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Faculty Members' Perception of the Efficacy of Active Learning Strategies in Open and Distance Learning Environment in Bangladesh Open University

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Abstract

This study aims to assess the efficacy of active learning strategies within the context of open and distance learning (ODL), considering that most participants are adults. To investigate the practical implementation of active learning in the Open and Distance Learning (ODL) setting, two research questions have been formulated regarding the research issue. The research employed a mixed-methods strategy. Data were gathered from faculty members via survey questionnaires and comprehensive interviews. One hundred and two educators completed the questionnaire in the study. Convenience sampling was utilized to choose five faculty members for in-depth interviews. Active learning strategies are crucial and efficacious instructional methods within the ODL framework. These tactics promote engagement and connection among students, and between students and educators. Among the 18 identified active learning strategies, only few have been frequently utilized in contemporary classrooms. Fifty percent of the active learning procedures are deployed intermittently, while the other strategies are infrequently or never used. The faculty members' responses indicate that students express satisfaction with the active learning approaches utilized in the classroom. The study results recommended to integrate active learning and student-centred instruction inside the ODL framework.

Keywords: *Active learning, open and distance learning, convenience sampling, in-depth interviews, interactivity.*

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Introductıon

Bangladesh has 108 private universities and 50 public universities (Bhuiyan, 2022). In 1992, the Bangladesh Open University (BOU) Act 1992 was enacted by parliament to ensure educational accessibility for all individuals, regardless of age, gender, or location, through the utilisation of various information and communication technologies (Jahan et al., 2012). Bangladesh Open University (BOU) is a public university that conducts its educational programs via open and distance learning (ODL) (Bhuiyan et al., 2025). Fostering student participation in ODL setting presents a difficulty, as student engagement is commonly seen as crucial for effective pedagogy (Khan et al., 2017). Active learning strategies are utilized to improve student engagement, increase relevance, and boost learner motivation, hence ensuring effective pedagogy (Gleason et al., 2011). Ahmed (2018) found that BOU's faculty members intermittently utilize active learning strategies in the classroom, hindered by institutional barriers and pedagogical approaches that obstruct students' educational advancement in ODL contexts.

Faculty personnel at BOU have a deficiency in understanding student-centered learning and inadequate pedagogical training to proficiently implement active learning strategies in the classroom (Bhuiyan, 2024). The majority of BOU professors lack the necessary pedagogical skills or training in active learning strategies, resulting in their incapacity to implement modern and effective teaching approaches in the classroom (Rahman & Sadat, 2010; Ahmed, 2018). The current classroom setting at BOU does not integrate active learning approaches, thereby insufficiently meeting the needs of 21st-century learners, similar to other universities. The prevalence of traditional lecture methods at BOU negatively impacts students' employability skills in the work market. Reforming the learning approaches in the ODL environment is vital to alter the current scenario. Prior to the reformation, it is crucial to ascertain the active learning strategies employed by faculty in the ODL setting and the present student reactions to these methodologies in the classroom.

Active learning shifts the focus of the educational environment from a teacher-centered model to a student-centered paradigm (Kiani, 2020). The primary demography of learners in ODL is adults. Malcolm Knowles (1990) introduced andragogy to meet particular needs, emphasizing the importance of active learning strategies. It is crucial to evaluate the efficacy of active learning strategies in the context of adult learners inside the ODL environment. This research will provide valuable insights for practitioners seeking to further their comprehension of active learning as a novel approach within the ODL framework.

Literature Review

Open and Distance Learning

The core principle of ODL is to provide education to a varied demographic, emphasizing the assurance of equitable access to educational possibilities. The terms "open learning" and "distance learning" carry distinct connotations (Qayyum & Zawacki-Richter, 2018). An educational technique that allows flexibility by removing obstacles relating to age, gender, race, geography, prior knowledge, and social standing is known as open learning. Conversely, distance learning enables students to engage in education without the necessity of physical attendance, employing various convenient modalities or media (Koseoglu & Bozkurt, 2018). ODL is a contemporary and innovative educational framework that has achieved global acclaim for its capacity to offer flexible and cost-effective continuing education to a substantial population (Jahan et al., 2012).

