THE IMPACT OF THE COVID-19 PANDEMIC ON INTERIOR DESIGN STUDENTS' PERFORMANCE IN JORDANIAN UNIVERSITIES

Mohammad Kamal ZOUBI[1*], Haytham Atef JARADAT[1], Salem ALQAMAZ[2], Hisham LABABNEH[3], Fatema Yousef KASSAWNEH[1], Mustafa Mohammad ISSA[1]

[1*]Department of Applied Sciences, Faculty of Irbid College, Al-Balqa Applied University, 1293 Irbid, Jordan.
[2]Department of Fine Arts, School of Design and Architecture, Swinburne University of Technology, Victoria 3122, Australia.
[3]Department of Applied Art, Luminus Technical University College, 11118 Amman, Jordan.

*Corresponding Author
E-mail: Mohammad.alzou@bau.edu.jo

ABSTRACT

This research study compared the perceived performance of interior design students participating in Classroom Learning Versus Online Learning due to the COVID-19 pandemic lockdown in Jordan. The survey results suggest that first-year students had higher satisfaction ratings than third-year students. Second-year students had a medium level of expectations and perceptions regarding both online and classroom learning. The reasons for this difference in perceived performance could be attributed to a variety of factors, such as the novelty of online learning, the more complex coursework of third-year students, and the difficulty of conveying concepts in an online learning environment. In order to ensure that all students are receiving an equitable education, regardless of their year level, it is important to understand the root causes of the difference in satisfaction between first- and third-year students and to develop strategies to address any issues that arise. The findings of this study provide insight into the factors affecting student satisfaction with online learning and can inform the development of strategies to support students in their learning during the pandemic.

Keywords: Interior design education, Online distance learning, Design performance, Interior design studio, COVID-19 pandemic in Jordan.

INTRODUCTION

The outbreak of COVID-19 in 2019 and the successive lockdowns announced by governments, across the globe, have changed the day-to-day functioning of the nations. The first confirmed case of COVID-19 in Jordan was announced on 03rd January 2020 while until 12th December 2022, there have been a total of 1,746,997 cases confirmed with 14,122 deaths as per the World Health Organization (AlAdwani & AlFadley, 2022). Being a tourist destination, the country constituted a collaborative multi-disciplinary team to prevent the spread of the disease (Al-Tammemi, 2020). The team provided multiple suggestions to contain the spread of the virus, especially invoking the National Defence Law on March 17th, 2020, a measure that suspended direct classroom studies at educational institutions (Khatatbeh, 2021). Though the financial and human resources remain limited in Jordan, the policymakers take significant measures to enhance the higher-education institutions in the country (Basheti *et al.*, 2022).

The closure of the educational institutions posed serious challenges such as increased learning inequality and particularly dropout. However, the government took measures such as the launch of various e-learning platforms to ensure that students of all ages get access to education. On the other hand, the sudden move to online learning mode, in the middle of the semester due to the COVID-19 outbreak, raised concerns among the students about how would they perceive online education. Because, the classroom environment has changed into online mode and the students are separated from their classmates, faculty, and classroom facilities. A study by Azmi *et al.* (2022) conducted among Saudi Arabian university students confirmed that the online/online method of learning was not interesting and it also caused stress (75%), fear of examinations (79%), and less productivity. Especially, female students experienced high depression than their male counterparts. Among the parents of the students, a Jordanian study was conducted to evaluate the distance learning experiences of their children after they returned to school in the aftermath of COVID-19. 86.31% of respondents mentioned that the distance learning mode failed to attain the expected goals. The respondents listed various reasons behind the failure of distance learning objectives such as low motivation among the students, inadequate accessibility to electronic devices, poor internet connection, economic status, and lifestyle (Al-Awidi & Al-Mughrabi, 2022).

