



INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES



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To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v12-i12/16143> DOI:10.6007/IJARBSS/v12-i12/16143

Received: 13 October 2022, **Revised:** 17 November 2022, **Accepted:** 30 November 2022

Published Online: 21 December 2022

In-Text Citation: (Arumugam et al., 2022)

To Cite this Article: Arumugam, N., Ibrahim, I. W., Hadeli, H., & Nasharudin, S. N. S. (2022). Students' Perceptions on E-Learning and Face-To-Face Learning: A Comparative Analysis of E-Learning and Face-To-Face Learning among University Students in Malaysia and Indonesia. *International Journal of Academic Research in Business and Social Sciences*, 12(12), 2824 – 2838.

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Vol. 12, No. 12, 2022, Pg. 2824 – 2838

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INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES



www.hrmars.com

ISSN: 2222-6990

Students' Perceptions on E-Learning and Face-To-Face Learning: A Comparative Analysis of E-Learning and Face-To-Face Learning among University Students in Malaysia and Indonesia

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Abstract

In the midst of covid 19 endemic, educators all over the world realized that learning can be achieved everywhere via E-learning. In this study, the researchers investigated students' perceptions of E-learning and face-to-face learning by performing qualitative and quantitative studies that involved 311 students from public and private universities in Malaysia and State Islamic University Imam Bonjol of Padang, Indonesia. The objectives were to investigate and analyse students' perceptions of learner preferences, performance, study load, interactivity, and obstacles in E-learning and face-to-face learning. Findings disclosed that students demonstrated different perceptions and learning experiences. Most of the respondents indicated that they often experienced poor internet signal quality as the dominant factor especially those living in rural areas. In the interview, some students shared that they prefer a mix of face-to-face classes and a few online meetings. They also shared that their interest in online learning seemed to decrease and they appreciate face-to-face learning more. It was also disclosed that instructors are advised to be more creative and strengthen themselves with more advanced IT skills. As for the instructors, online instruction was a time-consuming resource and caused a work-life imbalance which not only impacts their families but also their social relations.

Keywords: E-Learning, Face-to-face Learning, Students, Perceptions, Instructors

Introduction

E-learning plays one of the most significant parts in today's higher education. E-learning has become increasingly important, and E-learning makes the learning process more effective in many contexts, such as assignments, presentations, quizzes, and forums to support student learning (Ho & Dzung, 2010; Verasingam, et al., 2020). The emergence and evolution of the

internet have challenged the development of valuable tools for E-learning. E-learning is transforming how university campuses teach and study, providing unexpected opportunities and unlimited access for everyone (R & Mahajan, 2018). In diverse blended learning environments, the integration of human interaction into online learning, the balanced combination of self-paced and team activities, and a mix of spoken, written, and interactive media have been proven to be effective in supporting learning for all personality types – visual, auditory, and kinaesthetic (Zacharis, 2015).

According to the Education Act 1996 (2016), face-to-face learning is a teacher-centred method for every education level as it allows for live interaction between students and teachers. With the integration of distance learning via the internet and face-to-face learning written by Marsap and Narin (2009), students who study at face-to-face learning institutions attend classes daily so students can go to class and follow the class varying from early morning to afternoon lessons. This medium is very effective since that interaction occurs in person, meaning a learner needs to be physically present in a classroom.

Attending face-to-face discussions and opening the discussions online is an excellent option for students as they receive immediate feedback. Face-to-face discussions allow students to think more deeply and reflect on other people's ideas. Fatonia (2020) revealed the difficulties with the internet network, while Dube (2020) shared that the South African government is promoting online learning as the only alternative in the context of COVID-19. However, this online mode excludes many rural learners from teaching and learning due to a lack of resources to connect to the internet, the learning management system, and low-tech software. Students' performance and perceptions in online and face-to-face learning have achieved similar academic achievement (Dube, 2020; Fatonia, 2020; Verasingam, et al., 2020). There is a concern that online and face-to-face platforms are related to each other as their effectiveness will depend on certain conditions such as time and place. Through this study, undergraduates' perceptions of these two forms of learning can help authorities focus on developing and improving the system.

Problem Statement

Bali and Liu (2018) point out that online learning is perceived as lack interactivity compared to face-to-face learning. It is mainly due to the lack of social presence, lack of social interaction, and lack of student satisfaction. With college enrolment projected to increase, many institutions are looking for alternative ways to meet student demands. As evidenced by recent reports on increasing enrolments, one possibility is to offer more online courses. Enrolment in online courses is not constrained by physical space as it can accommodate most students' schedules and is a growing alternative for on-campus students (Tichavsky et al., 2015).

