Does Considering Different Cultures Make Online Distance Learning Better? A Study of Student Satisfaction

AMBIDA, Melvin N.

0009-0007-9024-6491; Rizal Technological University. Mandaluyong City, Metro Manila, Philippines. mnambida@rtu.edu.ph

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A B S T R A C T

As online distance learning (ODL) becomes a staple of modern education, ensuring student satisfaction with its frameworks is paramount. This study investigates the impact of cultural diversity on student satisfaction with various aspects of ODL. Employing a quantitative methodology, the study surveyed students to measure their cultural diversity awareness and satisfaction levels with ODL organization, course design, and technology. The findings indicate that students have a high level of cultural diversity awareness, with general weighted mean of 3.87 Satisfaction levels varied across different aspects of ODL. With organization receiving a mean score of 3.05, course design 3.16, and technology 2.94. A moderate positive correlation was found between cultural diversity awareness and satisfaction with ODL frameworks (r=.59 for organization, r=.54 for course design, and r=.49 for technology, all p<.05). furthermore, cultural diversity awareness was found to be a significant predictor of satisfaction with ODL frameworks, explaining 34% of the variance in organization satisfaction, 29% in course design, and 24% in technology satisfaction. These results highlight the critical role of cultural diversity awareness in enhancing student satisfaction with online distance learning and suggest that incorporating culturally responsive elements into ODL frameworks can significantly improve the online learning experience.

R E S U M O

Como a aprendizagem à distância on-line (ODL) se torna um elemento básico da educação moderna, assegurar a satisfação dos alunos com seus quadros é primordial. Este estudo investiga o impacto da diversidade cultural na satisfação dos alunos com vários aspectos do ODL. Empregando uma metodologia quantitativa, o estudo pesquisou os alunos para medir seu nível de consciência da diversidade cultural e satisfação com a organização ODL, design de cursos e tecnologia. Os resultados indicam que os alunos têm um alto nível de consciência da diversidade cultural, com uma média ponderada geral de 3,87 Os níveis de satisfação variaram em diferentes aspectos do ODL. Com a organização recebendo uma pontuação média de 3.05, design de curso 3.16, e tecnologia 2.94. Uma correlação positiva moderada foi encontrada entre a consciência da diversidade cultural e a satisfação com os quadros ODL (r=.59 para a organização, r=.54 para o design do curso, e r =.49 para a tecnologia, todos p<.05). Além disso, a conscientização da diversidade cultural foi encontrada como um indicador significativo de satisfação com os quadros ODL, explicando 34% da variação na satisfacção da organização, 29% na concepção do curso e 24% na satisfación com a tecnologia. Estes resultados destacam o papel crítico da conscientização da diversidade cultural no aumento da satisfação dos alunos com a aprendizagem à distância on-line e sugerem que a incorporação de elementos culturalmente responsivos em quadros de ODL pode melhorar significativamente a experiência de aprendizado online.

Introduction

The emergence of online networked learning spaces has brought both opportunities and challenges, particularly in terms of cultural diversity. To offer flexible and varied learning opportunities in online courses, cultural variables should be considered in addition to student requirements, preferences, and learning styles. There are two main forms of flexible learning: online distance learning (ODL) and modular distance learning (MDL), though most people prefer ODL (Nolasco, 2022). Due to this flexibility, individuals from around the globe are able to access and participate in online networked learning spaces, indicating that students come from a variety of backgrounds.

According to Bozkurt et al. (2021), if managed properly, cultural diversity can be a source of opportunity in online networked spaces, as it can be used to improve ideas, increase social interaction, gain a broader perspective, and stimulate creative thinking. However, if it is misunderstood, it can result in communication difficulties, poor relationships, social conflicts, resistance to change, and integration issues. Failure to manage cultural diversity effectively in the digital learning environment may lead to dissatisfaction in learning as a whole. In this context, student satisfaction is crucial in online learning, influencing retention, commitment, and motivation (Sachs, 2019; Biner, cited in Lobaina, 2016). Aside from students' well-being, which serves as a determinant of academic performance (Precones et al., 2023), high levels of satisfaction with online courses contribute to a positive outlook on their learning environment and academic performance (Sachs, 2019; Hew, 2013).

