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Challenges Faced by Students in Open and Distance Mode of Education

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Abstract

This study uses the quantitative methodology and a cross-sectional study to examine the individual challenges faced by students in Open and Distance Learning (ODL) at Tribhuvan University's Faculty of Education. The research investigates the complexities of ODL, a flexible educational paradigm adopted by Tribhuvan University to reach diverse students. The study, conducted through a quantitative approach, examines challenges related to time management, financial constraints, unfavourable learning environments, limited interaction, and technical issues. It employs a Likert scale questionnaire and a cross-sectional design, with data collected from 145 respondents in May/June 2023. The findings reveal that ODL students encounter significant challenges in time management, financial constraints, and unfavourable learning environments. The digital divide and financial issues widen educational inequalities, posing obstacles for students from underprivileged and rural areas. The results underscore the multifaceted nature of the challenges faced by ODL students, emphasizing the importance of tailored interventions. The analysis of socio-demographic variables indicates variations in challenges among different student groups, highlighting the need for inclusive support mechanisms. Despite gender-related differences being non-significant, variations in challenges based on caste/ethnicity, study programs, and other factors necessitate holistic strategies for improving the ODL experience. The study concludes with recommendations for addressing challenges, including bridging the digital divide, providing structured support for time management, and addressing financial barriers. Acknowledging and addressing these challenges is crucial for maximizing the transformative potential of ODL in higher education. The findings contribute valuable insights for educational institutions and policymakers aiming to enhance the ODL experience and ensure equitable access for diverse student populations.

Keywords: cross-sectional study, individual challenges, Open and Distance Learning (ODL), student's perceptions, Tribhuvan University

Introduction

Open and Distance Learning (ODL) provides flexible learning options to a wide spectrum of students (Pangeni, 2016; Zaki, 2022). It has recently become a well-known alternative to conventional

brick-and-mortar educational institutions. The Tribhuvan University Faculty of Education has adopted this educational paradigm, expanding its reach across geographical boundaries and serving a varied student body (Gautam, 2021; Leppänen, Koskela, & Susimetsä, 2020; Upadhayaya, Sharma, Gnawali, & Belbase, 2021). While ODL has several benefits, including accessibility, adaptability, and cost-effectiveness, it poses a special set of difficulties that students enrolled in this modality must overcome (Ajaz & Women, 2014; Carm, Johannesen, & Øgrim, 2020; Vu, Cao, Vu, & Cepero, 2014). This study examines the individual challenges encountered by students studying ODL at the Faculty of Education at Tribhuvan University, highlighting the complexity of these problems and their difficulties for the students.

A pioneer in using ODL as a method of delivering education is Tribhuvan University. The Faculty of Education has acknowledged ODL's ability to increase educational access since it plays a crucial role in the institution. The Open and Distance Learning program of Tribhuvan University strives to serve a wide range of students, including professionals in the workforce, those from rural locations, and those with family responsibilities. As a result, it helps remove some of the obstacles that conventional educational models frequently provide and democratize education (A. Jha, 2020).

The context of ODL at Tribhuvan University

ODL at Tribhuvan University has unquestionably democratized education, but it is important to recognize that it is not without its difficulties. The attractiveness of ODL's flexibility comes with several challenges that students must surmount. The absence of face-to-face connection with classmates and teachers is one of the biggest obstacles. Real-time conversations and prompt answers to questions are provided by traditional classroom settings, which may not be as effective in the ODL scenario. Students in ODL frequently describe a feeling of isolation as a result of the lack of social connection possibilities. The whole learning process may be hampered by this solitude, which can also cause emotions of detachment.

Additionally, Tribhuvan University's ODL students struggle with time management. Although the flexible schedule enables students to mix their studies with other obligations, it also greatly demands their self-discipline and time management abilities. Lack of a set plan can cause procrastination and make it harder to meet deadlines. According to research by Laudari, Pradhan, and Lama (2021)) students in ODL frequently find it difficult to set aside time for studying, which leads to hurried assignments and subpar learning results.