Wright (2017) highlighted that the obvious disadvantage of online asynchronous lessons is the lack of verbal and nonverbal cues that may enrich teacher-student communication, particularly in language learning. Gestures, body language, and other audible cues enhance classroom communication, point to understanding or the lack thereof, and thus contribute to determining class pace. Encarnacion et al (2021) revealed that the e-learning approach has adverse effects on students, such as miscommunication, and slows down discussions between teachers and students. If students have any further questions that they do not understand, they must wait for a long time to get the answer. While much is known about online learning,

there is still a lack of research and detailed descriptions of students' opinions on a complete E-learning environment. Therefore, the objectives of this study, are to investigate the actual situation by addressing the following research questions:

1. What are students' perceptions of face-to-face learning?
2. What are students' perceptions of complete E-Learning?

Significance of Study

Educators can deliver information effectively to the learner. Undergraduates would be able to improve their performance and consistency academically if a better form of study were applied to our educational system. In the public and private sectors, through online learning, undergraduates indirectly practice their skills using electronic gadgets, which makes them proficient employees in the future in using software and technologies as it helps them to work efficiently.

Theoretical & Conceptual Framework

This study relies heavily on the technology acceptance model (TAM), initially proposed by Davis in 1986 (Marikyan & Papagiannidis, 2022). Davis (1989) established the Technology Acceptance Model (TAM) (Marikyan & Papagiannidis, 2022). This model has two key factors affecting a person's desire to use emerging technology: perceived ease of use and perceived usefulness. However, this study focuses only on Perceived Ease of Use. Perceived ease of use refers to how effortless he/she will perceive when she/he uses the technology (Marikyan & Papagiannidis, 2022). Perceived ease of use influences perceived usefulness and attitude towards using the technology. The attitude will determine the behavioural intention to use that technology (Masrom, 2007). A recent review by Radin-Salim et al (2018) on the use of technologies in the classroom showed that teachers, including newer and from digital native generations, did not have adequate technological proficiency needed to take advantage of the technologies; thus, making them unable to use the technologies in the classroom effectively. Instructors must be able to create and maintain educational arrangements while students enjoy those arrangements (Bali & Liu, 2018). This arrangement is related to social interaction. Any arrangement prepared but not fully delivered due to educators' lack of social skills made it hard to enhance students' comprehension. The framework of this study focuses on how team interaction, instructor guidance, simulation's ease of use, and previous software experience affect comprehension.

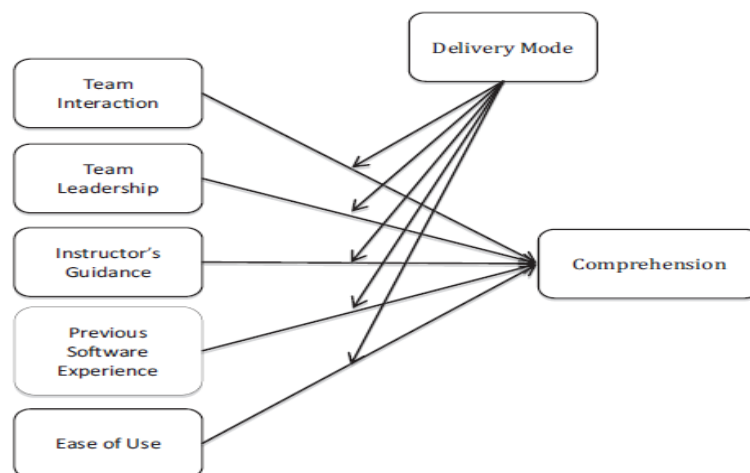


Figure 1: Conceptual framework

Methodology

This study used a mixed-method research design to elicit data. The data were collected from questionnaires distributed via Google Forms to 300 young adults from public and private universities in Malaysia, aged between 18 and 25 years old. This questionnaire consists of 4 sections; Section A explains the participant's demographic profile, Section B is related to the effect of online learning; Section C elicits the benefits of having face-to-face classes, and Section D asks about students' perceptions of online and face-to-face learning. The questionnaire was adapted from (Fortune et al., 2011; Arias et al., 2018; Lepp et al., 2019; Radin-Salim et al., 2018; Wright, 2017). For the qualitative data, the researchers interviewed 11 students to investigate their perceptions of online learning versus face-to-face. The interview respondents are called S1, S2, etc. These students were from State Islamic University Imam Bonjol of Padang, Indonesia.