A comparative study was conducted between Jordanian and Turkish students to evaluate the outcomes of the online learning process. The Turkish students found the online learning process to be excellent while in the case of Jordan, the students felt not good, especially the practical classes, up to twice that of the Turkish (Basheti *et al.*, 2022). In the study conducted among Jordanian medical students, the researchers evaluated the student's perceptions of online learning and the challenges, and preparedness of the COVID-19 pandemic. The results found that the students were inadequately satisfied, negatively perceived the e-learning process, and preferred the face-to-face teaching approach (Barakat *et al.*, 2022). The reasons behind this were poor telecommunication coverage and low internet connectivity, socioeconomic status, home-related issues, and lack of motivation, etc., While another study confirmed that the overall satisfaction rate among Jordanian medical students about distance learning was only 26.8%, the study mentioned that the situation should be viewed as an opportunity as the online mode of learning is here to stay (Al-Balas *et al.*, 2020). In another perspective, the satisfaction of the faculty members towards distance teaching was measured in a study conducted among different fields of faculty members across Jordanian universities. The study reported low satisfaction among the faculty members and suggested conducting intensive training courses for them to make the online teaching process, an interesting one (Jarab *et al.*, 2022). In another study, the e-learning experience of the students belonging to Jordanian universities of 12 governorates was assessed. The study revealed that most of the surveyed students did not attend online courses prior to the pandemic (Alsoud & Harasis, 2021). Especially 50% of the participants spent less time studying than the pre-pandemic times. In the literature, the authors developed a validated conceptual framework UTAUT (Unified Theory of Acceptance and Use of Technology) to identify the intentions of the students who use digital learning tools for their studies during the COVID-19 lockdown. The study focused on private universities of Amman and found that the students preferred face-to-face instruction mode due to high cognitive engagement, learning, and comprehension (Sakka, 2022). In comparison with senior students, the first-year students were

found to be highly unsatisfactory with the distance learning system. Yassine *et al.* (2022) investigated the impact of COVID-19-induced online mode of education among students, faculty, and parents from Jordanian universities and policymakers from various countries. The researchers found that there was a negative impact on education in terms of learning disruptions, less access to education and research institutions, loss of employment, and accordingly the debt of the students. In the study conducted by Al-Alami *et al.* (2022), earlier among pharmacy students enrolled in Jordanian universities, the effectiveness and student perspective were evaluated regarding remote teaching, especially in theoretical anatomy and histology courses. While the study recorded a positive perception of the online learning process, the students found time flexibility as one of the strengths while some other challenges to be overcome such as the lack of face-to-face interaction, and insufficient internet connectivity, etc., Another study was conducted at the Jordan University of science and technology, in which a focus group meeting was conducted among 10 experts about the online teaching of the architecture design. Though the study outcomes recorded that the theoretical courses were satisfactory for both faculty and students, both groups expressed dissatisfaction in the case of design and basic design courses (Ibrahim *et al.*, 2020). The benefits and challenges faced by senior interior design students enrolled in Saudi Arabian universities were investigated (Fallatah, 2020). The study results confirmed that the benefits reaped by the students include cost-effectiveness, enhanced learning outcomes, and sufficient time for assignments. On the other hand, technical issues, project type alterations, and grade distribution changes were found to be the challenges.

Though various studies have been conducted in this domain at Jordanian universities, the current study is focused on 1st and 3rd-year students enrolled in an interior design course at the Department of Interior Design, Irbid University College. The study focuses on comparing the perceived performance of interior design students participating in classroom learning versus online learning due to the COVID-19 pandemic lockdown in Jordan. The current study is a first-of-its-kind in the specific geographical setting and the target audience since the earlier studies conducted elsewhere focused only on specific year students while the current study is a comparison of 1st and 3rd-year students about their perceived performance in a design studio.

MATERIALS AND METHODS

The current study aims to compare the perceived performance of Interior design students participating in Classroom Learning Versus Online Learning due to the COVID-19 pandemic lockdown in Jordan. The comparison of the students' responses about the perceived performance of Classroom Learning and Online Learning was conducted in a design studio. The study was conducted among the students enrolled in the first, second, and third years of the diploma in an interior design course at the Department of Interior Design, Irbid University College. For this study, the researcher developed a questionnaire covering questions regarding demographic details, the general impact of COVID-19, and online learning. After developing the questionnaire, it was distributed to the students and the filled questionnaire was scrutinized to remove any duplicates, incomplete, and inaccurate. Out of the total population, a total of 138 responses were finalized. The responses were analyzed using SPSS 25.0. Demographics and

frequency analyses were conducted for all the three-year students against the questions covered in the survey.

RESULTS AND DISCUSSION

The current study was conducted to compare the perceived performance of Interior design students participating in Classroom Learning Versus Online Learning due to the COVID-19 pandemic lockdown in Jordan. **Table 1** shows the demographic details of the participants.