The present study adopts the principles of Multicultural Education (Banks, 2014) and the e-learning framework (Conole, 2004) as its primary theoretical foundations. Banks (2014) emphasizes creating inclusive learning environments that promote cultural competence. Conole's (2004) framework provides a structured analysis of how organization, course design, and technology play a part in the multicultural nature of online distance education. These theoretical lenses guided this study to shed light on the following problems: (1) the level of cultural diversity awareness among students; (2) student satisfaction with the ODL frameworks, such as organization, course design, and technology; (3) the relationship between students' cultural diversity awareness and their satisfaction with the ODL frameworks; and (4) the predictive power of cultural diversity awareness on students' satisfaction with online distance learning.

This study is driven by the growing importance of digital infrastructure in education and the need to address the gaps in existing literature. By exploring diverse viewpoints on cultural diversity and satisfaction with online distance education, this study aims to identify critical factors, inform strategies for inclusive behavior, and guide interventions to enhance cultural diversity awareness and satisfaction with online distance education.

Methodology

This study examined the relationship between students' cultural diversity awareness and their satisfaction with online learning frameworks by employing a quantitative approach. The research recruited 169 participants from higher education institutions (HEIs) in the Philippines engaged in ODL using stratified random sampling,

Data collection involved the use psychometrically assessed and tested survey instruments called the Cultural Diversity Awareness Questionnaire (CDAQ) by the Special Populations and CTE Illinois Project (2016) and Northouse (2021) and the Cultural Diversity Satisfaction Survey (CDSS) by Hannon and D'Netto (2007), which provided data on students' cultural diversity awareness and their satisfaction with ODL frameworks, respectively. The survey questionnaires were converted into Google Forms for convenient online access. This method facilitated data gathering and overcame geographical challenges associated with participant recruitment.

This study utilized weighted mean to describe the levels of students' cultural diversity awareness and their satisfaction with ODL frameworks. Additionally, the research employed a two-pronged approach in investigating the relationships between cultural diversity awareness and satisfaction with online learning frameworks: (1) the Pearson correlation coefficient, which explored whether students with higher cultural sensitivity reported greater satisfaction with the online learning format; and (2) simple linear regression analysis, which quantified the strength and direction of this association, providing a clearer picture of how cultural awareness might influence satisfaction with online distance learning.

Results and Discussion

Cultural Diversity Awareness (CDA)

The results indicate that the students surveyed possess a high level of cultural diversity awareness. The majority of students agreed with the statements in the CDAQ. Specifically, students recognize the importance of mutual support and connection among different cultures, acknowledge the impact of individual experiences on interactions, and include culturally different individuals in team decision-making processes. They express openness to learning about and appreciating other cultures, and make efforts to clarify misunderstandings. They also understand the potential for lack of diversity to be perceived as exclusion.

The overall high CDAQ score (GWX = 3.87) suggests that the students surveyed possess a strong awareness of cultural diversity, which is consistent with the findings of previous studies. This may be attributed to the influence of globalization, digitalization, and exposure to diverse cultures from a young age (Parker et al., 2019; McCrindle, 2018). As Northouse (2021)

suggests, a high score in the CDA self-assessment could indicate the individual is a change agent who is self-aware and capable of identifying and addressing harmful biases.

The results of this study highlight the importance of cultivating cultural diversity awareness among learners, as it is crucial for fostering an inclusive educational environment and preparing students for the increasingly diverse world they will encounter (Al-Obaydi, 2019; Byrd, 2016).

Satisfaction with ODL Organization Framework

The findings indicate that the students are generally satisfied with the organization framework of ODL based on the accumulated general weighted mean (*GWX*) of 3.05 with a verbal description of "agree" and interpretation of "average," with a connotation that there may still be some areas for improvement.

According to Markova et al. (2017), education institutions can enhance student satisfaction and program quality by developing clear communication channels. Cross-cultural competence studies have fostered technology-supported environments that enable learners from diverse cultures to understand each other's cultures, appreciate cultural differences, and develop critical cultural awareness through open and tolerant communication (Bueno-Alastuey & Kleban, 2016).