Active Learning

In recent decades, educators and academics have endeavored to investigate creative pedagogical approaches that improve students' learning experiences. Active learning is considered a viable alternative to inquiry that may be utilized across multiple fields (Freeman et al., 2014; Prince, 2004). Active learning refers to an instructional approach in which students actively engage and contribute in the classroom, rather than being passive recipients of information (Kiani, 2020). In active learning, educators cease lectures and engage students in a specific inquiry or task aimed at enhancing comprehension of a concept (Andrews et al., 2011). Active learning promotes profound comprehension rather than superficial knowledge acquisition, as it engages learners in active and constructive cognitive processes. This strategy is particularly suitable for higher education, as it aligns with the primary objective of instruction, which is to foster deep knowledge (Ritchhart et al., 2011).

Active Learning Strategies

Active learning strategies encompass various instructional approaches, including collaborative learning, inquiry-based learning, cooperative learning, problem-based learning, flipped classroom learning, think-pair-share, peer review, and case studies (Bruffee, 1984; Prince, 2004; Deslauriers et al., 2011; Freeman et al., 2014). Active learning strategies comprise a variety of educational tactics, rather than depending exclusively on a single method. These tactics alter the educator's position and cultivate a supportive learning environment (McGivney-Burelle & Fei Xue, 2013; Prince, 2004). Active learning tactics encompass diverse educational methodologies, including brainstorming, cooperative

learning, project-based learning, concept mapping, collaborative learning, role-playing, simulation, and peer teaching. These tactics are especially efficacious for adult learners as they incorporate collaborative projects, solitary assignments, and informal small group activities (Zayapragassarazan & Kumar, 2012). Active learning approaches embody a comprehensive educational approach, enabling students to engage in diverse learning activities, therefore catering to the needs of progressive learners (Prensky, 2010).

Active Learning Techniques in ODL Setting

The ODL setting significantly differs from traditional education in terms of student demographics and institutional background. In ODL, all individuals, regardless of age, gender, geography, occupation, or institution, seek knowledge. Koseoglu and Bozkurt (2018) contend that learners recognize themselves as part of a varied group and favor a learning environment that provides flexibility in both timing (synchronous and asynchronous) and tempo. The institution must establish a tailored academic policy, operational processes, and diverse instructional methodologies (Kuruppuarachchi & Karunanayake, 2017). Moreover, it is essential for them to furnish both digital and tangible resources, like modules, e-books, and audio-visual courses. Many institutions utilizing Open and Distance Learning (ODL) offer tutorials in both remote and in-person forms, typically following a weekly or monthly schedule (Koseoglu & Bozkurt, 2018). Incorporating active learning strategies into a traditional classroom environment is quite straightforward. However, executing these tactics in an ODL environment presents further obstacles. This results from differences in institutional administration, educational atmosphere, pedagogical design, support services, and course assessment compared to a traditional in-person classroom (Cheawjindakarn et al., 2013). Establishing rapport among students in the ODL environment presents challenges for professors due to restricted face-to-face engagement chances during tutorial sessions (Moore & Kearsley, 2005).

Moreover, obtaining feedback from remote students is more challenging than in a conventional campus-based learning environment (Considine & Dean, 2003). Notwithstanding the widespread adoption of online distant learning (ODL) in higher education attributable to developments in internet and technology (Kurzman, 2013), certain disadvantages remain. In ODL, educators and learners are spatially separated, resulting in limited interaction. Lack of engagement leads to feelings of isolation and a decreased sense of autonomy in pupils, ultimately diminishing their drive. The faculty in the ODL environment avoid utilizing active learning approaches due to these obstacles (Ludwing

et al., 2003). Brown (2014) asserts that various scholars have identified active learning strategies as viable instructional approaches in the ODL environment. The use of active learning approaches in the ODL environment enhanced the overall satisfaction of staff members and students alike. The connection between educators and learners has led to an enhanced rapport and increased satisfaction among instructors (Considine & Dean, 2003).