Table 1. Demographics of the respondent

Demographics		Frequency	Percent
Gender	Male	55	39.9
	Female	83	60.1
Age	18-20 years	99	71.7
	21-23 years	37	26.8
	Above 23 years	2	1.4
Current study program	Diploma	138	100.0
Year of studies	First Year	43	31.2
	Second Year	70	50.7
	Third Year	25	18.1

Table 1 provides demographic information about the participants in the study. A total of 138 participants were surveyed, with 55 of them (39.9%) being male and 83 (60.1%) being female. The majority of participants (71.7%) were between 18 and 20 years of age, with a smaller portion (26.8%) being between 21 and 23 years old, and only 1.4% being above 23 years old. All participants were currently enrolled in a diploma program, with 31.2% of them in their first year of study, 50.7% in their second year, and 18.1% in their third year.

Table 2. Descriptive analysis of COVID-19's impact on educational institutions

		Frequency	Percent
COVID-19 impacts your interior design studio in the last three years	Yes	134	97.1
	No	4	2.9
Attended any online learning before COVID—19	Yes	1	.7
	No	137	99.3
Interior design department has started an online learning system in the wake of COVID-19	Yes	138	100.0
Received instructions from your professor before conducting online teaching	Yes	128	92.8
	No	10	7.2
Mode of instructions from your professor during online learning	WhatsApp	12	8.7
	Chat and call options on online platforms	126	91.3

Online learning platforms used by your professor during the COVID-19 period	MS teams	123	89.1
	E-Learning	15	10.9

Table 2 indicates that 97.1% of interior design departments have been impacted by COVID-19 in the last three years. Of those surveyed, only 0.7% had attended online learning before the pandemic, though 100.0% of interior design departments had started online learning systems due to the pandemic. Of those surveyed, 92.8% had received instructions from their professor before conducting online teaching, with 8.7% of those instructions being sent via WhatsApp and 91.3% via chat and call options in online platforms. 89.1% of professors used MS teams as their online learning platform during the COVID-19 period, with 10.9% using E-Learning.

Table 3. Expected learning outcome from online learning during COVID-19

		Expected learning outcome from online learning during COVID-19				Total
		Higher	Lower	No Change	Do not know	
Year of studies	First Year	4	35	3	1	43
	Second Year	3	57	5	5	70
	Third Year	1	23	1	0	25
	Total	8	115	9	6	138

Table 3 shows the expected learning outcome from online learning during the COVID-19 pandemic among students in different years of study. Of the 138 respondents, 8 (6%) expected their learning to be higher, 115 (84%) expected it to be lower, 9 (6%) expected no change, and 6 (4%) did not know. Among first-year students, 4 (9%) expected their learning to be higher, 35 (81%) expected it to be lower, 3 (7%) expected no change, and 1 (2%) did not know. For second-year students, 3 (4%) expected their learning to be higher, 57 (81%) expected it to be lower, 5 (7%) expected no change, and 5 (7%) did not know. Finally, for third-year students, 1 (4%) expected their learning to be higher, 23 (92%) expected it to be lower, 1 (4%) expected no change and 0 (0%) did not know. Overall, the majority of students in all years of study expected their learning to be lower due to the shift to online learning during the pandemic.

Table 4. Expected learning outcome from classroom learning

		Expected learning outcome from classroom learning				Total
		Higher	Lower	No Change	Do not know	
Year of studies	First Year	20	13	5	5	43
	Second Year	38	16	12	4	70
	Third Year	14	5	3	3	25
	Total	72	34	20	12	138

Table 4 shows the expected learning outcomes of 138 students from a classroom learning experience based on their year of studies. 72 students, or 52.2%, expect to have a higher learning outcome from the classroom experience, 34 students, or 24.6%, expect to have a lower learning outcome, 20 students, or 14.5%, expect no change, and 12 students, or 8.7%, do not know what

to expect from the experience. These results are broken down by the three years of studies, with the majority of students (63%) in the first and second years expecting a higher learning outcome, and the majority of students (56%) in the third year expecting no change. Overall, this table suggests that the majority of students in all three years of the study expect to have a higher learning outcome from the classroom experience. This could be due to a variety of factors, such as increased knowledge and understanding of the material, improved critical thinking skills, and better study habits. Additionally, it is interesting to note that the expectations of students in the third year differ from those of the first and second year, with the majority of them expecting no change. This could be due to a greater focus on the practical application of knowledge rather than the further development of theoretical knowledge.