Landrum et al. (2020) imply that teacher support can overcome other challenges in online learning. Students are highly satisfied with teachers' interest in helping students learn and their accessibility (Bordios et al., 2022). Sachs (2019) also suggests that high levels of satisfaction with online courses contributes to a positive outlook on their learning environment and academic performance.

Nambiar (2020) supports this study's findings by suggesting that focusing on convenience, accessibility, and awareness is crucial to enhance the adoption of online channels. However, the studies by Tratnik et al. (2019) and Yilmaz (2017) contradict the findings in this study by denoting that those students often express dissatisfaction with online course delivery, citing factors such as increased self-study, self-discipline, and stricter time management.

In relation to language support and communication, student satisfaction is also influenced by external factors such as interaction quality (Kuo et al., 2014). Moreover, according to Sachs (2019), disparities in online education, influenced by language barriers and cultural differences, affect satisfaction levels.

While some literature negates the findings of this study, the research leans on the suggestion that the student respondents generally find the structure and format of ODL to be conducive to their learning. This implies that education institutions can make use of sufficient organizational support and guidance to help students adjust to the learning environment and, by extension, improve outcomes.

Satisfaction with ODL Course Design Framework

The study indicates that students are satisfied with the online course design framework, particularly with feedback, practical applications, and clear assessments. They enjoy working with others, solving problems, and sharing their perspectives. They find the course easy to relate to and find it easy to post comments and responses through online discussion. Overall, students find the course enjoyable and effective.

The findings indicate that the respondents are generally satisfied with the course design framework of ODL based on the general weighted mean (GWX) of 3.16 with a verbal description of "agree" and interpretation of "average," but there may still be some areas for improvement.

According to Yu (2022), collaborative online learning environments significantly impact satisfaction in distance learning as they foster a sense of community and support, leading to increased engagement and satisfaction. Kuo et al. (2014) highlights that students' satisfaction with online distance learning is influenced by the quality of interaction such as learner-instructor and learner-content interaction. On the other hand, Nambiar (2020) argues that prioritizing convenience, accessibility, and awareness is essential for increasing the use of online channels and resolving course design-related concerns. The findings of this study conform with the findings of Sachs (2019) and Biner, as cited in Lobaina (2016), that student satisfaction is crucial in online learning, influencing retention, commitment, and motivation. In connection, Gray and DiLoreto (2016) underscore the importance of academic motivation and self-regulation in enhancing satisfaction levels. Accordingly, incorporating these motivational and regulatory elements into course design is crucial for optimizing overall student satisfaction in online learning environments.

According to Xu and Jaggars' (2016) findings, critical factors influencing student satisfaction in online courses encompass course design, instructor feedback, and interaction. Their study suggests that these elements play a significant role in shaping overall satisfaction among students engaged in online learning. While this study's own respondents benefit from the teacher's feedback during online course, Bordios et al. (2022) point out that some students are less satisfied with the timely feedback they receive. Moreover, disparities in online education, influenced by language barriers and cultural differences, affect satisfaction levels (Sachs, 2019).

In consonance with the recommendations of Sachs (2019) that institutions need to evaluate student satisfaction for program enhancement, this study also implies that education institutions can make use of investment in the design and development of quality online content to increase not only satisfaction but retention among students. Furthermore, teachers' use of regular feedback mechanisms and an inclusive approach to accommodate students' varying points of view could also increase motivation and engagement among online learners.

Satisfaction with ODL Technology Framework

The study shows that students find online discussion useful and relevant, with clear rules and expectations. They find technical help helpful. They have no problems with using online technology and only need help with software at times. However, they may lack enthusiasm for writing on online platforms, such as analytical or critical writing.

Nevertheless, the findings indicate that the respondents are generally satisfied with the technology framework of ODL based on the general weighted mean (GWX) of 2.94 with a verbal description of "agree" and interpretation of "average," but there may still be some areas for improvement.