The collected data were analysed using SPSS software-generated statistics to see the frequency of responses and to conduct a t-test Pearson Correlation test. The Pearson Correlation test of the strength of a linear association between two groups.

Demographic Profile

This quantitative study involved 300 respondents. 88% of the respondents were from public universities, while 12% were from private universities. There were 71.3% female respondents, while 28.7% were males. Most respondents came from bachelor's degree students with 76.0%. Next, 21.7% were Diploma students, 1.7% from Master's students, and only 0.7% were Doctors of Philosophy (Ph.D.).

Results and Discussions

This section presents the data analysis of the finding based on the two research questions.

Perceptions of Face-to-face Learning

Table 1

Perceptions of online learning and face-to-face learning

Items	Mean	Std Deviation
Face-to-face learning is more effective than online learning.	2.750	0.518
Face-to-face learning helps me more than online learning.	2.747	0.756
I remember details of the ideas in our face-to-face learning	2.597	0.573
ODL and Face-to-face forms of study are independent of each other.	2.493	0.636
ODL is complementary to a face-to-face class	2.480	0.625
I believe an internet course is possible, but learning English would be difficult.	2.353	0.686
Online learning is more interesting than face-to-face learning.	1.983	0.756

Students are more interested in online learning compared to face-to-face.	1.710	0.455
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The descriptive statistics in Table 1 show that students who agreed that face-to-face learning is more effective than online is recorded the highest mean response ($M=2.75$). The result shows that most respondents agree that face-to-face learning is more effective than ODL. This finding concurs with Marsap & Narin (2009), who highlighted physical class environment is effective as it encourages interaction among students and teachers. Students also indicated that face-to-face learning boosted their knowledge and skills. The item 'Face-to-face learning helps me more than online learning' has a mean of $M=2.747$. Several studies have stated that students favoured face-to-face learning over online learning as they missed communicating with their classmates in their online classes (Gherhes et al., 2021). They think physical classes are more accessible for them to interact with their lecturers directly when they have doubts (Wright, 2017), and the fact that they cannot interact with their classmates demotivates them and causes them to lose their focus (Zboun & Farrah, 2021).

Next, the students remembered details of the ideas in face-to-face learning and recorded the mean response ($M=2.597$). The significant mean value shows that most respondents agree that they remember details of the ideas in face-to-face learning. Wright (2017) said students would get more details and input when engaged in face-to-face classes because they will be more focused when studying face-to-face compared to online learning. Alawamleh et al (2020) also discovered in their research that the students' productivity has decreased in online courses, and their ability to comprehend the lesson worsen.

The students perceive that ODL and face-to-face study forms are independent of each other with a mean response of $M=2.493$. ODL is complementary to face-to-face class, recording the mean response ($M=2.480$). The mean value shows that most respondents agree that ODL complements face-to-face classes. Online learning is crucial because it breaks down traditional teaching walls, especially with easy access to present-day technologies (Coman 2020).

The statement, 'I believe an internet course is possible, but learning English would be challenging,' shows a reasonable mean response ($M=2.353$). Students had difficulties learning English due to the lack of interactions in online learning. Pavin (2022) concluded in his study that interaction in the classroom is crucial to motivate students in their learning process meanwhile Barrot et al (2021) discovered in their studies that the students suffered from several mental illnesses, such as depression and anxiety due to limitation of interactions with classmates and teachers.

The final two statements indicated that students felt more comfortable face-to-face than online learning. Students who are more interested in online learning than face-to-face are recorded as having the second-lowest mean ($M=1.983$). The lowest mean ($M=1.710$) is for most undergraduates who disagree with the statement that students are more interested in online learning compared to face-to-face learning. Numerous studies have proven that online learning is less effective than face-to-face learning and teaching (Almahasees et al., 2021; Arumugam et al., 2021; Janmaimool & Nunsunanon, 2021; Darkwa & Antwi, 2021). Several research findings presented that the main factors for this ineffectiveness were poor internet

access, expensive data costs, and inadequacy of electronic gadgets such as laptops or tablet computers to be used during online learning (Chisadza et al., 2021; Temmy et al., 2022).