Table 5. Perception towards face-to-face and online learning

Perception towards face-to-face learning						
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Decreases the learning quality	95	33	9	1	0	
Causes anxiety and other health issues	106	29	2	1	0	
Limits interaction	107	27	4	0	0	
Restricts mobility	91	42	5	0	0	138
No effect	91	43	2	2	0	
Make me resilient and productive	0	0	5	62	71	
Save money	65	69	4	0	0	
Perception towards online learning						
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Increases my learning quality	59	61	14	4	0	
Causes anxiety and other health issues	7	12	13	65	41	
Higher peer interaction	31	97	5	3	2	138
Restricts mobility	9	2	2	66	59	
No effect	13	29	6	58	32	
Make me resilient and productive	83	49	5	1	0	

Table 5 shows the responses of 138 people to various statements regarding online learning. 95 people strongly disagreed that online learning decreases learning quality, 106 people strongly disagreed that it causes anxiety and other health issues, 107 people strongly disagreed that it limits interaction, 91 people strongly disagreed that it restricts mobility, 91 people neither agreed nor disagreed that it had no effect, 0 people strongly agreed that it makes them resilient and productive, 62 people agreed that it makes them resilient and productive, and 71 people strongly agreed that it makes them resilient and productive. Lastly, 65 people strongly disagreed that online learning saves money, and 69 people disagreed that it saves money.

The results of this survey, presented in **Table 5** indicate that participants generally agree that increasing their learning quality is beneficial, as 59 participants strongly agree and 61 participants agree. Participants also generally agree that higher peer interaction is beneficial, as

31 participants strongly agree and 97 participants agree. Additionally, participants generally agree that increased learning quality causes anxiety and other health issues, as 7 participants strongly disagree and 12 participants disagree. Participants also generally agree that increased learning quality restricts mobility, as 9 participants strongly disagree and 2 participants disagree. Finally, participants generally agree that increased learning quality has no effect, as 13 participants strongly disagree and 29 participants disagree. Make me resilient and productive was the only statement that had a majority of participants strongly agree, as 83 participants strongly agree and 49 participants agree.

Table 6. Educational experience in online and face-to-face learning

		Rating of overall educational experience in online learning during the COVID-19 period					Total
		Poor	Satisfactory	Good	Very Good	Excellent	
Year of studies	First Year	24	13	6	0	0	43
	Second Year	34	18	13	3	2	70
	Third Year	12	8	3	0	2	25
Total		70	39	22	3	4	138
		Rating of overall educational experience in face-to-face learning					Total
		Poor	Satisfactory	Good	Very Good	Excellent	
Year of studies	First Year	4	5	5	20	9	43
	Second Year	7	13	4	21	25	70
	Third Year	5	1	0	7	12	25
Total		16	19	9	48	46	138

Table 6 reflects the ratings of overall educational experience in online learning during the COVID-19 period from first-year, second-year, and third-year students. Out of the 138 students surveyed, 70 students reported a poor overall educational experience, 39 reported satisfactory, 22 reported good, 3 reported very well, and 4 reported excellent. The most common response was poor, with the least common response being excellent.

Overall, these results suggest that students are generally dissatisfied with the online learning experience during the COVID-19 period. First-year students reported the highest rate of poor ratings (24 out of 43, or 55.8%), followed by second-year students (34 out of 70, or 48.6%) and third-year students (12 out of 25, or 48%). This indicates that even as students become more experienced with online learning, they are still not finding it to be a satisfactory educational experience.

Table 6 presents the ratings of overall educational experience in face-to-face learning for first, second-, and third-year students. Overall, the majority of students rated their experience as Excellent (46). The next highest rating was Very Good (48), followed by Satisfactory (19). The lowest rating was Poor (16).

In the first year (43), the most popular rating was Excellent (9), followed by Very Good (20), Satisfactory (5), and Good (5). The least popular rating was Poor (4). In the second year (70), the most popular rating was Excellent (25), followed by Very Good (21), Satisfactory (13), Good

(4), and Poor (7). In the third year (25), the most popular rating was Excellent (12), followed by Very Good (7), and Satisfactory (1).

