Education and Policy Development, Vol. 2 No. 1 (2024) https://doi.org/10.31098/epd.v2i1.1869

Research Paper

Measuring the Effectiveness of Online and Face-to-Face Classes Using the Community of Inquiry Framework

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Received : December 20, 2023	Revised : February 15, 2024	Accepted : March 20, 2024	Online : March 31, 2024

Abstract

The research study aims to measure and compare the effectiveness of face-to-face and online classes in the context of the Community of Inquiry Framework consisting of cognitive presence, social presence and instructional presence. It uses mixed methods of research design, and the participants are faculty members and students of different universities and colleges all over the Philippines. The importance of this research study is it assessed the effectiveness of online and face-to-face classes using the Community of Inquiry framework. Results showed that in all aspects of the Community of Inquiry Framework, the assessments of both modalities are highly effective. However, comparing the two modalities, FtF classes outweighed the online classes in all aspects. The 7 focus group discussions also yielded the same results, where students also identified 4 themes of advantages of the FtF modality which are; (1) Personal Interaction; (2) Real-Time Feedback; (3) Personalized Instruction; and (4) Reduced Distractions.

Keywords: *Face-to-face, Online, Community of Inquiry Framework*

INTRODUCTION

In recent years, education has witnessed a substantial shift due to the proliferation of online courses as a practical alternative to the more conventional face-to-face (FtF) teaching. This transition has prompted a heated discussion among educators, students, and policymakers over the efficacy and supremacy of these two forms of education; this shift has triggered the argument (Fischer,2020). For educational institutions and other stakeholders to make educated choices on the best mode of delivery for students' learning experiences, they need to thoroughly understand the relative benefits and drawbacks of face-to-face (FtF) courses and online classes. The student's level of participation is one of the most important factors determining the success of any teaching approach. Face-to-face (FtF) courses encourage face-to-face interactions and enable real-time conversations, debates, and collaborative projects. This feature of learning in a group setting may encourage active participation and the interchange of different points of view. In contrast, online classrooms often depend on asynchronous communication technologies, such as discussion boards and email, which may require students to adjust their communication and cooperation abilities to function effectively within a digital environment (Salas et al.,2022).

Another factor that must be considered is the influence of the manner of teaching on the entire educational experience and the level of contentment felt by students. Convenience, adaptability, and availability of resources are examples of aspects that may substantially impact how students perceive the setting in which they are learning (Park & Kim, 2020). Online courses may provide the ease of remote learning and accommodate the requirements of non-traditional students, working professionals, or anyone with physical impairments (Scagnoli et al.,2019). In-person classes provide a feeling of belonging and a more immersive experience.

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For universities and colleges around the world, the combination of in-person (FTF) and virtual classrooms has presented several difficulties in the educational domain. An important issue is unequal access to technology among students, resulting in discrepancies in dependable internet connections and digital gadgets. This creates a digital gap that negatively affects their ability to participate (Morsi & Assem, 2021). Encouraging student engagement in the online environment presents challenges due to the abundance of distractions in the absence of physical peers and instructors (Mandasari, B. 2020). Evaluating students' comprehension becomes intricate due to the presence of cheating and plagiarism in online assessments, requiring inventive measures to uphold academic honesty. Teacher training is vital for adjusting educational approaches to online platforms, while reliable technical support systems are necessary for resolving technological issues (Elzainy et. al, 2020).

Student well-being is a significant concern, since the absence of in-person contacts may lead to feelings of isolation and have a detrimental effect on mental health (Sahu, 2020). Furthermore, the problem of excessive screen time in online learning gives rise to concerns about the physical pain and exhaustion experienced by students (Larsson et al., 2023). The implementation of inclusive education encounters difficulties in reproducing the fair and impartial learning atmosphere offered by face-to-face classrooms, particularly in guaranteeing accessibility for students with varying learning requirements.

Online class adoption in the Philippines has been difficult, thereby worsening educational inequality. The digital gap is evident because many people, especially in distant or impoverished places, lack dependable internet and digital gadgets (Bingco et. al, 2022). This gap worsens educational inequality and limits students' online learning. Online education is disrupted and compromised by infrastructure issues such as insufficient internet capacity and frequent power outages (Oducado, 2020). The switch to online classrooms has also highlighted student and instructor technological incompetence, which hinders online learning platform navigation. With less real-time conversation and probable isolation, virtual student participation and involvement are difficult (Arciosa, 2022). Cheating and plagiarism may increase online, making fair evaluations and academic integrity difficult (Arciosa, 2022).