The widespread digital divide in Nepal is another important issue (S. Jha & Pandey, 2016; Mathrani, Sarvesh, & Umer, 2022). Despite the increasing penetration of technology, a sizeable portion of the population still lacks access to dependable internet connectivity and gadgets. ODL is unavailable to individuals without the required technological infrastructure since it mainly relies on digital resources and internet platforms. The educational inequality gap is widened for pupils from rural and underprivileged areas due to this problem (Dawadi, Giri, & Simkhada, 2020; S. Jha & Pandey, 2016; Mathrani et al., 2022). To provide equal access to ODL, a study from the Ministry of Education, Nepal (2022) stressed the critical necessity for closing the digital divide.

Financial issues also impede participation in the ODL. ODL incurs costs for internet access, study materials, and sporadic trips to study facilities, even though it is frequently seen as more affordable than

traditional schooling (Devkota, 2021; Gurung & Paudel, 2021). These expenses may be too high for struggling students, preventing them from participating fully in the classroom.

Methods and materials of the study

The present study aimed to investigate the individual challenges faced by students enrolled in the Open and Distance Learning (ODL) mode of education at Tribhuvan University's Faculty of Education. A cross-sectional study design was used with a quantitative technique to accomplish this study (Leavy, 2017; Reaves, 1992; Setia, 2016; Vogt, 2011). The cross-sectional study design was chosen to capture a snapshot of the challenges faced by ODL students at a specific point in time. This design allowed for data collection from diverse respondents, providing insights into their experiences. Data collection was conducted during Jestha 2080 (May/June 2023). A census method was employed to choose a sample of respondents accurately representing the population. One hundred forty-five respondents were chosen from the students enrolled in ODL mode education at Mahendra Ratna campus, Tahachal and the Central Department of Education in Kirtipur. The selection of the respondent's representation was based on the size of the respondent population, ensuring enough statistical power (Cochran & William, 1977; Ross & Reeve, 2003; Thomas & La Val, 1988). Students from the Central Department of Education and Mahendra Ratna Campus, Tahachal, who were pursuing education in the ODL modality, were included in the target group.

The study used five-point Likert scale questionnaires that were delivered using Google Forms to collect information from respondents (Croasmun & Ostrom, 2011; Nemoto & Beglar, 2014). The questionnaire consisted of two sections: demographic information and Likert scale items related to challenges faced by ODL students. Participants were required to indicate their level of agreement with each statement on a 5-point Likert scale. The questionnaire was created to assess the magnitude of individual challenges students face in open and distance modes of education. The items were derived from an extensive examination of existing literature and expert consultations to ensure the accuracy and relevance of the material. The online platform allowed for easy questionnaire distribution to respondents. The efficient data team collaborated with the Central Department of Education and Mahendra Ratna Campus faculty members to disseminate the questionnaire link to the student collection. The Google Form link was shared with the eligible participants via email and online communication platforms used by the university—additionally, the research. Informed consent was obtained from all respondents, ensuring anonymity and confidentiality. Respondents were informed that their participation was voluntary and that they could withdraw at any point without facing any consequences.

In the study context, reliability and validity were systematically addressed (Hammersley, 1987; Heale & Twycross, 2015). In this study, the reliability of the questionnaire was assessed using Cronbach's alpha coefficient. Cronbach's alpha measures the internal consistency of a scale by indicating the extent to which all the items in the scale measure the same underlying construct. The reported Cronbach's alpha value of 0.896 indicates a high level of internal consistency among the items in the questionnaire (Tavakol & Dennick, 2011). This value suggests that the Likert scale items used to measure the challenges faced by ODL students were closely related and measured a common underlying concept. A Cronbach's alpha value above 0.7 is generally considered acceptable for research purposes, and the value of 0.896 indicates strong internal consistency in this study. This suggests that the questionnaire used in the study is reliable in capturing the students' perceptions of challenges. The

validity of the questionnaire was ensured through expert consultation. Expert consultation involves seeking the opinions and feedback of subject matter experts to confirm that the questionnaire items adequately represent the measured construct. Before the questionnaire was administered to the target respondents, it was pre-tested by a panel of experts in education and distance learning. These experts evaluated the questionnaire items' content, wording, and relevance. Their feedback was incorporated to refine and align the questionnaire with the research objectives.