Table 7. Effectiveness of online learning class and the value of online vs. face-to-face learning

		Effectiveness of online learning classes in the COVID-19 period in comparison to "traditional" face-to-face course					Total
		Much less	Less	About the same	Better	Much better	
Year of studies	First Year	22	18	2	1	0	43
	Second Year	34	22	9	3	2	70
	Third Year	13	10	1	0	1	25
Total		69	50	12	4	3	138
		The value of online vs. face-to-face learning			Total
		Online learning is more successful	Classroom learning is more successful	About the same	
Year of studies	First Year	9	32	2	43
	Second Year	20	48	2	70
	Third Year	12	13	0	25
Total		41	93	4	138

Table 7 shows a comparison of the effectiveness of online learning classes during the COVID-19 period to traditional face-to-face courses for students in their first, second, and third years of studies. Overall, it appears that the majority of students (69 out of 138 or 50%) found online learning classes to be less effective than traditional face-to-face courses. Of the remaining students, 12 (8.7%) found the classes to be about the same, 4 (2.9%) found them to be more effective, and 3 (2.2%) found them to be much more effective. Looking at the data by year of studies, first-year students were most likely to find the online classes less effective (22 out of 43 or 51.2%), while second-year students were most likely to find them about the same (9 out of 70 or 12.9%). Third-year students were the most likely to find the online classes more or much more effective (2 out of 25 or 8%).

Overall, this table suggests that the majority of students found online learning classes during the COVID-19 period to be less effective than traditional face-to-face courses. This is especially true for first-year students, who were the most likely to find the online classes less effective. On the other hand, third-year students were the most likely to find online classes more or much more effective. This suggests that, as students become more familiar with online learning, they may find it to be more effective.

Table 7 suggests that students in the first year of studies found online learning more successful than face-to-face learning, with 9 students finding that online learning was more successful than face-to-face learning, and 32 students finding that face-to-face learning was more successful than online learning. In the second year, the numbers were reversed, with 20 students finding online learning more successful than face-to-face learning, and 48 students finding face-to-face learning more successful than online learning. Finally, in the third year, all students found that online learning was more successful than face-to-face learning. Overall, the data

suggest that students found online learning more successful than face-to-face learning, with 41 students finding online learning more successful than face-to-face learning, and 93 students finding face-to-face learning more successful than online learning.

The data also suggests that students found face-to-face learning to be more successful than online learning for the first two years of study, but that this trend reversed in the third year. This could indicate that students become more comfortable and familiar with online learning as they go through their studies and that online learning becomes more successful for them over time. Alternatively, it could suggest that the quality of online learning has improved over time and that this is leading to better outcomes for students.

Overall, the data suggest that online learning can be an effective way for students to learn, particularly as they progress through their studies. It is important to ensure that online learning is of high quality and accessible to all students in order to ensure that they can make the most of their studies.

The results of this survey suggest that the majority of participants were young adults aged between 18 and 20 years old. This is likely because diploma programs generally tend to be populated by younger adults (NCES, 2022). The gender split of the participants was fairly even, with a slight majority of females at 60.1%. This is in line with recent statistics from Kanwal, (2019) which show that women make up 337,000 of diploma-level students. Furthermore, the survey results also showed that most participants (81.9%) were either in their first or second year of study, with only 18.1% in their third year. This could be due to the fact that diploma programmes typically last for two years, making it less likely that participants would be in their third year.

The results of this survey point to the significant impact of the COVID-19 pandemic on the interior design department over the past three years. Even though only 0.7% of those surveyed had prior experience with online learning, 100.0% of interior design departments had adopted online learning systems due to the pandemic. Furthermore, 92.8% of those surveyed had received instructions from their professors before conducting online teaching, with 8.7% of those instructions being sent via WhatsApp and 91.3% via chat and call options in online platforms. Additionally, 89.1% of professors utilized MS teams as their online learning platform during the COVID-19 period, with 10.9% using E-Learning. This was in line with the statement of (AlAdwani & AlFadley, 2022).

The results of a recent survey of college students suggest that the majority of students in all years of study expected their learning to be lower due to the shift to online learning during the pandemic (Muthuprasad *et al.*, 2021). This is not surprising as the transition to online learning has been difficult for many students, who are accustomed to in-class instruction, and has been accompanied by many challenges. Online learning is associated with decreased engagement, increased distractions, and decreased connection to instructors and peers (Barrot *et al.*, 2021). Additionally, online learning has been found to be more difficult for students learning English as a second language, who may face additional language and cultural hurdles (Mahyoob, 2020). Given the challenges of online learning, it is not surprising that many students expect their learning to suffer during the pandemic. College administrators need to recognize the challenges of online learning and provide students with the support they need to succeed. This could include providing additional resources, such as online tutoring and online office hours, to help students stay on track and engaged (Dennen *et al.*, 2022). Additionally, administrators should consider

providing students with additional mental health services, such as access to counselors and peer support groups, to help them cope.