The findings of this study corroborate the study by Markova et al. (2017) which suggest that teachers play a crucial role in knowledge construction and maximizing ICT potential in distance tertiary education. They can enhance student satisfaction and program quality by developing effective teaching methods and clear communication channels. Hew (2013) further denotes that technology-driven approaches are suggested to better understand the factors influencing satisfaction among culturally diverse student populations. In connection, student satisfaction in ODL reveals that challenges like slow internet and interruptions can be overcome with teacher support, while computer knowledge, flexibility, and the usefulness of distance education predict satisfaction (Landrum et al., 2020).

Building around this study's own findings and supplementary literature, they imply that teachers may leverage technology-driven approaches and maximize ICT's potential to ensure flexibility, afford clear communication channels, and address cultural diversity in online learning spaces. This could help increase student motivation, engagement, and positive outcomes.

Cultural Diversity Awareness and Satisfaction with Online Distance Learning

Table 1.
Correlations Between Students CDA and Satisfaction with ODL

	Satisfaction with online distance learning	Coefficient correlation (r)	Degree of Correlation	p-value	Decision	Remarks
	Organization	.59	Moderate	.000	Fail to reject H_o	Significant
Cultural diversity awareness	Course design	.54	Moderate	.000	Fail to reject H_o	Significant
	Technology	.49	Moderate	.000	Fail to reject H_o	Significant

N = 169; df (N-2) = 167; α = .05

The results show that there is a positive correlation between cultural diversity awareness and ODL organization framework, r(167) = .59, p < .05. The results indicate that the two variables are correlated with moderate strength. Since the computed p-value is less than .05 alpha, this study rejects the null hypothesis, indicating that evidence is not sufficient to support the claim.

Therefore, there is a statistically significant relationship between the students' cultural diversity awareness and their satisfaction with ODL organization framework. One possible explanation for this could be that the teacher and the school provide support that makes the students feel that their cultural backgrounds are valued and represented in the online learning environment, increasing motivation, engagement, and retention.

Kuo et al. (2014) suggest that students' satisfaction with online distance learning is influenced by various elements, including external influences, personal traits, and the quality of interaction, in addition to their expectations and self-motivation. According to Landrum (2020), teacher support has the potential to overcome several obstacles in online learning. Moreover, students exhibit a high level of contentment with the teachers' dedication to facilitating student learning and their accessibility (Bordios et al., 2022). Sachs (2019) posits that a strong correlation exists between high levels of satisfaction with online courses and a positive perception of the learning environment and academic success.

The findings also indicate a significant positive relationship between cultural diversity awareness and the course design framework of ODL. The correlation coefficient (r) of .54, based on a sample size of 169 (df = 167), suggests a strong association. The p < .05 indicates that this relationship is highly statistically significant. The study indicates a moderate strength correlation between the two variables. Given that the calculated p-value is below the significance level of .05, this study rejects the null hypothesis, suggesting that there is insufficient evidence to support the claim.

Hence, there exists a statistically significant correlation between the students' cultural diversity awareness and their satisfaction with the ODL course design framework. It is plausible that the online course design is inclusive, where diverse points of view or perspectives converge. There may also be a means for intercultural communication and collaboration. As Yu (2022) points out, collaborative online learning environments have a substantial effect on satisfaction in online learning because they promote a feeling of community and support, which in turn leads to higher levels of engagement and satisfaction.

Kuo et al. (2014) also emphasize that the level of satisfaction students experience with online distance learning is influenced by the quality of interaction, specifically the interaction between learners and teachers, as well as the interaction between learners and the course content. Furthermore, Nambiar (2020) contends that placing importance on ease, accessibility, and awareness is crucial for addressing issues linked to course design. Besides, Xu and Jaggars

(2016) accentuate that course design is among the key factors that influence student satisfaction in online courses.

The results further reveal that there is a positive correlation between cultural diversity awareness and ODL technology framework, r(167) = .49, p < .05. The study denotes that the two variables are correlated with moderate strength. Since the computed p-value is less than .05 alpha, this study rejects the null hypothesis, indicating that evidence is not sufficient to support the claim.