When comparing face-to-face (FtF) lessons with those offered online, another important factor is how cost-effectiveness of each option is. Travel, lodging, and use of various campus amenities are often incurred by students who receive their education in the conventional classroom setting (Gaganis et al.,2021). On the other hand, students may avoid these expenses by taking online courses, which offer them more cost-effective alternatives. Suppose educational institutions want to make educated judgments regarding how resources should be distributed and how much students should be charged for classes. In that case, they need to have a solid understanding of the economic consequences of each delivery method (Gaganis et al.,2021).

This research on faculty and student perceptions of online and traditional classrooms is crucial for several reasons. It offers valuable insights into the efficacy of various modalities of instruction and assists educational institutions in making informed decisions regarding course delivery methods. Understanding faculty and student perceptions allows institutions to enhance their teaching methods by identifying the strengths and weaknesses of online and face-to-face classes. Feedback from both groups can inform the design of courses, the creation of curricula, and the implementation of instructional strategies, ultimately enhancing the learning experience. In addition, faculty perceptions of online and in-person courses can disclose their preferences, concerns, and challenges in each mode. This information can help institutions develop training programs and support systems to help faculty navigate and acclimate to diverse instructional environments. In addition, research on student perceptions sheds light on their experiences and levels of satisfaction with online and traditional classes. This information assists institutions

identify the factors that influence student engagement, motivation, and success in various instruction modalities. Understanding student preferences and concerns can inform retention and satisfaction-enhancing strategies. Last but not least, research on faculty and student perceptions of online and in-person classes can contribute to institutional readiness for future disruptions. It can inform the development of contingency plans and support systems that facilitate the transition between various instruction modalities.

Research Questions

Generally, this research paper determined the effectiveness of FTF and online classes. Specifically, the following questions were answered:

1. What is the level of effectiveness of FTF classes in terms of:
   a. Cognitive Presence
   b. Social Presence
   c. Instructional Presence
2. What is the level of effectiveness of online classes in terms of:
   a. Cognitive Presence
   b. Social Presence
   c. Instructional Presence
3. Is there a significant difference in the effectiveness of FTF and online classes?

LITERATURE REVIEW

The Community of Inquiry framework makes research on faculty and student perceptions of online and face-to-face classes even more crucial. This study is based on the Community of Inquiry Framework by Garrison, Anderson, and Archer last 2000. The Community of Inquiry (CoI) framework is closely connected to the effectiveness of face-to-face (FtF) and online classes. The CoI framework provides a theoretical model for understanding and evaluating the learning experience in both these modalities (Fiock et al.,2020). The CoI framework consists of three essential elements: social presence, cognitive presence, and teaching presence. Each of these elements contributes to the overall effectiveness of the learning environment.

Social presence refers to the ability of participants to establish and maintain a sense of connection, trust, and community within the learning environment. It involves interpersonal interactions, effective communication, and a supportive learning community. Social presence in FtF and online classes is crucial for fostering engagement, motivation, and collaboration among learners. When students feel a sense of belonging and connection with their peers and instructors, it positively influences their learning outcomes (Wertz, 2022). Cognitive presence refers to how learners construct and confirm meaning through sustained reflection and discourse. It involves critical thinking, higher-order cognitive skills, and active construction of knowledge. FtF and online classes can facilitate cognitive presence by providing opportunities for learners to engage in meaningful discussions, problem-solving activities, and reflection on their learning experiences.

Effective instructional strategies, such as stimulating discussions, collaborative projects, and reflective tasks, can enhance cognitive presence in both modalities (Wertz, 2022). Teaching presence refers to the design, facilitation, and direction instructors provide to support and guide the learning process. It encompasses instructional design, facilitation of discussions, and direct instruction. In FtF classes, teaching presence is typically more visible, as instructors directly interact with students in real time. Teaching presence is often mediated in online classes through various online tools and technologies. Effective teaching presence is critical in both modalities to create a well-structured and engaging learning environment, provide timely feedback, and support student learning (Wertz, 2022).

When examining the effectiveness of FtF and online classes, the CoI framework allows researchers and educators to assess how these three elements interact and contribute to the learning experience. By evaluating the social presence, cognitive presence, and teaching presence in each modality, it is possible to understand the factors that influence the effectiveness of the classes and identify areas for improvement. The CoI framework provides a comprehensive lens to examine and enhance the quality of FtF and online learning environments. Educational stakeholders can gain insights into the efficiency of each instructional format and make educated judgments on the ideal mode of teaching for varied student groups if they examine these elements of education. The purpose of this study is to contribute to the continuous development of the educational environment in the digital era and to inform educational practices.

