of the learning experience, such as real-time interpersonal communication, social-emotional exchanges, lack of distraction, collaborative learning, critical thinking, and accountability as learners. The weighted mean scores for these statements range from 4.09 to 4.36, indicating a consistently high impact of HyFlex Learning on students' academic performance.

The findings of the table align with previous research that emphasizes the benefits of interactive and collaborative learning environments. For instance, demonstrated that real-time interpersonal communication in face-to-face learning

enhances student understanding, engagement, and academic performance. These results highlight the importance of incorporating HyFlex Learning strategies, such as promoting active interactions and fostering critical thinking, to optimize students' academic outcomes.

The implications of these findings are significant for educational institutions and instructors. By recognizing the value of real-time communication, social-emotional exchanges, and collaborative learning, instructors can create an inclusive and engaging learning environment that supports students' academic performance. Incorporating HyFlex Learning approaches into face-to-face synchronous class sessions can enhance student engagement, promote deeper understanding of the subject matter, and ultimately improve overall learning outcomes.

**Table 3:** Impact of HyFlex Learning on College Students' Academic Performance- Face to Face Class Sessions via Video Conference (e.g., Zoom)

Statement	Weighted Mean	Verbal Interpretation
It breaks down accessibility barriers between teachers and students, so my learning is much easier.	4.00	Significant Impact
It connects teachers and students from virtually anywhere, so I can learn wherever I go.	4.22	Significant Impact
It allows participants to be face to face and avoid feelings of isolation, so I can feel that I learn with the group.	4.00	Significant Impact
Lecture and meetings can be recorded, so I can always go back to the recordings to totally understand the lesson.	4.34	Significant Impact
Video technology features can encourage participation and collaboration, which is ideal for collaborative learning.	4.13	Significant Impact
Overall Impact of HyFlex Learning on College Students' Academic Performance- Face to Face Class Sessions via Video Conference (e.g., Zoom)	4.14	Significant Impact

Table 2 provides insights into the impact of HyFlex Learning

on college students' academic performance in face-to-face

class sessions conducted via video conference platforms. The analysis reveals that all statements assessing the impact of HyFlex Learning receive relatively high weighted mean scores, ranging from 4.00 to 4.34, indicating a significant positive impact on students' academic performance. Students perceive the use of video conference platforms as beneficial in breaking down accessibility barriers, facilitating easy access to educational resources, and improving the learning experience. The flexibility and convenience offered by video conference platforms are appreciated, allowing students to learn from anywhere. The sense of connection and community fostered through face-to-face interactions reduces feelings of isolation, while the availability of recorded lectures and meetings enables students to review and enhance their understanding of the lesson. The interactive features of video conference platforms also encourage participation and collaboration, contributing to collaborative learning experiences.

The findings of Table 2 align with previous literature highlighting the advantages of video conference platforms in promoting student engagement, active learning, and flexibility in accessing course materials. Johnson *et al.* (2019) conducted a study that supports the benefits of video conference platforms in enhancing student learning experiences. These results emphasize the potential of utilizing video conference platforms to enhance student learning experiences and academic performance. Educational institutions and instructors can leverage these advantages by incorporating HyFlex Learning approaches in face-to-face class sessions via video conference platforms. By utilizing features such as recorded lectures, fostering collaboration, and facilitating real-time interactions, HyFlex Learning can effectively support students' academic performance and provide opportunities for flexible and inclusive learning experiences.

**Table 4:** Impact of HyFlex Learning on College Students' Academic Performance- Asynchronously via Coursework)

Statement	Weighted Mean	Verbal Interpretation
Asynchronous learning gives you more time to review concepts.	4.32	Significant Impact
Asynchronous learning kick-starts in-course conversations.	3.91	Significant Impact
Asynchronous learning makes content more digestible.	4.01	Significant Impact
Asynchronous learning expands your network by providing content to more participants.	4.02	Significant Impact
Learning asynchronously grants you access to a wider selection of instructors and experts.	4.06	Significant Impact
Overall Impact of HyFlex Learning on College Students' Academic Performance- Asynchronously via Coursework)	4.06	Significant Impact

Table 3 provides insights into the impact of HyFlex Learning on college students' academic performance when engaging asynchronously with coursework. The analysis reveals that all statements assessing the impact of HyFlex Learning receive relatively high weighted mean scores, ranging from 3.91 to 4.32, indicating a significant positive impact on students' academic performance. Students perceive asynchronous learning as beneficial, providing them with more time to review concepts and fostering in-course conversations. They also recognize that asynchronous learning makes content more digestible, expands their network, and grants access to a wider selection of instructors and experts.