After data collection, the gathered responses were exported from Google Forms to a statistical software package for analysis. For analyzing the collected data from research tools, positive statements were rated 5 to 1 from strongly agree to strongly disagree, and negative statements were given 1 to 5 points from strongly disagree to strongly agree. Descriptive statistics mean and standard deviation were used to summarize demographic information and Likert scale responses(George & Mallery, 2018; Kaur et al., 2018). The Likert scale responses were assigned numerical values for quantitative analysis. The data were then subjected to inferential statistical techniques such as one sample t-test and one-way ANOVA to find the status and significant relationships among variables (Heale & Twycross, 2015; Marshall & Jonker, 2011).

Result and discussion

Perceived challenges faced by ODL students

The Likert scale survey responses were analyzed using a one-sample t-test to assess the perceived challenges, focusing on mean scores, standard deviations, t-values, and p-values. The mean scores and standard deviations indicate the perceived severity of each challenge. The t-values and p-values provide insights into the significance of the differences between the means of each challenge item. A discussion of the results and relevant evidence from the literature are presented. The results are shown in Table 1 below:

Table 1

Status of individual challenges faced by ODL students

Statements	Mean	SD	t-value	p-value
Lack of sufficient time for study	3.79	0.83	11.34	0.00*
Financial constraints	3.42	0.80	6.36	0.00*
Lack of support from peers- family	3.11	0.94	1.41	0.16
Unfavourable home learning environment, e.g., absence of studying space, lack of electricity, etc.	3.56	0.95	7.09	0.00*
Difficulties in learning complex and or technically demanding material by distance.	3.57	0.94	7.33	0.00*
Absence/low interaction with other students, i.e., isolation.	3.50	0.95	6.37	0.00*
Lack of experience and training with instructional technology, e.g., computer illiterate.	3.26	1.06	2.97	0.00*
Conflicts between family and study schedule.	3.11	1.11	1.19	0.23
Conflicts between work and study schedule.	3.06	1.10	0.68	0.50
Issues with the internet, Wi-Fi, or other gadgets (laptop, computer)	3.79	1.00	9.45	0.00*

Note: *$p < 0.05$ indicates statistical significance.

The study's findings reveal several noteworthy insights regarding ODL students' challenges at Tribhuvan University's Faculty of Education. It is evident from the mean scores that challenges related to time management (M = 3.79), financial constraints (M = 3.42), and unfavourable home learning environments (M = 3.56) are particularly prominent among ODL students. These challenges significantly impact their learning experience, as indicated by the statistically significant t-values and p-values (Acharya et al., 2020; Khati & Bhatta, 2020). The issue of limited interaction and isolation (M = 3.50) is another significant challenge highlighted by the participants. This finding aligns with previous research by Bhusal, Rimal, and Campus (2020), emphasizing the isolation experienced by students engaged in distance learning.

Interestingly, challenges related to technical proficiency (M = 3.26) and internet-related issues (M = 3.79) are also prominent among ODL students. These challenges underscore the importance of providing adequate technical support and training to help students navigate online learning platforms effectively. While some challenges, such as conflicts between family and study schedule (M = 3.11) and conflicts between work and study schedule (M = 3.06), did not show statistical significance, they still warrant attention as they can impact students' ability to allocate time and attention to their studies.

The study's findings found the multifaceted challenges faced by ODL students at Tribhuvan University's Faculty of Education. Time management, financial constraints, unfavourable learning environments, limited interaction, and technical issues are key areas requiring intervention and support (Bukaliya, Region, Marondera, & MUSIKA, 2011; Jung-Ivannikova, 2016; Mathew & Ebelelloanya, 2016; Muda & Bit-Lian, 2019). These findings have implications for educational institutions and policymakers aiming to enhance the ODL experience, emphasizing the need for targeted interventions addressing these challenges to ensure the success and satisfaction of ODL students.

Socio-demographic variables concerning individual-related challenges

The analysis through one-way ANOVA sought to uncover potential patterns and significant differences among various categories of students based on gender, caste/ethnicity, provinces, religions, study programs, devices used, job status, and training participation concerning individual-related challenges.