The CoI Framework offers a thorough method for assessing the effectiveness of both FTF and online classes. The framework allows a well-rounded evaluation of the learning experience by considering three crucial components: cognitive presence, social presence, and instructional presence. This detailed study assists researchers and educators in understanding the advantages and disadvantages of each form of training. Finally, rather than relying exclusively on instructional delivery modalities, the CoI paradigm highlights students' learning experiences. It enables academics to examine how students learn, collaborate with their peers, and interact with their teachers. Educators may make educated choices to improve teaching and learning methods in both FTF and online contexts by analyzing the learning experience from students' viewpoints.

Online and FtF Classes: A Comparison

According to a study by Kemp (2020), students perceive greater levels of effort and engagement in FTF classes than in online classes. They reported that FTF classes offered more opportunities for direct interactions with instructors and peers, resulting in a larger sense of participation. On the other hand, students viewed online classes as more convenient and flexible, allowing them to manage their schedules better. In addition, the study found that students perceived a higher level of learning in FTF classes than in online classes. Through real-time discussions, instantaneous feedback, and hands-on activities, they reported that FTF classes enhanced their learning experience. In contrast, online courses were perceived to be more content-oriented, emphasizing self-directed learning and independent study.

Purwanto (2020) found various benefits of online learning throughout the epidemic. First, students liked that it allows then to organiza their schedules and study at their own speed. Online platforms provide a range of digital tools to enhance learning. Online learning helped pupils gain digital literacy and use technology for education. The study also found some online learning restrictions and obstacles. Students found it challenging to remain motivated and focused without face-to-face contact and in actual classrooms. Technical difficulties and poor internet connection prevented some students from accessing online materials and live lectures. Students also noted the need for teacher comments and clarity. This research suggests solutions to these limitations. The students said instructors should provide frequent check-ins, timely feedback, and clear directions. Equitable participation requires improving the technological infrastructure and providing dependable internet access to all students. Online activities like virtual group discussions and multimedia presentations may boost student enthusiasm. Offering synchronous interactions and virtual office hours may assist in duplicating face-to-face advantages online.

Gherhes et al. (2021) found that students prefer different educational approaches. Due to its flexibility, ease, and self-pacing, several students preferred e-learning. They liked self-directed learning and easy access to digital resources. However, many students preferred face-to-face instruction. They liked classroom interaction and participation. Face-to-face learning was praised for its instant teacher response, real-time dialogs, and the capacity to ask questions. The study

found various elements that affect students' preferences and behavior. Technological competency and dependable internet connection significantly influenced E-learning attitude and aptitude. E-learning was more popular among tech-savvy students who had access to gadgets and the Internet. The research also stressed teacher presence and involvement in e-learning and face-to-face learning. Students stressed instructors' supports and engagement. Students liked instructors who used technology in e-learning or interactive ways in face-to-face learning.

John et al. (2021) found student benefits of online learning. Students liked the online approach because they could quickly access lectures and course materials. They also praised the option to stop, rewind, and examine the recorded lectures. Online learning also saved student money on travel and lodging. The online platform also allowed the children to concentrate without interruptions. The research also found online teaching programs' drawbacks. Students disliked the absence of an instructor-student connection. They needed to catch up on instant explanations and class discussions. The lack of hands-on practical sessions and laboratory experiences was also highlighted in anatomy, where practical knowledge is crucial. Students experienced connection concerns and trouble using online platforms, which impacted their studies. Online programs require dependable internet and technological assistance.

In a study conducted by Salleh et al. (2020) and Zboun and Farrah (2021), the disadvantages of online classes were enumerated. Despite their benefits, online classes have several disadvantages. Limited Internet connectivity, especially in rural areas, is a significant obstacle that can impede access to online resources and synchronous learning activities. Stable internet connections and appropriate devices may improve ineffective participation and engagement in online classes. In addition, online learning necessitates self-control and discipline, as students must manage their time, remain motivated, and independently navigate digital platforms. Some students may need help with these aspects, resulting in diminished productivity and learning outcomes. Moreover, online classes may require more social interaction and collaborative learning opportunities typically found in traditional classrooms. This diminished social interaction can impact students' motivation, sense of belonging, and engagement. Digital literacy skills can be challenging for students and teachers, as only some possess the technical skills necessary to navigate online platforms effectively.

According to Topping (2023), Face-to-face (FTF) classes have been the standard mode of instruction for decades but have disadvantages. FTF classes may be inaccessible for some students, particularly those residing in remote areas or needing transportation. This can limit the educational opportunities available to students in rural or geographically isolated areas. In addition, large class sizes in Philippine schools can pose difficulties regarding classroom administration, individualized instruction, and individual attention. In a traditional classroom setting, it may be difficult for instructors to accommodate all students' diverse requirements and learning styles. Moreover, FTF classes are susceptible to safety concerns, such as natural disasters, public health emergencies, and security threats, resulting in school closures and disruptions that negatively impact students' learning continuity. In addition, some schools may require more classrooms, adequate facilities, or resources. These constraints can impact the quality of education and inhibit students' learning experiences.