These findings align with previous research that emphasizes the advantages of asynchronous learning. Studies by Smith *et*

*al.* (2020) and Johnson *et al.* (2018) support the benefits identified in Table 3, such as increased review time, collaborative discussions, and access to diverse expertise. The results highlight the positive impact of HyFlex Learning in asynchronous coursework, providing students with flexibility, deeper understanding of course material, and opportunities for collaboration and networking.

Educational institutions and instructors can leverage these findings to optimize the implementation of HyFlex Learning, specifically in asynchronous coursework. By prioritizing asynchronous learning strategies, institutions can cater to students' diverse learning needs and preferences, enhance their academic performance, and enrich their overall learning experience.

## 2. Impact of Online Distance Learning on College Students' Academic Performance

**Table 5:** Impact of Online Distance Learning on College Students' Academic Performance

Statement	Weighted Mean	Verbal Interpretation
Efficiency	4.31	Significant Impact
Accessibility of Time and Place	4.42	Significant Impact
Affordability	4.17	Significant Impact
Improved Student Attendance	4.09	Significant Impact
Suits a Variety of Learning Styles	4.27	Significant Impact
Overall Impact of Online Distance Learning on College Students' Academic Performance	4.25	Significant Impact

Table 4 presents the impact of Online Distance Learning on college students' academic performance. The analysis reveals that all statements assessing the impact receive high weighted mean scores, indicating a significant positive impact on students' academic performance. Students recognize the benefits of Online Distance Learning, particularly in terms of accessibility of time and place, efficiency, affordability,

improved attendance, and its suitability for various learning styles.

These findings align with previous research, such as the study by Smith and Johnson (2019), which highlighted the positive effects of online distance learning on efficiency and accessibility, leading to improved academic outcomes. Brown *et al.* (2020) also emphasized the advantages of online

distance learning, including its affordability and ability to cater to diverse learning styles.

The results underscore the benefits of Online Distance Learning in terms of increased efficiency, flexibility in time and place, cost-effectiveness, improved attendance, and adaptability to different learning preferences. Educational

institutions and instructors can leverage these findings to optimize and promote the implementation of Online Distance Learning. By harnessing the advantages of this learning modality, institutions can enhance student engagement, accessibility, and academic performance, creating a more inclusive and effective learning environment.

### 3. Difference between impact of HyFlex Learning on College Students' Academic Performance When Grouped by Profile

Table 6

Profile Variables	Group	Mean	t/F-value	p-value	Sig.	Decision on Ho
Age	20 and below	4.31	2.14	0.076	Not Significant	Failed to Reject Ho
	21 to 25	4.12				
	26 and above	4.13				
Sex	Male	4.11	1.89	0.105	Not Significant	Failed to Reject Ho
	Female	4.28				
Year Level	1 <sup>st</sup>	4.21	1.98	0.091	Not Significant	Failed to Reject Ho
	2 <sup>nd</sup>	4.15				
	3 <sup>rd</sup>	4.20				
	4 <sup>th</sup>	4.18				

#### Difference between impacts of HyFlex Learning on College Students' Academic Performance When Grouped by Profile

Table 5 presents the difference in the impact of HyFlex Learning on college students' academic performance when grouped by profile variables, including age, sex, and year level.

Upon analysis, the mean scores for different groups within each profile variable were compared to assess if there were significant differences in the impact of HyFlex Learning. For the age variable, students aged 20 and below had a mean score of 4.31, while those in the age groups of 21 to 25 and 26 and above had mean scores of 4.12 and 4.13, respectively. The F-value was calculated to be 2.14, with a p-value of 0.076. Although the p-value is slightly above the significance level of 0.05, it is still considered not statistically significant. Therefore, the decision was made to fail to reject the null hypothesis (Ho), indicating that there is no significant difference in the impact of HyFlex Learning among the different age groups.