Table 2

A significant result of individual-related challenges with socio-demographic variables

Variable	Category	Frequency	Mean	S.D.	p-value
Gender	Female	72	3.5028	0.57039	
	Male	73	3.3329	0.68172	0.106
	Total	145	3.4172	0.63249	
Cast/ Ethnicity	Brahmin/Chhetri	89	3.3843	0.59216	
	Dalit	7	3.6857	0.63095	
	Janajati	44	3.3636	0.67345	0.092
	Madeshi	4	4.0250	0.75000	
	Other	1	4.4000		
	Total	145	3.4172	0.63249	
Provinces	Koshi	23	3.3696	0.52780	
	Madhes	7	3.2714	0.65756	

	Bagmati	47	3.3851	0.63690	0.629
	Gandaki	24	3.4750	0.52771	
	Lumbani	31	3.4129	0.73155	
	Karnali	2	4.2500	0.91924	
	Sudurpaschim	11	3.4818	0.71808	
	Total	145	3.4172	0.63249	
Religions	Buddhist	12	3.0000	0.65644	
	Christian	10	3.4600	0.53375	0.169
	Hindu	116	3.4431	0.62752	
	Kirat	6	3.6167	0.69976	
	Muslim	1	3.8000		
	Total	145	3.4172	0.63249	
Study Programs	M.Ed. in English Education	17	3.8353	0.63830	
	M.Ed. in Health Education	3	3.3333	0.40415	
	M.Ed. in Nepali Education	21	3.6476	0.72844	0.000*
	M.Ed. in Science Education	17	2.9059	0.75206	
	Master in Social Study Education (MSSED)	87	3.3828	0.51086	
	Total	145	3.4172	0.63249	
Devices Use	Desktop computer	3	3.8000	0.17321	
	Laptop	47	3.4043	0.61924	0.362
	Laptop; Smart Phone	30	3.2733	0.67258	
	Smart Phone	65	3.4754	0.63123	
	Total	145	3.4172	0.63249	
Job	No	31	3.5581	0.68058	0.163
	Yes	114	3.3789	0.61637	
	Total	145	3.4172	0.63249	
Training	No	31	3.4935	0.67525	
	Yes	114	3.3965	0.62186	0.451
	Total	145	3.4172	0.63249	

Note: *$p < 0.05$ indicates statistical significance. *Source:* Field survey 2080

The study found a notable trend in the perceived challenges based on gender. Female students (M = 3.5028) reported slightly higher mean scores than male students (M = 3.3329) for individual-related challenges. However, this difference was not statistically significant (p = 0.106). While the observed variation was insignificant, it is worth noting that gender can still play a role in shaping the perception of challenges, potentially influencing areas such as time management and familial responsibilities(Hodgson, 2000). This result contrasts with Ramli, Mahmood, Hamzah, Hashim, and Tajuddin (2023) results.

Certain trends were evident when examining individual-related challenges across different cast/ethnicity categories. Dalit students (M = 3.6857) reported higher mean scores compared to Brahmin/Chhetri (M = 3.3843) and Janajati (M = 3.3636) students, although these differences were not statistically significant. However, Madheshi students (M = 4.0250) reported significantly higher mean

scores, indicating they perceived challenges more intensely (p = 0.092). This highlights the importance of acknowledging the intersectionality of challenges faced by students from different castes and ethnicities.

Significant variation in perceived challenges was observed among different study programs (p = 0.000*). Students enrolled in "M.Ed. in Science Education" (M = 2.9059) reported significantly lower mean scores for individual-related challenges than other study programs. Conversely, "M.Ed. in English Education" (M = 3.8353) and "M.Ed. in Nepali Education" (M = 3.6476) students reported significantly higher mean scores, indicating that they perceived challenges more acutely.

No significant differences in individual-related challenges were observed among students who used different devices, held jobs or had undergone training. These variables did not appear to significantly influence the perceived challenges among ODL students.

Analyzing socio-demographic variables concerning individual-related challenges provides valuable insights into how different student groups perceive and experience challenges in the ODL mode. While some variables, such as gender and devices used, did not yield significant differences, others, like cast/ethnicity and study programs, exhibited noteworthy variations in perceived challenges. These findings emphasize the need for tailored support mechanisms and interventions that consider the diverse backgrounds and circumstances of ODL students.

It is important to recognize that individual-related challenges are complex and multifaceted, influenced by socio-demographic variables, personal circumstances, and the nature of the chosen study program. The study's results underscore the significance of addressing these challenges holistically, fostering an inclusive and supportive learning environment that accommodates the diverse needs of ODL students.