Research Paradigm

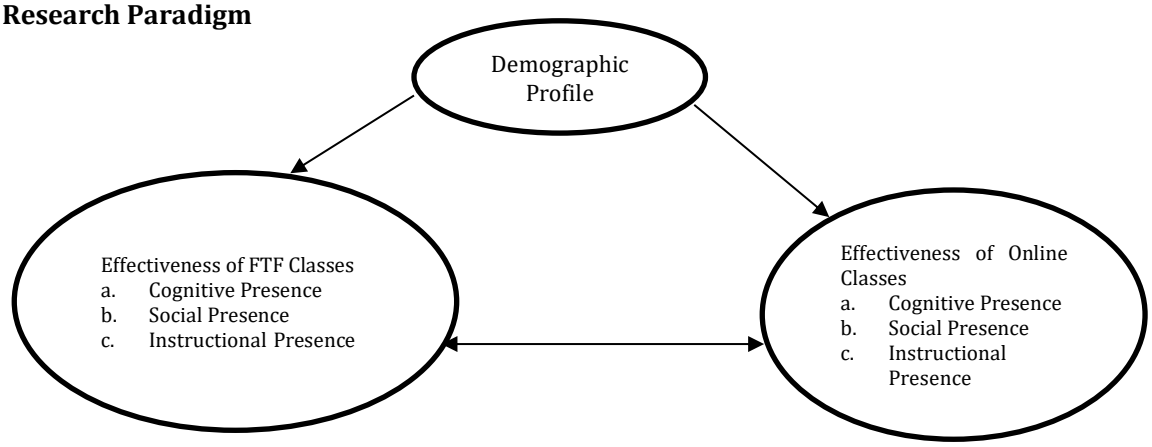

Figure 1. Research Paradigm

RESEARCH METHOD

Participants

The study respondents were selected using a convenience sampling technique, and they were the faculty members and tertiary students of the universities in the Philippines. Google Forms was used to gather data virtually, and the researcher sought the help of his colleagues at the Philippine Association of Collegiate Schools of Business to distribute the online form. 437 faculty and students responded, but 432 were valid responses. Aside from the survey, seven rounds of focus group discussions were held among the Bachelor of Business Administration and Bachelor of Nursing students at Northwestern University. Table 1 shows the demographic profile of the survey respondents.

Table 1. Demographics of the Respondents

Constructs		Frequency	Percentage
Location of the School	Rural	106	24.5
	Urban	326	75.5
Gender	Male	143	33.1
	Female	289	66.9
Age	18-21	107	24.8
	22-25	62	14.4
	26-29	42	9.7
	31-33	42	9.7
	34-37	28	6.3
	38-40	16	3.7
	41-43	24	5.6
	44-47	25	5.8
	48-51	25	5.8
	52-55	19	4.4
	56-60	25	5.8
	Above 60	17	3.9
Highest Educational Attainment	Highschool Graduate	113	26.2
	College Graduate	135	31.3
	Masters Graduate	114	26.4
	Doctoral Graduate	70	16.2
Status	Students	113	26.2
	Faculty Members	319	73.8

Based on Table 1, most of the respondents to the survey were from urban areas (75.5%). Different Universities participated in the survey such as Bicol College, Northwestern University, University of Saint Louie Tuguegarao, Western Visayas State University, Universidad de Zamboanga, Centro Escolar University, Angeles University Foundation, Capiz State University, Eastern Samar State University, University of Mindanao, Negros Oriental State University, University of Santo Tomas, Altavas College, Asia Pacific College, PHINMA Araullo University, University of Rizal System, Bukidnon State University, Benguet State University, Rizal Technological University, Initao College, Marinduque State College, University of Batangas, iAcademy Inc., Monkayo College of Arts Sciences and Technology, Olivarez College, Trinity University of Asia, Philippine Normal University, Manila Tytana Colleges, University of La Sallette, Quezon City University, Sergio Balane Integrated School, Camohaguin Elementary School, Saint Mary's University, Quezon city University, Bestlink College of the Philippines, San Sebastian College Recoletos, Holy Child Jesus College, University of Northern Philippines, University of the East and many more. These schools are located in various provinces of the Philippines.