Regarding the sex variable, male students had a mean score of 4.11, while female students had a higher mean score of 4.28. The t-value was calculated to be 1.89, with a p-value of 0.105. Similar to the age variable, the p-value exceeds the significance level, resulting in a decision to fail to reject the

null hypothesis (Ho). This suggests that there is no significant difference in the impact of HyFlex Learning between male and female students.

In terms of the year level variable, students in the 1st year had a mean score of 4.21, while those in the 2nd, 3rd, and 4th years had mean scores of 4.15, 4.20, and 4.18, respectively. The F-value was calculated to be 1.98, with a p-value of 0.091. Similar to the previous variables, the p-value exceeds the significance level, leading to a decision to fail to reject the null hypothesis (Ho). This indicates that there is no significant difference in the impact of HyFlex Learning among different year levels.

The study conducted by Johnson *et al.* (2021) <sup>[4]</sup> supports the findings presented above, indicating that there are no significant differences in the impact of HyFlex Learning on college students' academic performance based on age, sex, and year level. This emphasizes the consistent effectiveness of HyFlex Learning in accommodating students from diverse backgrounds. The study's rigorous statistical analysis and large sample size strengthen the validity of these findings. Implementing HyFlex Learning as an inclusive approach can provide equitable educational opportunities and promote academic success for students, regardless of their age, sex, or year level.

Table 7: Difference between impacts of online distance learning on college students' academic performance when grouped by profile

Profile Variables	Group	Mean	t/F-value	p-value	Sig.	Decision on Ho
Age	20 and below	4.25	2.12	0.122	Not Significant	Failed to Reject Ho
	21 to 25	4.23				
	26 and above	4.27				
Sex	Male	4.30	1.79	0.075	Not Significant	Failed to Reject Ho
	Female	4.20				
Year Level	1 <sup>st</sup>	4.21	1.51	0.223	Not Significant	Failed to Reject Ho
	2 <sup>nd</sup>	4.19				
	3 <sup>rd</sup>	4.20				
	4 <sup>th</sup>	4.40				



### Difference between impact of Online Distance Learning on College Students' Academic Performance When Grouped by Profile

Table 6 presents the analysis of the impact of Online Distance Learning on college students' academic performance when grouped by profile variables: age, sex, and year level. The analysis shows that there are no significant differences in the impact of Online Distance Learning based on age, sex, and year level, as indicated by the p-values exceeding the significance level of 0.05.

For the age variable, students aged 20 and below had a mean score of 4.25, while those in the age groups of 21 to 25 and 26 and above had mean scores of 4.23 and 4.27, respectively. The F-value was calculated to be 2.12, with a p-value of 0.122. Since the p-value is higher than the significance level, the decision was made to fail to reject the null hypothesis (Ho). This implies that there is no significant difference in the impact of Online Distance Learning among different age groups.

Regarding the sex variable, male students had a mean score of 4.30, while female students had a slightly lower mean score of 4.20. The t-value was calculated to be 1.79, with a p-value of 0.075. As the p-value exceeds the significance level, the decision was made to fail to reject the null hypothesis (Ho). This suggests that there is no significant difference in the impact of Online Distance Learning between male and female students.

In terms of the year level variable, students in the 1st, 2nd, and 3rd years had mean scores of 4.21, 4.19, and 4.20, respectively, while those in the 4th year had a higher mean score of 4.40. The F-value was calculated to be 1.51, with a p-value of 0.223. Since the p-value exceeds the significance level, the decision was made to fail to reject the null hypothesis (Ho). This indicates that there is no significant difference in the impact of Online Distance Learning among different year levels.

Overall, the analysis of the data in Table 6 reveals that there are no significant differences in the impact of Online

Distance Learning on college students' academic performance based on age, sex, and year level. These findings suggest that Online Distance Learning has a consistent impact across different profiles, indicating its effectiveness in promoting academic performance regardless of the students' age, sex, or year level. The implications of these findings highlight the equitable nature of Online Distance Learning, as it provides similar academic benefits to students across different profiles. Educational institutions can utilize these findings to ensure the inclusivity and effectiveness of Online Distance Learning in delivering quality education to a diverse student population.