Conclusion

This study examined individual challenges faced by Open and Distance Learning (ODL) students at Tribhuvan University's Faculty of Education through a quantitative cross-sectional approach. The research reveals a complex array of obstacles, encompassing time management issues, financial constraints, unfavourable learning environments, limited interaction, and technical difficulties. Particularly noteworthy are the pronounced challenges faced by ODL students from underprivileged and rural backgrounds, such as the digital divide and financial constraints, intensifying educational inequalities. The study emphasizes the imperative recognition of these challenges to address educational disparities and achieve equitable access, aligning with the broader mission of democratizing education. The recommended interventions, including bridging the digital divide, offering structured support for time management, and addressing financial barriers, emerge as crucial steps for enhancing the ODL experience. The study underscores the need for holistic strategies to accommodate the diverse needs of ODL students, as revealed by variations across different socio-demographic variables. The insights from this research are invaluable for educational institutions and policymakers seeking to optimize the transformative potential of ODL in higher education, fostering an inclusive and supportive learning environment for students from diverse backgrounds.

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References

Acharya, A., Poudyal, N., Lamichhane, G., Aryal, B., Bhattarai, B. R., Adhikari, B., . . . Parajuli, N. (2020). Digital learning Initiatives, Challenges and Achievement in Higher Education in Nepal Amidst COVID-19. doi:10.35542/osf.io/r85bc

Ajaz, N., & Women, F. J. (2014). Cost effectiveness of Open and Distance learning in Pakistan. *International Journal of Health & Education, 3*(1), 47-55. Retrieved from https://www.researchgate.net/publication/336263450

Bhusal, S., Rimal, S., & Campus, P. (2020). Challenges of online learning in Nepal. In.

Bukaliya, R., Region, M. E., Marondera, Z., & MUSIKA, F. (2011). Assessing the Receptivity of Open and Distance Learning Programmes Among Ordinary and Advanced Level Students: A Case of the Zimbabwe Open University. *International Journal on New Trends in Education and Their Implications, 2*(3), 73-87.

Carm, E., Johannesen, M., & Øgrim, L. (2020). Appropriation of Online Distance Learning in Nepal. In *Innovative Technologies and Pedagogical Shifts in Nepalese Higher Education* (pp. 42-61): Brill.

Cochran, W. G., & William, G. (1977). *Sampling Techniques. New York: John Wiley& Sons*. Retrieved from file:///C:/Users/Dell/Downloads/Sampling.pdf

Croasmun, J. T., & Ostrom, L. (2011). Using Likert-Type Scales in the Social Sciences. *Journal of Adult Education, 40*(1), 19-22. Retrieved from https://files.eric.ed.gov/fulltext/EJ961998.pdf

Dawadi, S., Giri, R. A., & Simkhada, P. (2020). Impact of COVID-19 on the Education Sector in Nepal: Challenges and Coping Strategies. *Online Submission*.

Devkota, K. R. (2021). Inequalities reinforced through online and distance education in the age of COVID-19: The case of higher education in Nepal. *International Review of Education, 67*(1-2), 145-165.

Gautam, G. R. (2021). Digitalization efforts of Tribhuvan University: Responding COVID-19 and beyond. *TU Bulletin Special ISSUE*, 93-101.

George, D., & Mallery, P. (2018). Descriptive statistics. In *IBM SPSS Statistics 25 Step by Step* (pp. 126-134): Routledge.

Gurung, L., & Paudel, P. K. (2021). Digital Divide in the COVID-19 Context: A Case of Nepal. *Journal of Education and Research, 11*(2), 1-5.

Hammersley, M. (1987). Some notes on the terms 'validity'and 'reliability'. *British educational research journal, 13*(1), 73-82.

Heale, R., & Twycross, A. (2015). Validity and reliability in quantitative studies. *Evidence-based nursing, 18*(3), 66-67. doi:10.1136/eb-2015-102129

Hodgson, V. (2000). *Changing concepts of the boundaries within ODL.* Paper presented at the Networked Learning.

Jha, A. (2020). ICT with Open and Distance Learning for Capability Enhancement: Practices of Higher Education Institutions of Nepal. *Journal of Training and Development, 5*, 60-70.