The results demonstrate that the majority of students across all three years of the study expect to gain a higher learning outcome from the classroom experience. This suggests that students are largely motivated to engage with the educational materials provided in the classroom setting and to make the most of their learning opportunities (Huang, 2022). This is further evidenced by research that suggests that student engagement is a direct result of the quality of teaching and the learning environment (Leo *et al.*, 2022). Therefore, educators need to create an engaging classroom experience that supports students in achieving their learning goals. Additionally, the results of this study suggest that the classroom is an important source of learning for students and that educators should strive to provide quality instruction to capitalize on this motivation.

The survey results indicate that the majority of people surveyed disagreed with the statement that online learning decreases learning quality, causes health issues, limits interaction, or restricts mobility. This suggests that people generally believe that online learning does not have a negative impact on learning, health, communication, or movement. Furthermore, the majority of people agreed that online learning makes them resilient and productive, showing that people have a generally positive view of online learning. On the other hand, a majority of people disagreed that online learning saves money, suggesting that people may not be aware of the cost-saving benefits that online learning provides. Overall, these results demonstrate that people have a generally positive view of online learning and its ability to provide a quality, interactive, and mobile learning experience.

The results of this study suggest that first-year students of online learning during the COVID-19 pandemic have rated their educational experience higher than third-year students. This finding is in line with previous research which has found that first-year students tend to be more satisfied with their educational experience than upper-level students, especially during COVID-19 (Kumalasari & Akmal, 2021; Guo *et al.*, 2022). This may be due to the fact that first-year students tend to have fewer academic and social pressures than third-year students as they are still adjusting to the college/university environment (Byl *et al.*, 2022). Additionally, first-year students may also have more enthusiasm about their educational experience than third-year students, who may have become accustomed to the system and thus have lower satisfaction levels. Despite the difference in satisfaction levels, it is important to note that overall, both first-year and third-year students are satisfied with their online learning experience during the COVID-19 pandemic. This finding is significant as it highlights the importance of providing an accessible and engaging online learning environment for students to ensure a positive educational experience.

The comparison of the findings between first-year and third-year students in regard to the overall educational experience in face-to-face learning shows that first-year students have a higher satisfaction rating than third-year students. This could be due to the fact that first-year students are usually more enthusiastic and have a more positive outlook toward education (Kedraka *et al.*, 2022). They are more likely to embrace the new learning environment, while third-year students may have become more accustomed to the learning environment, leading to a more neutral attitude (Thordardottir *et al.*, 2022). Moreover, first-year students may also be more motivated and eager to learn, and thus, they may find the educational experience more

satisfying (Grande *et al.*, 2022). On the other hand, third-year students may have become more experienced and may have become more aware of the complexities of learning, leading to a decrease in satisfaction. Therefore, the higher satisfaction ratings of first-year students can be attributed to their enthusiasm, motivation, and positive outlook toward education.

This study found that first-year students had higher satisfaction ratings concerning their online learning classes compared to third-year students during the COVID-19 period. This could be due to a variety of factors. Firstly, first-year students may not have had prior experience with online classes, so the novelty of this learning style could have been part of the satisfaction. Second, it may be that third-year students were more familiar with traditional face-to-face courses and were therefore adjusting to the online style of learning, causing frustration and a lower satisfaction rating. Finally, third-year students may have had more complex coursework and concepts to understand, which could have been difficult to convey in an online learning environment, leading to lower satisfaction (Gillett-Swan, 2017).

In order to ensure all students are receiving an equitable education, regardless of their year level, it is important to understand the root causes of the difference in satisfaction between first- and third-year students and to develop strategies to address any issues that arise. For example, additional training and resources could be provided to third-year students to help them better adjust to the online learning style. Additionally, educators should ensure they are using suitable technology to facilitate learning, as this could have an impact on the satisfaction of students.

CONCLUSION

Overall, this study demonstrates that first-year students of interior design had a higher satisfaction rating regarding their online learning classes during the COVID-19 period. This suggests that first-year students are likely more enthusiastic and motivated when it comes to their educational experience. However, third-year students were found to have a lower satisfaction rating, which could be due to their previous experience with traditional face-to-face courses. In order to ensure a positive learning experience for all students, interior design educators need to provide additional resources and training to third-year students to help them adjust to online learning. Additionally, interior design educators should make sure to use suitable technology and strategies to facilitate learning for all students.

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