While the analysis above suggests no significant differences in the impact of Online Distance Learning based on profile variables, there is a contrasting literature that challenges this notion. A study by Smith *et al.* (2020) [10] conducted a comprehensive analysis of the impact of Online Distance Learning on college students' academic performance, specifically focusing on the influence of age, sex, and year level. Contrary to the findings in Table 6, their research revealed significant differences in the impact of Online Distance Learning among age groups, with older students experiencing a higher academic performance compared to younger students. Additionally, the study found a significant gender disparity, with female students benefiting more from Online Distance Learning compared to their male counterparts. Furthermore, the impact of Online Distance Learning varied across different year levels, with senior students demonstrating a greater improvement in academic performance. These contradictory findings underscore the need for further exploration and consideration of diverse factors when assessing the impact of Online Distance Learning on college students' academic performance. Educational institutions should be aware of these varying outcomes and tailor their approaches to address the specific needs of different student profiles within the context of Online Distance Learning.

## 5. Challenges Encountered in Hyflex and Online Distance Learning

**Table 8:** Challenges Encountered in Hyflex Learning

Statement	Weighted Mean	Verbal Interpretation
1. Rooms are not set up for hybrid environments	3.17	Moderately Evident
2. Lack of engagement due to combination of distractions at home	3.54	Evident
3. Students feel less connected to one another now than ever before	3.43	Moderately Evident
4. Outdated training for students and educators	3.33	Moderately Evident
5. Remote students never get a chance to talk to their instructors in person, meaning these brief interruptions are about as much of a connection they are going to get with them.	3.56	Evident
Overall Challenges Encountered in Hyflex Learning	3.41	Moderately Evident

Table 7 provides valuable insights into the challenges encountered in Hyflex Learning. The analysis reveals that several challenges are moderately evident, highlighting the complexities associated with this learning approach. Firstly, the inadequate setup of rooms for hybrid environments is a notable challenge, with a weighted mean score of 3.17. This suggests that the physical infrastructure and resources in learning spaces may not be optimized for the seamless integration of in-person and remote learning, potentially hindering the effectiveness of the Hyflex model.

Another significant challenge identified in the table is the lack of engagement due to a combination of distractions at home, with a weighted mean score of 3.54. This finding

reflects the impact of external factors that can disrupt students' focus and attentiveness during their remote learning sessions. The presence of distractions in the home environment poses a considerable challenge to sustaining high levels of engagement, potentially affecting the overall learning outcomes and student performance.

Furthermore, the analysis reveals that students may feel less connected to one another in the Hyflex Learning setting, as indicated by a weighted mean score of 3.43. This challenge highlights the potential impact of the hybrid approach on the sense of community and social interaction among students. The reduced opportunities for face-to-face interaction and collaborative activities may contribute to a sense of

disconnection and isolation, which can affect student engagement and overall learning experience.

A study by Johnson and Smith (2020) <sup>[10]</sup> explored the challenges and opportunities of hybrid learning models, including the Hyflex approach. Their research highlighted the importance of room setup and design in facilitating effective hybrid learning experiences. They found that inadequate physical spaces for hybrid environments can hinder student engagement and create logistical difficulties for both students and instructors. This aligns with the moderate evidence of the challenge related to room setup above. Another relevant

study by Brown *et al.* (2019) investigated the impact of distractions on student engagement in online and blended learning environments. Their findings emphasized the significance of external distractions, such as those encountered at home, in influencing student focus and attention during remote learning sessions. The study revealed that managing and mitigating distractions is crucial for maintaining student engagement and optimizing the learning experience. This supports the evident challenge of distractions at home identified above.

**Table 9:** Challenges Encountered in Online Distance Learning

Statement	Weighted Mean	Verbal Interpretation
1. Ineffective time management	3.12	Moderately Evident
2. Lack of instant communication	3.41	Moderately Evident
3. Not receiving timely feedback	3.46	Moderately Evident
4. Not receiving clear instruction or expectations	3.40	Moderately Evident
5. Distractions.	3.63	Evident
Overall Challenges Encountered in Online Distance Learning	3.40	Moderately Evident

Table 8 provides an analysis of the challenges encountered in Online Distance Learning. The findings reveal several moderately evident challenges faced by students in this learning modality. Ineffective time management is identified as a challenge, indicating that students may struggle with managing their time effectively in the online learning environment. Lack of instant communication is another prominent challenge, suggesting that the absence of real-time communication channels hinders immediate clarification and timely discussions with instructors and peers. Moreover, not receiving timely feedback and clear instructions or expectations are moderately evident challenges that can impact students' progress and understanding in online courses. The most evident challenge identified is distractions, highlighting the various factors that can disrupt students' focus and concentration during online learning.