Therefore, statistically there is a significant relationship between the students' cultural diversity awareness and their satisfaction with ODL technology framework. It is possible that culturally aware students might be more open to different ways of using technology for a more personalized learning experience. They might be comfortable exploring different online platforms and sharing their perspectives with peers from diverse backgrounds.

In connection, Markova et al. (2017) articulate the potential of ICT in online distance education to enhance student satisfaction and program quality by developing effective teaching methods and clear communication channels. Hew (2013) also argues that employing technology-driven methods can enhance understanding of the elements that impact satisfaction among culturally diverse student populations. Yu (2022) suggests that a collaborative online learning environment, characterized by a diverse group of students, has a significant impact on satisfaction in distance learning. Collaborative learning fosters a sense of community and support, leading to increased engagement and satisfaction. To support this, cross-cultural competence studies have fostered technology-supported environments that enable learners from diverse cultures to understand each other's cultures, appreciate cultural differences, and develop critical cultural awareness through open and tolerant communication (Bueno-Alastuey & Kleban, 2016).

Predictive Power of Cultural Diversity Awareness on Students' Satisfaction with Online Distance Learning

Table 2.
Regression Analysis Between CDA and ODL Organization Framework

Model	β	Std. error	T	p-value
(Predictor constant)	1.51	.17	9.04	.000
Student cultural diversity awareness	.40	.04	9.34	.000

Dependent variable: Student satisfaction with ODL organization framework
R-sq. = .34; α = .05

Table 2 shows regression analysis where simple linear regression was used to test if cultural diversity awareness could significantly predict satisfaction with ODL organization framework. The fitted regression model is: satisfaction with ODL organization framework = 1.51 + .40 (cultural diversity awareness). The overall regression is statistically significant (R-sq. = .34, p < .05).

The findings reveal that cultural diversity awareness (β = .40, p < .05) is a positive predictor of satisfaction with ODL organization framework. This suggests that as students' cultural diversity awareness increases, so does their satisfaction with the way their online distance learning is organized. With a baseline satisfaction of 1.51, the model predicts a .40-point increase in satisfaction with ODL organization framework for every one (1) percent increase in CDA; while the R-squared value of .34 indicates that 34% of the variation in student satisfaction with ODL organization framework is explained by their cultural diversity awareness.

The findings imply that online distance learning environments that are more culturally aware may be more successful in engaging and retaining students.

Table 3.
Regression Analysis Between CDA and ODL Course Design Framework

Model	B	Std. error	t	p-value
(Predictor constant)	1.52	.20	9.04	.000
Student cultural diversity awareness	.42	.05	9.34	.000

Dependent variable: Student satisfaction with ODL course design framework
R-sq. = .29; α = .05

Table 3 presents the results of a regression analysis that utilized simple linear regression to examine whether cultural diversity awareness had a significant impact on satisfaction with ODL course design framework. The fitted regression model is as follows: satisfaction with ODL course design framework = 1.52 + .42 (cultural diversity awareness). The regression analysis yields a statistically significant result, (R-sq. = .29, p < .05).

The results indicate that cultural diversity awareness (β = .42, p < .05) had a substantial positive impact on satisfaction with online distance learning course design. As students' cultural diversity awareness increases, so does their satisfaction with the online distance learning course design. With a baseline satisfaction of 1.52, the model predicts a .42-point increase in satisfaction with ODL course design framework for every one (1) percent increase in CDA. Meanwhile, their cultural diversity awareness can account for 29% of the variability in student satisfaction with ODL course design framework, as indicated by the R-squared value of .29.

The findings imply that increasing student cultural diversity awareness through inclusive content, adaptive pedagogy, and diverse resources can help them prepare for an increasingly

diverse and globalized world. This can result in better communication and collaboration as they immerse themselves in the real world.

Table 4.
Regression Analysis Between CDA and ODL Technology Framework

Model	β	Std. error	t	p-value
(Predictor constant)	1.73	.17	10.27	.000
Student cultural diversity awareness	.31	.04	7.29	.000

Dependent variable: Student satisfaction with ODL technology framework
R-sq. = .24; α = .05

Table 4 shows regression analysis where simple linear regression was used to test if cultural diversity awareness could significantly predict satisfaction with ODL technology framework. The fitted regression model is: satisfaction with ODL technology framework = 1.73 + .31 (cultural diversity awareness). The overall regression is statistically significant (R-sq. = .24, p < .05).