On the other hand, 66.9% or 289 respondents are female, 107 respondents aged 18-21 (24.8%), and 135 or 31.3% were college graduates. For the 7 FGDs conducted (70 students), most of them are aged 18-21 and students of Northwestern University taking up Bachelor of Business Administration and Bachelor of Science in Nursing. They were chosen because they represent the inclusion criteria set by the researcher such as educational background (they should be studying in the University and from second to fourth year college students). Faculty members are lecturers and academicians of different universities, and they are also included in the study alongside the students because both groups are the main actors in the implementation of online and FTF classes in universities.

Research Instrument

The research instruments used were a questionnaire for the survey and a list of guide questions for the FGDs. There are two sections of the questionnaire. The first part is the demographic profile, and the second part is the faculty members' and students' perception of FtF and online education using the Community of Inquiry Framework's three dimensions: cognitive presence, social presence, and instructional presence. The demographic profile included location, gender, age, and the highest educational qualification. The second part consisted of author-made questions about perceptions toward online and FtF classes about the Community of Inquiry Framework.

Data Analysis

A mixed method was used in this study. Mixed methods research employs both qualitative and quantitative methodologies a single study or research effort. It combines the advantages of both qualitative and quantitative methodologies to create a more thorough picture of the study issue and handle research problems from many angles. First, the researcher conducted the survey of both lecturers and students. Focus group discussions were conducted after the survey to reinforce the data collected in the survey. Frequencies and weighted means were employed to explain the perception of faculty members and students toward online and FTF classes. In addition, an independent sample t-test was used to find the differences in perceptions of online and FTF classes. Moreover, Pearson's r was used to know the relationship between demographic profile and FtF and Online classes.

Ethical Considerations

The research about Philippine students and educators underwent various ethical standards. Participants learned about the study's goals and contributions. After explaining the

study objective, informed consent was obtained. The researchers invite participants, who may leave at any time. The researchers followed all the guidelines during the study. The researcher ensured that respondents gain the best, benefit from the study's results, contribute to teaching and learning, and are never physically, mentally, or emotionally harmed. Informed consent also includes (a) a researcher-participant agreement to participate in the study. Sufficient information was presented and explained to participants at their level of comprehension, (b) information from which they could withdraw at any time, ask questions, and refuse to answer questions if they were uncomfortable, (c) an explanation of the study's potential risks and benefits to help them make informed decisions about their participation, and (d) a description of the participants. Data gathering begins with a completed permission form.

The researcher provided each participant with a reference-based code and attached it to the interview guide to maintain confidentiality and anonymity. The researcher did not identify respondent data. For participant anonymity, the researcher provided a unique number code. Only the researcher knows the statement's source. The report states that the researchers have no financial, familial, or proprietary conflicts of interest with the sponsor or study site. This ensures that only essential actions are taken and that the study is neither biased nor unfair. The study respondents were safeguarded from physical, psychological, and mental assault. Respondents were asked to provide the most convenient interview time during the research.

FINDINGS AND DISCUSSION

Assessment of the Effectiveness of FtF and Online Classes based on the Community of Inquiry Framework.

Table 2. Assessment of the Effectiveness of FtF and Online Classes in Terms of Cognitive Presence

Items	FtF		Online	
Cognitive Presence	**Mean**	**VI**	**Mean**	**VI**
Learners in this school actively engage in critical thinking and reflection.	3.51	HE	3.33	HE
The learning activities in this school challenge students to think deeply about the subject matter.	3.55	HE	3.34	HE
The student feels that his ideas and perspectives are valued and respected in the learning discussions.	3.55	HE	3.40	HE
The discussions in the classes help students integrate new information with student's existing knowledge.	3.61	HE	3.40	HE
Learning tasks and assignments require students to analyze, evaluate, and synthesize information.	3.60	HE	3.40	HE
Students feel intellectually stimulated and challenged in this learning community.	3.49	HE	3.31	HE
Learning activities in this community promote collaborative problem-solving and critical inquiry.	3.54	HE	3.30	HE
The student finds that the discussions and interactions in this university enhance their understanding of the subject matter.	3.57	HE	3.34	HE
The student can see the connections between the student's learning and its real-world applications.	3.54	HE	3.37	HE
Learners in this school actively engage in critical thinking and reflection.	3.53	HE	3.34	HE
Composite Mean	**3.55**	**HE**	**3.35**	**HE**

Legend: 4.00-3.26 Highly Effective (HE)
3.25-2.51Moderately Effective (ME)
2.50-1.76 Slightly Effective (SE)
1.75-1.00 Not Effective (NE)

Table 2 shows the results of the assessment of the effectiveness of FtF and online classes. According to the table, both FtF and online classes were highly Effective ($\bar{x}$ = 3.55 and 3.35,

respectively). This means that both online and in-person classes provide various chances for enhancing cognitive presence in students. Blended learning, which combines various modalities effectively, may result in a more complete and fulfilling educational experience that fosters critical and analytical thinking.