The incorporation of active learning practices in the ODL environment significantly improved learners' higher-order thinking skills, facilitating increased course achievement (Brown, 2014). BOU executes its educational programs through Open and Distance Learning (ODL) methodologies. This strategy provides in-person tutorials solely on Fridays and Saturdays, totaling two days each week (Ahmed, 2018). The insufficient number of classes and limited class duration compel faculty to adhere to conventional teaching approaches during in-person tutorials (Jahan et al., 2012), which do not satisfy the requirements of 21st-century learners.

Research Gap

Multiple studies revealed that active learning strategies can function as effective teaching methods in the ODL context (Brown, 2014). Active learning methods in the ODL environment improved class enjoyment for both teachers and students. The relationship between professors and students has improved, leading to greater teacher satisfaction due to heightened interaction (Considine & Dean, 2003). The integration of active learning methodologies in the ODL context markedly boosted learners' advanced cognitive abilities, resulting in better course outcomes (Brown, 2014). Bangladesh Open University (BOU) operates its educational programs under an open and distance learning (ODL) model, offering in-person tutorials solely on Fridays and Saturdays (two days weekly) (Ahmed, 2018). Inadequate classroom space and limited instructional time force faculty to conform to conventional teaching approaches during in-person tutorials (Jahan et al., 2012), which fail to meet the needs of 21st-century learners. Active learning strategies are seen as effective pedagogical methods within the context of Open and Distance Learning (ODL) (Brown, 2014; Khan et al., 2017; Abakumova et al., 2019). Bhuiyan's (2024) study revealed that research on active learning strategies in Bangladesh is scarce, despite students' favorable responses to the implementation of these tactics in the ODL setting. This study aims to address the deficiency in the literature concerning the impact of active learning in the ODL environment. It seeks to enhance the

effectiveness of ODL in Bangladesh by improving the students' learning experience.

Objectives of the Study

This study aimed to assess faculty members' responses to the implementation of active learning methodologies in the ODL environment. This study seeks to achieve the following objectives:

1) To determine the active learning strategies favoured by faculty members in the ODL environment.
2) To evaluate the efficacy of active learning strategies in the ODL environment.

Research Questions

1) Which active learning strategies faculty members preferred in the ODL environment?
2) How would the active learning strategies be effective in ODL environment?

Methodology

Research Design

This study utilized a mixed methods research approach for its analysis. A mixed methods research approach has been employed to comprehensively address the research inquiries. This approach is beneficial as it creates a robust connection between theory and practice (Greene, 2008). Mixed methods research improves understanding, quality, and scope in the study field (Creswell & Clark, 2007), as quantitative and qualitative approaches complement each other, hence alleviating the limits associated with each approach. In mixed methods research, quantitative and qualitative approaches enhance each other, offering a holistic knowledge of the research problem (Johnson & Turner, 2003).

Sampling of the Research Participants

A sample of 102 faculty members was selected for this research study. Five faculty members are chosen for comprehensive interviews. The survey questionnaires utilized simple random sampling to obtain quantitative data, while interviews employed convenience sampling to gather qualitative data. Each instructor at BOU has been assigned a unique identification number, and a random number generator has been utilised to select 102 faculty members for the survey. The fundamental principle is that each individual in the population have an equal probability of selection. For interviews, five faculty members have been chosen on the basis on convenience.

Table 1
Demographic Information of the Participants (Teachers)

Demographic Characteristics	Description	Participants (Teachers)
Gender	Male	60%
	Female	40%
		Total=100%
Designation	Lecturer	27%
	Assistant Professor	40%
	Associate Professor	17%
	Professor	15%
		Total=100%
School	Open School	29%
	School of Social Sciences, Humanities, and Languages	25%
	School of Business	15%
	School of Education	15%
	School of Agricultural and Rural Development	10%
	School of Science and Technology	6%
		Total=100%
Age(Years)	30 and below	17%
	31-35	17%
	36-40	29%
	41-45	8%
	46-50	10%
	51-55	13%
	56 and above	6%
		Total=100%
Teaching Experience in distance education(Years)	5 and below	27%
	6-10	35%
	11-15	13%
	16-20	12%
	21 and above	13%
		Total=100%

Table 1 displays the demographic information of the survey participants, who were educators. Male faculty members exhibited greater participation than their female counterparts. Among the four categories of classification, Assistant Professors constituted the highest number. The faculty members

of Open School constituted the largest group among the participants. Participants aged 36 to 40 engaged more in the survey. Teachers with 6 to 10 years of experience participated more in the survey.