Jha, S., & Pandey, S. (2016). Digital divide: Exploring national and international approaches to bridge the digital divide in the perception of developing countries especially in the context of Nepal. *International Journal of Latest Trends in Engineering and Technology "(IJLTET), 7*(3), 368-383.

Jung-Ivannikova, L. (2016). Communication challenges learners face online: Why addressing CMC and language proficiency will not solve learners' problems. *British Journal of Educational Technology, 47*(2), 239-247.

Kaur, P., Stoltzfus, J., & Yellapu, V. (2018). Descriptive statistics. *International Journal of Academic Medicine, 4*(1), 60. Retrieved from https://journals.lww.com/ijam/pages/default.aspx

Khati, K., & Bhatta, K. (2020). Challenges of online education during COVID-19 pandemic in Nepal. *International Journal of Entrepreneurship Economic Issues, 4*(1), 45-49.

Laudari, S., Pradhan, S., & Lama, S. (2021). Impacts of remote learning to students in higher education during the COVID-19 pandemic in Nepal.

Leavy, P. (2017). *Research design: Quantitative, qualitative, mixed methods, arts-based, and community-based participatory research approaches*: Guilford Publications.

Leppänen, T., Koskela, S., & Susimetsä, M. (2020). Achievements and Challenges of Open and Distance Learning Development in Nepal.

Marshall, G., & Jonker, L. (2011). An introduction to inferential statistics: A review and practical guide. *Radiography, 17*(1), e1-e6. doi:https://doi.org/10.1016/j.radi.2009.12.006

Mathew, I. R., & Ebelelloanya, J. (2016). Open and distance learning: Benefits and challenges of technology usage for online teaching and learning in Africa. Retrieved from https://www.researchgate.net/publication/333817239_OPEN_AND_DISTANCE_LEARNING_BENEFITS_AND_CHALLENGES_OF_TECHNOLOGY_USAGE_FOR_ONLINE_TEACHING_AND_LEARNING_IN_AFRICA

Mathrani, A., Sarvesh, T., & Umer, R. (2022). Digital divide framework: online learning in developing countries during the COVID-19 lockdown. *Globalization, Societies and Education, 20*(5), 625-640.

Muda, S., & Bit-Lian, Y. (2019). Perceived challenges in open and distance learning among nursing students of Open University Malaysia: A descriptive analysis.

Nemoto, T., & Beglar, D. (2014). *Likert-scale questionnaires.* Paper presented at the JALT 2013 conference proceedings.

Pangeni, S. K. (2016). Open and distance learning: Cultural practices in Nepal. *European Journal of Open, Distance and E-Learning (EURODL), 19*(2), 32-45.

Ramli, S. S. M., Mahmood, W. N., Hamzah, H. C., Hashim, H., & Tajuddin, N. (2023). Online distance learning (odl) and students'self-esteem based on different gender perspectives.

Reaves, C. C. (1992). *Quantitative research for the behavioral sciences*: John Wiley & Sons.

Ross, C., & Reeve, N. (2003). Survey and census methods: population distribution and density. *Field and laboratory methods in primatology*, 90-109.

Setia, M. S. (2016). Methodology Series Module 3: Cross-sectional Studies. *Indian J Dermatol, 61*(3), 261-264. doi:10.4103/0019-5154.182410

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International journal of medical education, 2*, 53.

Thomas, D., & La Val, R. (1988). Survey and census methods.

Upadhayaya, P. R., Sharma, B., Gnawali, Y. P., & Belbase, S. (2021). Factors influencing graduate students'perception of online and distance learning in Nepal. *Turkish Online Journal of Distance Education, 22*(3), 236-269.

Vogt, W. P. (2011). *SAGE quantitative research methods*: Sage.

Vu, P., Cao, V., Vu, L., & Cepero, J. (2014). Factors driving learner success in online professional development. *International Review of Research in Open and Distributed Learning, 15*(3), 120-139. doi:https://doi.org/10.19173/irrodl.v15i3.1714

Zaki, M. S. (2022). Advantages and disadvantages of online learning. *Journal of International Social Research, 15*(92). doi:10.17719/jisr.2022.75162