Table 3. Assessment of the Effectiveness of FtF and Online Classes in Terms of Social Presence

Items	FtF		Online	
Social Presence	**Mean**	**VI**	**Mean**	**VI**
Students and teachers feel a sense of belonging and connectedness to the members of this learning community.	3.53	HE	3.31	HE
Students and faculty members believe that participating in this community has improved their critical thinking skills.	3.55	HE	3.35	HE
The interactions in this community are supportive and respectful.	3.56	HE	3.40	HE
Students and faculty members feel comfortable expressing their thoughts and opinions in this learning environment.	3.52	HE	3.32	HE
The learning activities in this community promote collaboration and teamwork.	3.60	HE	3.32	HE
Students and faculty members can easily establish and maintain relationships with other community members.	3.51	HE	3.30	HE
The feedback and encouragement that students and faculty members receive from others in this community motivate their learning	3.55	HE	3.34	HE
The communication tools and platforms used in this community facilitate social interaction.	3.52	HE	3.36	HE
Students and faculty members feel that their contributions and ideas are valued and appreciated by others.	3.53	HE	3.36	HE
Students and faculty members can sense the presence of a supportive and collaborative learning community in this environment.	3.54	HE	3.35	HE
Composite Mean	**3.54**	**HE**	**3.34**	**HE**

Legend: 4.00-3.26 Highly Effective (HE)
3.25-2.51Moderately Effective (ME)
2.50-1.76 Slightly Effective (SE)
1.75-1.00 Not Effective (NE)

Table 3 presents the assessment of FtF and online classes regarding social presence. Both modalities received a descriptive rating of Highly Effective, which means that the faculty members and students find the online and FtF methods of classes effective on their end. Both modalities successfully achieve their intended objectives and produce positive student outcomes ($\bar{x}$=3.54 and $\bar{x}$=3.34, respectively). Highly effective social presence refers to the quality of interactions and engagement among participants in an online learning environment. The degree to which faculty members and students in a learning environment (whether online or face-to-face) can project themselves as real individuals and build meaningful relationships with others in the learning environment is the emphasis of social presence. Furthermore, the results in Table 3 only show that both online and FtF modalities have engagement and authenticity.

Table 4. Assessment of the Effectiveness of FtF and Online Classes in Terms of Instructional Presence

Items	FtF		Online	
Instructional Presence	**Mean**	**VI**	**Mean**	**VI**
The instructions provided in this course are clear and easy to understand.	3.58	HE	3.42	HE
Course materials and resources effectively support student's learning	3.57	HE	3.45	HE
The instructional design of this course facilitates student's	3.57	HE	3.42	HE

engagement and interaction				
The learning activities and assessments are aligned with the course objectives.	3.60	HE	3.50	HE
The instructor provides timely and constructive feedback on students' works.	3.54	HE	3.41	HE
The instructor demonstrates expertise in the subject matter.	3.63	HE	3.49	HE
The instructor encourages and supports students' active participation in the course.	3.63	HE	3.49	HE
The instructor effectively uses technology tools to enhance the students' learning experience.	3.65	HE	3.49	HE
The instructor provides guidance and support in setting and achieving learning goals.	3.59	HE	3.49	HE
The instructional strategies employed in this course promote deep understanding and critical thinking.	3.63	HE	3.46	HE
Composite Mean	3.61	**HE**	3.46	**HE**

Legend: 4.00-3.26 Highly Effective (HE)
3.25-2.51Moderately Effective (ME)
2.50-1.76 Slightly Effective (SE)
1.75-1.00 Not Effective (NE)

Table 4 shows the assessment in terms of the instructional presence. It can be seen in the table that the assessment of the effectiveness of both modalities (FtF and Online) is highly Effective**,** with mean ratings of $\bar{x}$= 3.61 and $\bar{x}$=3.46, respectively. This means creating a conducive and supportive learning atmosphere that fosters student participation, understanding, and overall educational success. Effective FtF (Face-to-Face) and online instructional presence refers to the ability of an instructor to actively engage and connect with students in both traditional in-person classroom settings and virtual online learning environments.