In short, student perceptions of online and offline learning lie between two opposite poles, agree and disagree, for online and offline learning. Unexpectedly, most of the respondents come from and live in rural areas, and they often experienced poor internet signal quality as the dominant factor. Harun et al (2021) revealed in a study that 74% of university students claimed that they experienced problems with internet coverage and connectivity furthermore the home learning atmosphere is less comfortable than in physical classrooms (Barrot, 2021). Students encounter many distractions when participating in online learning from home. Besides, they also have problems understanding the material presented by the lecturer. This result is closely related to Karnalim and Wijanto (2021), who pointed out that the transition from offline learning to online learning somehow introduces issues like the difficulty of maintaining focus. Although lecturers' use of online learning platforms has begun to vary, student interest in online learning has not shown any signs of change. They still appreciate offline learning more.

Undoubtedly, over time, lecturers independently with their creativity began to vary in using online learning platforms, such as; WhatsApp messenger, google classroom, and zoom meetings. Arumugam et al (2021) using a qualitative approach, indicated that educators too run into problems such as isolation, lack of motivation in online teaching, and technical difficulties with online teaching tools. It was time-consuming resources and a work-life imbalance. They further revealed that at times educators' work-life imbalance impacts their families and social relations.

To further elicit information on the impact of face-to-face and online learning, a relationship between gender and their perception of their preferred learning mode was analyzed using Pearson's correlation test.

Table 2

The relationship between gender and online and face-to-face learning perception

Items	Male mean	Std. Dev	Female mean	Std. Dev	F	Sig. (2-tailed)	
						male	Female
Face-to-face learning is more effective than online learning.	2.674	0.583	2.780	0.488	8.033	0.109	0.139
Students are more interested in online learning compared to face-to-face learning.	1.826	0.785	0.743	0.766	0.001	0.402	0.408

Table 2 presents Pearson's correlation test results of significance between gender and perceptions of undergraduates of online learning and face-to-face learning. The result shows no significant relationship between gender and the perceptions of online and face-to-face learning. The mean values obtained for all items have no significant difference between males and females, such as the mean for item "Face to face learning is more effective than online learning," with a mean $m=2.674$ for males and 2.780 for females. The significance value for

that item is 0.109 for males and 0.139 for females. In addition, mean values between males and females with that item are 1.826, 0.743, and significance values are 0.402 and 0.408, respectively. Therefore, there is no significant difference between males and females where there are no difference values between mean and significance values for the items. It can be concluded that there is no significance between male or female perceptions of undergraduates of online learning and face-to-face learning.

Several studies have investigated the impact of gender in online learning versus face-to-face learning. It has been concluded that no significant gender differences were revealed in online learning outcomes (Boyte-Eckis et al., 2018; Korlat et al., 2021; Yu, 2021). Due to the uncertain research results, Liu et al (2021); Hong et al (2021) suggested further studies exploring gender differences in online learning contexts. It can be concluded as overall findings that respondents, irrespective of gender, are more interested in doing face-to-face learning compared to online learning. However, there is no difference between male and female responses for all items.

Perceptions of undergraduates on Complete E-Learning

Online learning has been around for quite a long time, along with the increasing use of the internet. Kentnor (2015) says online education is no longer a trend. Instead, it is mainstream. Although online learning has been implemented for a long time, it has not yet received full acceptance by students. Several factors cause the implementation of online learning to be less effective.

Hard to Understand the Lecturer's Explanation Due to the Slow Internet Connection

Online learning is education that takes place over the internet, and it is crucial to have a good internet network. During the pandemic, teaching and learning were done solely online. Arumugam et al (2021) claimed that students faced critical challenges as the internet network quality was still relatively slow. Jatmiko (2022) stated that Indonesia's internet speed is the lowest in Southeast Asia.

S2 shared, "It is difficult to understand (the lecturer's explanation) because the internet connection is not good." S3 said: "The signal quality in my place is moderate because if the lights go out or it rains heavily, the signal at my place will automatically disappear." She also added that whenever she is at home, she always loses the internet connection at her place. S4 confessed, "Network problems are sometimes problematic, especially when the lights go out, the network is definitely lost, and also consumes many data packets." A similar issue was also experienced by S7 and S5, especially on a rainy day when they encountered several blackouts. "I often feel devastated when I lose connection. I am not productively engaging in online learning, and Google meet is not conducive," lamented S6. Arumugam et al (2021); Cakrawati (2017) also concurs with the challenges faced by students in online learning due to slow-speed internet. Yanti (2021);Fatonia (2020) argued that students faced problems such as difficulty running applications and poor internet connections.