The findings reveal that cultural diversity awareness (β = .31, p < .05) is a positive predictor of satisfaction with ODL technology framework. This suggests that as students' cultural diversity awareness increases, so does their satisfaction with their experience using online distance learning technology. With a baseline satisfaction of 1.73, the model predicts a .31-point increase in satisfaction with ODL technology framework for every one (1) percent increase in CDA; while the R-squared value of .24 indicates that 24% of the variation in student satisfaction with ODL technology framework is explained by their cultural diversity awareness.

The findings suggest that students from various cultural backgrounds can gain advantages from technology-driven methods, particularly when utilized to their fullest potential in online learning environments. These approaches facilitate the integration of multiple cultural viewpoints. Technology can also facilitate communication across borders by providing asynchronous communication channels.

The overall findings in this study and the supplementary literature converge on the idea that cultural diversity awareness in online learning can lead to increased student motivation, active engagement, improved student outcomes, and deeper learning. To capitalize on this, both teachers and education institutions can make use of inclusive practices that allocate resources for faculty training, encourage diverse instructional materials, invest in culturally intelligent assessment methods, and create clear policies for respectful online interactions. Further research on the mechanisms linking cultural diversity awareness and online learning satisfaction could also explore technology's role in facilitating or hindering cultural awareness and examine the cultural contexts of online learning.

Conclusion

The study demonstrates a clear link between students' cultural awareness and their satisfaction with ODL frameworks. Students with a stronger understanding of cultural diversity reported greater satisfaction across all key aspects of online distance learning, including organization, course design, and technology. This suggests that in incorporating cultural sensitivity into online learning design can be a significant factor in improving student experience.

These findings provide empirical evidence to support the theoretical notion that culturally responsive online distance learning design fosters a more inclusive and engaging learning environment for students from diverse backgrounds. Additionally, the results of this study offer valuable insights for online distance learning practitioners. By prioritizing cultural awareness in course design, educators can create a more welcoming and effective learning experience for a wider range of students. Furthermore, enhancing students' cultural awareness not only leads to greater satisfaction with online distance learning but also prepares them to navigate diverse and multicultural environments that foster their personal and professional growth in an interconnected world. In essence, this study confirms that considering different cultures make online distance learning better. Further research can explore specific methods and best practices for achieving cultural sensitivity in online learning design.

Recommendations

To cultivate more inclusive online distance learning experiences and enhance student engagement, a multi-stakeholder approach is recommended. The integration of cultural diversity training modules within student orientation programs is crucial. Additionally, strategically incorporating culturally diverse content and perspectives throughout online courses is recommended. Furthermore, ongoing support and resources such as workshops, manuals, and staff should be readily available to enhance student cultural competence and awareness. Lastly, continuously assessing and improving the inclusivity of online learning platforms is paramount.

Further research is necessary to explore the long-term impact of these interventions on student learning outcomes and career trajectories. Additionally, investigating the most effective methods for assessing and measuring cultural competence within online learning environments would be valuable.

Limitations

This study has several limitations that should be considered when interpreting the findings. The research was conducted solely at state universities in selected geographic regions, which may limit the generalizability of the results to other educational institutions or settings. Additionally, the study relied on measures of cultural diversity awareness and satisfaction

among students but did not examine other potentially relevant factors, such as academic performance, retention rates, or demographic attributes.

Future research is needed to further explore these issues and validate the results in different settings.

Acknowledgment

Ethical Considerations

This research adhered to ethical research principles. Participants provided informed consent and participated voluntarily. They received a detailed explanation of the study's purpose and data collection process. To ensure anonymity and confidentiality, participant names were not revealed during data collection and analysis. Responses were meticulously handled, secured, and destroyed after the completion of the study. Participants also retained the right to withdraw from the study at any point. There were no individuals or organizations harmed during the research conduct.

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