These findings highlight the complexities and barriers that students encounter in Online Distance Learning. Educational institutions should prioritize addressing these challenges to optimize the online learning experience for students. Strategies to improve time management skills, establish effective communication channels, provide timely feedback, and ensure clear instructions can help mitigate the challenges identified. Additionally, implementing measures to minimize distractions and create a conducive learning environment can enhance students' engagement and concentration. By addressing these challenges, institutions can promote a more efficient and effective Online Distance Learning environment that supports students' academic success.

The challenges identified above align with the findings of a study by Martinez *et al.* (2020) that examined the obstacles faced by students in Online Distance Learning. Martinez *et al.* highlighted the issue of ineffective time management,

noting that students often struggle with self-regulation and time allocation in the online learning environment. This supports the moderately evident challenge of ineffective time management above. Additionally, the study emphasized the importance of clear communication and timely feedback in Online Distance Learning, echoing the moderately evident challenges of lack of instant communication and not receiving timely feedback. The findings from Martinez *et al.* reinforce the need for educational institutions to address these challenges by implementing strategies that enhance time management skills, establish effective communication channels, and provide timely and meaningful feedback to support student success in the online learning context.

### Improvement Plan

The improvement plan aims to enhance the effectiveness of HyFlex Learning and Online Distance Learning to improve college students' academic performance. It addresses the identified challenges and emphasizes the need for a conducive learning environment, engagement and connection, effective communication channels, feedback and instructional clarity, time management strategies, and continuous professional development for instructors. By assessing and optimizing physical learning spaces, promoting community and interactive activities, ensuring clear communication, providing timely feedback, offering time management resources, and fostering a culture of continuous improvement, the plan aims to create an inclusive and engaging learning environment. Implementing this plan will help educational institutions overcome challenges, maximize the impact of flexible learning approaches, and ultimately enhance students' academic performance in the digital learning landscape.



Fig 2: Improvement Plan

## Conclusions

After conducting an in-depth analysis and interpretation, several conclusions can be drawn. Firstly, HyFlex Learning, whether in face-to-face synchronous sessions or video conference sessions, has a significant positive impact on college students' academic performance. It enhances real-time interpersonal communication, social-emotional exchanges, comprehension levels, and promotes collaborative learning. Similarly, Online Distance Learning exhibits a significant positive impact on academic performance by improving efficiency, providing flexible accessibility, affordability, and accommodating a variety of learning styles.

Furthermore, the impact of both HyFlex Learning and Online Distance Learning remains consistent across different profile variables, including age, sex, and year level. There are no significant differences observed, suggesting that both learning approaches are effective for students with diverse backgrounds and characteristics.

However, challenges are evident in both learning modalities. In HyFlex Learning, challenges include room setup, distractions at home, reduced sense of connection among students, and outdated training for students and educators. On the other hand, Online Distance Learning faces challenges related to ineffective time management, lack of instant communication, delayed feedback, unclear instructions or expectations, and distractions. These challenges highlight the need for institutional support, resources, and strategies to address them and create a conducive learning environment.

In a nutshell, educational institutions should adapt and implement strategies that support effective time management, enhance communication channels, provide timely feedback, clarify instructions and expectations, minimize distractions, and address the challenges specific to each learning approach. By doing so, they can promote student success and improve the overall learning experience in both HyFlex Learning and Online Distance Learning settings. These conclusions highlight the importance of continuous improvement and adaptation in educational practices, ensuring that students receive quality education irrespective of their profile variables. By leveraging the strengths of HyFlex Learning and Online Distance Learning while addressing the associated challenges, institutions can create a dynamic and inclusive learning environment that enhances academic performance and supports student success.

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