The students admitted that they had difficulty understanding the lecture material delivered by the lecturer. S1 said, "I was unable to understand the lecture material." The poor signal makes it difficult for the lecture"(S8), and S9 also bemoaned the same thing. "It is hard to understand the lesson." The same confession was also made by Student 11; "It is difficult to

understand the lecture, and we cannot ask questions. Sometimes, I am embarrassed to ask questions openly in front of my friends.”. However, S1, S2, S6, and S10 said the internet signal in their place was good, and they did not encounter many challenges in connecting to their ODL. These results align with Ferri (2022) highlighted crucial technological, pedagogical, and social challenges, mainly related to the unreliability of Internet connections and many students’ lack of the necessary electronic devices.

Device Limitations

Online learning is the alternative platform during the COVID-19 pandemic. Parents experienced challenges in providing electronic gadgets for every child, especially parents with several children who have to study online simultaneously. S 7 revealed that he could not get a smartphone directly from his parents when the online lectures started. "At the beginning of the online course, my smartphone was broken, and I had to borrow my sister's smartphone. A month after that, my parents bought me a new smartphone, and I can use my smartphone to take online lectures." This group of parents faced financial challenges in providing this equipment and buying internet data packages. S1, S6, S7, and S8 further explained that they had to wait for their turn to use the laptop as they had to use them interchangeably with their siblings. "I can use my smartphone all the time, but for the laptop, I have to take turns using the laptop with other family members" (S8). Ferri (2022) highlighted several technological, pedagogical, and social challenges. The technological challenges are mainly related to the unreliability of Internet connections and many students’ lack of necessary electronic devices.”

Inadequacy of Lecturers in ODL

Lecturers had to switch from teaching face-to-face to teaching online. Institutions and lecturers carry out no special preparation to facilitate online teaching. Lecturers are assigned to teach online, and the university gives each lecturer the freedom to use online learning platforms. Junior lecturers adapt quickly to online learning because they have good computer literacy skills. On the other hand, senior lecturers tend to have difficulty using the apps. One of the students, S8, shared: "Some senior lecturers are not proficient in operating the online learning platform they choose. As a result, much time is spent learning how to operate the application.” The limited ability to use online learning applications also causes lecturers to choose a simple online learning method. This method is to use WhatsApp Messenger, which is to send and receive student assignments. With WhatsApp Messenger means, learning takes place asynchronously. In addition to the inability to operate online learning applications, lecturers have not designed their lecture materials specifically to be delivered online. Online learning is still effortless and is only limited to fulfilling teaching obligations during the pandemic.

Uncomfortable Learning Environment

Most students study online from their parents’ homes. As residential homes are not explicitly designed for study, many students find the home environment unsuitable. The students faced many disturbances when attending online lectures, such as noisy backgrounds and family members moving around. S 5 revealed the obstacles she faced when studying at home. "I find it difficult to focus on my studies because sometimes there are many distractions at home, such as a noisy, annoying sister, angry mother, and others." S8 expressed a similar statement; "The atmosphere at home is unproductive and less conducive." When the students were asked to compare the level of learning comfort between online and offline learning, most

admitted that offline learning was more comfortable than online learning. S3; "In terms of the learning environment, I focus more on studying on campus because, at home, there are often distractions." "I am more comfortable studying offline on campus," said S7. Barot (2021) concludes that the living environment is the biggest challenge of learning online from home. However, S6 and S10 stated they were more comfortable studying online from home. "I am more comfortable online at home (S6 and S10)."

Health Issue

Maatuk (2022) found that e-learning isolates students from the community by connecting them to their computers for long periods. Besides, students feel online learning is unsuitable for eye health because they are too long in front of the computer. S3 revealed, "My experience of online learning is too tiring. I must strain my eyes like staring at the smartphone or laptop screen for too long."

The Positive Impact of Online Learning

Effective Cost

Despite the many weaknesses of online learning, it has motivated students to be able to use the latest online learning applications. S4 said he liked online learning: "I am motivated to use new and fun media and technology." S3 said, "Online learning costs are cheaper than offline learning. In addition, online learning encourages me to learn to use relatively new online learning platforms. Moreover, I find this very useful." Staying close to family is a side benefit for students. Students do not have to pay extra for accommodation by staying close to their parents. In addition, students can also help their parents. There are even students who work part-time while studying online. S11 said, "In the past, while online, I sold fried foods such as sausages, chicken nuggets, whipped avocado, and others. I earned some income for my family. But not anymore." This proves Arkorful (2015) is right when he expressed the advantages of online learning, including; 1) flexibility in terms of place and time, 2) enhances the efficacy of knowledge and qualifications via ease of access to a vast amount of information, 3) provides opportunities for relations between learners by the use of discussion forums, 4) cost-effective in the sense that there is no need for the students or learners to travel, and 5) takes into consideration the individual learners differences, helps compensate for scarcities of academic staff, including instructors or teachers as well as facilitators, lab technicians.