Significant Difference between FtF and Online Assessment

Table 5. Difference between Face-To-Face and Online

	F2F		Online		t	p	Cohen's d
	M	**SD**	**M**	**SD**			
Cognitive	3.55	0.46	3.35	0.57	5.47	.000	0.39
Social	3.54	0.47	3.34	0.61	5.31	.000	0.37
Instructional	3.60	0.46	3.46	0.54	3.95	.000	0.28

Note: P<.05; f^2 is the Cohen's (1988) effect size: >0.02 (small effect), >0.15 (medium effect), >0.35 (Large effect)

Table 5 shows that the independent t-test was conducted to explore the differences between face-to-face and online classes. Results indicate that under cognitive, the participants in FtF ($M = 3.55, SD = 0.46$) compared to the participants in online ($M = 3.35, SD = 0.57$) have statistically significant differences (t=5.47, p=.000), and the effect size was relatively large. Under social presence, the participants in FtF(M= 3.54, SD =.47) compared with the participants online ($M = 3.34, SD = 0.61$) have statistically significant differences (t=5.31, p=.000), and the effect size was relatively large. Lastly, for instructional presence, the participants in FtF(M= 3.60, SD =.46) compared with the participants in online ($M = 3.46, SD = 0.54$) have statistically significant differences (t=3.95, p=.000), and the effect size was relatively large.

It refers to a meaningful and measurable distinction observed between the performance or outcomes of students in these two different instructional settings. It is observed in the results that

the FtF classes' received higher weighted means in all aspects of the CoI Framework. This means that, based on evaluations and feedback from students and faculty members, face-to-face (FtF) classes are perceived or judged to be more successful, advantageous, or impactful than other modes of instruction, such as online classes. In this context, effectiveness refers to how a particular instructional approach achieves its goals and objectives. It encompasses various factors, including the quality of learning experiences, engagement, student outcomes, instructor-student interactions, and overall satisfaction with the learning process.

Based on the results of FGDs conducted, the following themes were generated as the main advantages of FtF classes over online classes:

Table 6. Thematic Analysis of the Advantages of FtF over Online Classes

Theme	Sample Statements
Interpersonal Interaction	• "I appreciate the personal interaction with our instructor. It makes the learning experience more engaging and helps me stay focused on the subject." • "The group activities in class have been beneficial for learning from my peers and building connections with my classmates. I feel more connected to the course and my fellow students." • "In FtF classes, I can easily approach my instructor after class to seek clarification on topics. The immediate feedback has helped me improve my understanding of the subject."
Real-Time Feedback	• "Getting immediate feedback on my assignments and exams has been incredibly helpful. It allows me to understand my mistakes and make improvements right away." • "During group activities, our instructor provides on-the-spot feedback, guiding us towards the right direction and fostering better teamwork." • "Knowing that I will receive immediate feedback on my in-class contributions motivates me to participate and share my ideas with the class actively."
Personalized Instruction	• "In FtF classes, the instructor knows each of us by name, creating a sense of belonging. I feel valued as a learner, motivating me to participate in class actively." • "Our instructor encourages us to ask questions and share our thoughts during class discussions. They give personalized attention to each student's contributions, thus fostering a positive learning environment." • "The one-on-one interactions with our instructor during office hours are invaluable. They take the time to address our concerns and provide additional resources to enhance our understanding."
Reduced Distractions	• "In FtF classes, I can fully concentrate on the lecture and class discussions without being distracted by checking my phone or other online activities." • "The absence of background noise and other digital distractions in FtF classes allows me to absorb information better and retain it for longer." • "Compared to online classes, I am less prone to multitasking in FtF classes." I can completely immerse myself in the learning process without switching between displays."

Thematic analysis of the benefits of face-to-face (FtF) courses versus online classes shows the following significant themes, which are based on the results of seven focus group discussions with students: (1) Personal Interaction; (2) Real-Time Feedback; (3) Personalized Instruction; and (4) Reduced Distractions are the four pillars of effective education, follow as below:

1. **Interpersonal Communication**

   Students in Face-to-Face (FtF) classrooms gain by having direct and immediate contact with their professors and classmates. Students can actively engage in class discussions, ask questions, and express their viewpoints because of the interactions that occur in the classroom, which create a more dynamic and interesting learning environment.

2. **Real-Time Feedback and Support**
   The fact that FtF programs provide students with the opportunity to receive feedback in real-time is a huge benefit. As a result of the instructor's ability to give instant explanations and respond immediately to students' inquiries, students' overall comprehension of the content covered in the course is improved.
3. **Instruction that is Personalized and Adaptable: Teachers who use the Flipped**
   Classroom model can see their students' responses, engagement levels, and non-verbal indications. With this knowledge, they can better assess the unique ways in which individuals learn and adapt their instructional strategies to meet the varied requirements of their pupils.
4. **Reduced Opportunities for Distraction and Increased Capacity for Concentration**: Because FtF sessions occur place in traditional classrooms rather than online learning settings, students have fewer opportunities to get distracted by digital distractions.