Having online classes opens a path for several simultaneous activities for students. Online learning is more flexible as it can be done from anywhere. S5 said, "If there are conditions that do not allow offline learning, it can be done online, and I can join the class from anywhere and anytime." Fatonia (2020) also stated that the advantages of online learning are that it is flexible where the students can listen at home, the place does not limit them, and they can listen anytime, anywhere. They are not limited by time or space. In the interview, some students shared that they prefer a mix of face-to-face classes and a few online meetings.

Conclusion

The study has demonstrated that undergraduates prefer face-to-face learning more than online learning. Most undergraduates agree that face-to-face learning has more to offer than online learning. The world has evolved around technologies, but the benefits face-to-face could give are still inimitable. However, we should not reject any platform that can provide

extra knowledge, such as online learning. Maybe, online learning could be a side platform that can help undergraduates to gain more understanding. Previous research by Okech et al (2014) said other online students liked the flexibility of not having to commute to a classroom and being able to self-disclose more, thus enriching learning through classroom discussions. Thus, face-to-face is more relevant as it can provide knowledge and discipline to undergraduates.

Face-to-face discussions and opening them online are great options for students. Face-to-face discussions are more effective and receive optimistic feedback from the respondents. As the students receive immediate and direct feedback, the Face-to-face medium of study is a more effective way to learn knowledge and skills. Furthermore, face-to-face learning is an apt approach to interacting with students on course-related materials. This medium is a straightforward application that all ages can use. Other than that, many students agreed that face-to-face learning is a valuable platform for students and educators. The limitations in face-to-face discussions are also so limited that teachers often lead and control the focus of the discussion in the short term. John Dewey and Lev Vygotsky suggest that human learning and encounter are indistinguishable and mutually supportive (Hsieh, 2016).

The findings show that some respondents disagreed that blended learning is little or no face-to-face interaction between instructor and students, and Blended learning usually have deadlines for assignment and comments on lectures. Besides that, young adults from various universities said that online learning also gives them a more comprehensive understanding of the course content. They might forget certain information delivered in face-to-face sessions. However, with the power of technology, undergraduates can record and re-watch every online learning session with the instructor. Social platform also enables their instructors to upload picture or video that contextualises visual data, which abet learning and socially encourage students to connect in a community of learners who communicate.

It can be concluded that face-to-face learning is the best form to provide many advantages for undergraduates. Through face-to-face learning, undergraduates shall improve their academic performance and interpersonal skills. Besides, Face-to-face learning improves the student-lecturer rapport and interaction. Their gesture, communication, and attention help undergraduates receive bonus input more than online learning. Despite the dynamic development of ICTs and decreasing prices of personal computers, laptops, smartphones, tablets, and other devices, there is still quite a considerable imbalance among students regarding material equipment and Internet connectivity (Zounek & Sudicky, 2016).

Implications of the Study

The current study contributes to the overall student learning preference, face-to-face, and complete E-Learning. By obtaining feedback from students who are the direct client in this context, respondents provide a comprehensive mapping in planning and designing the future curriculum. In cases where there is complete e-learning, may cause psychological problems for both the instructors and students. These findings contribute to the field of knowledge especially to the literature curriculum designers, universities, and leaders by anchoring that even the millennials prefer face-to-face interaction though they are techno-savvy. If their learning preference is not taken seriously and addressed immediately, the community may develop psychological challenges as postulated by (Arumugam, et al., 2020; Ayar, et al., 2018). Furthermore, the research furthers our understanding of the challenges of instructors

and students learning in isolation. Targeting a mix-mode of instruction, face-to-face, and e-learning as suggested by some universities may be a relatively straightforward means to helping students and instructors to assist in improving the learning environment overall.

Recommendations

Educator

First, educators must prepare creative material or activities for every lecture session. With good preparation, teaching and learning shall be enjoyable and students will learn in a fulfilled way with their peers. Well-preparedness will help improve the teaching process, indirectly encouraging the learning process. Educators, too, can equip themselves with more advanced IT skills. Incidentally, educators can establish a good rapport with students.

Undergraduates

Undeniably, more undergraduates prefer face-to-face learning as it paves the way for peer communication and learning. Face-to-face sessions create more physical connections and a conducive learning environment for students.

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