Discussions

The Community of Inquiry (CoI) framework is a well-known theoretical model that investigates the learning process and the components required for a meaningful educational experience. The CoI framework, created by Garrison, Anderson, and Archer (2000), highlights three critical components that contribute to a successful learning experience: cognitive presence, social presence, and instructional presence. The researcher used this paradigm to analyze and compare the effectiveness of online and face-to-face (FtF) modes of classes, examining how each form of education affects these components.

In the Philippine context, the evaluation of effectiveness for both face-to-face (FtF) and online modalities in the context of the Community of Inquiry (CoI) framework demonstrates favorable results across all three essential elements. Regarding cognitive presence, learners in both face-to-face and online classrooms show impressive participation in critical thinking, problem-solving, and meaningful learning experiences. Instructors create activities that promote deep learning and active engagement, creating an atmosphere favorable to reflective thinking. Furthermore, learners have a strong feeling of community, interpersonal connections, and support in both modalities. Active involvement in online conversations, virtual interactions, and in-person participation in FtF sessions all contribute to a rewarding learning experience. Finally, the instructional presence, which includes teacher facilitation and guiding, is effective in all types. Course designs that are well-structured, timely feedback and efficient communication tactics guarantee that learners receive an excellent education in both online and face-to-face situations. The CoI Framework, in essence, emphasizes the usefulness of both modalities, highlighting the significance of creative instructional design and meaningful learner interactions in achieving good learning outcomes.

CONCLUSIONS

When comparing the two instructional modes, face-to-face (FtF) or conventional classrooms consistently out perform all Community of Inquiry (CoI) Framework elements. In cognitive presence assessments, students in FtF classrooms regularly demonstrate greater critical thinking, problem-solving, and meaningful learning experiences than their peers in online programs. In a physical classroom environment, quick and direct contact with instructors and classmates generates stronger engagement with course content. Furthermore, social presence is greater in FtF sessions, with students benefitting from real-time interactions, nonverbal clues, and a stronger feeling of community. While online courses provide opportunities for social contact, the lack of face-to-face communication may restrict the depth of bonds built among students.

Furthermore, teaching presence is more successful in FtF sessions since teachers may provide rapid feedback and individualized coaching, boosting the learning experience. While online classes provide flexibility and convenience, the CoI Framework suggests that traditional FtF classes consistently produce better outcomes in all three critical areas, highlighting the importance of the physical classroom environment in promoting deeper cognitive engagement, meaningful social interactions, and effective instructional facilitation.

Based on the results of the Focus Group Discussion (FGD), it was clear that participants favored face-to-face (FtF) sessions over online ones. The participants in the FGD presented their opinions and experiences about their learning preferences and experiences in both modes. Several explanations for the preference for FtF courses have surfaced. Participants underlined the importance of face-to-face contact with instructors and peers, claiming that real-time conversations and fast feedback in physical classrooms enhanced their learning experiences. Participants expressed a feeling of camaraderie and a better connection with their peers, emphasizing the social aspect of FtF courses. They valued participating in spontaneous dialogs, nonverbal communication, and collaborative activities that promoted a more dynamic and engaged learning environment. While participants recognized the ease of using online classrooms, they also identified possible drawbacks such as technology concerns, restricted social contacts, and a perceived lack of teacher presence. Overall, FtF sessions were preferred by FGD participants, indicating a clear preference for the advantages of face-to-face interactions and a feeling of community, which contribute to a more meaningful and rewarding learning experience.

LIMITATION & FURTHER RESEARCH

The preference for FtF classrooms highlights the importance of interactive and engaging learning methods. Online educators and institutions should use interactive elements, cooperative projects, and virtual discussions to engage students and overcome the social and cognitive gaps between the modes. Online classroom technology difficulties must be addressed to improve student experiences. Technical support, consistent internet connectivity, and user-friendly platforms may boost online learning. Longitudinal study may reveal how instructional modes affect student learning, engagement, and academic accomplishment. This research may help determine the teaching style's long-term impact. Finally, teacher support was stressed for a comfortable learning environment. Future research should focus on how teachers may build an online presence, offer timely feedback, and connect with online students.

In the Focus Group Discussion (FGD), the preference for face-to-face (FtF) courses over online classes provided helpful insights, but several restrictions may limit generalizability and interpretation. FGD participants may have been self-selected or recruited from particular courses or programs, resulting in bias. Learners having positive or negative experiences with either medium may have participated more, affecting the findings. Finally, FGD findings may not apply to all students or schools. Personal attributes, experiences, and culture may influence learners' instructional mode choices.

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