Reliability and Validity of the Study

The questionnaire items in this study were designed to be unambiguous and free of double-barrelled questions to ensure the reliability of the instruments. Cronbach's alpha was employed to assess the dependability of the gathered data. The inquiry yielded a Cronbach's alpha score of 0.804, surpassing the minimum criterion of 0.70. The studies conducted by Mohajan (2017) and Tabata & Johnsrud (2008) demonstrate a significant level of internal consistency for the scale utilized in this group. The data obtained from the interview schedule has been corroborated by the member checking procedure to verify its accuracy.

Method of Data Collection

Based on literature and expert opinion a semi-structured questionnaire has been developed to collect numerical data from teachers for the study. The survey has been developed utilising Google Forms. The link was distributed across various digital platforms. Five individual online interviews have been arranged using the Zoom video conferencing platform. Five faculty members who participated in the interview are chosen on the basis of author own convenience. The interviews were recorded with the participants' consent for the purposes of transcription and analysis. The interview schedule has been disseminated to the participants via email. The duration of each interview ranged from 40 to 50 minutes.

Method of Data Analysis

Microsoft Excel was employed to organize and analyze the quantitative data derived from the questionnaire in relation to the study questions. The quantitative data underwent descriptive analysis to facilitate comprehension of the data's principal attributes and to convey results with clarity. Qualitative data is subjected to two primary processes: transcription and coding. Initially, all interview data was transcribed. Secondly, the transcribed data was categorized into themes and sub-themes corresponding to the research questions. Interview Participants been coded as IP1, 1P2….1P5 and theme and sub-theme has been selected based on active strategies and their importance in ODL. The results of the theme were conveyed in a descriptive format.

Findings

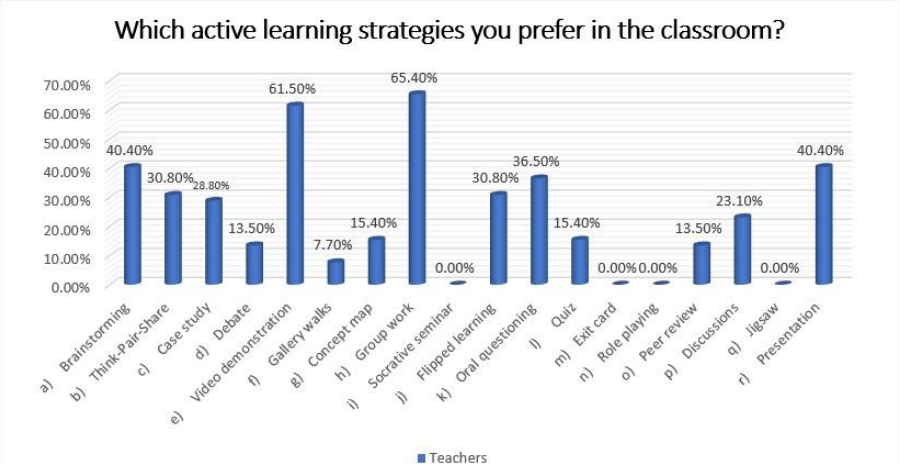

Figure 01. Preferred Active Learning Strategies of the Teachers

The instructors were asked to identify their three preferred active learning tactics for the classroom. A significant 65.4% of instructors prefer group work in the BOU's classroom, identifying it as their foremost choice. Furthermore, video demonstration is the preferred method, as evidenced by 61.5% of teachers' responses. In the realm of ODL, 40.4% of instructors demonstrated an equal preference for both brainstorming and presentation activities. Instructors (36.5%) support the use of oral inquiry in the present classroom setting to enhance students' learning results. The educators in the classroom have demonstrated a preference for the following instructional methodologies: think-pair-share (30.8%), flipped learning (30.8%), case study (28.8%), concept map (15.4%), quiz (15.4%), discussion (13.5%), and peer review (13.5%). Merely 7.7% of instructors in the present BOU classroom choose to implement gallery walks.

Preferred Strategy-01: Group Work

Group work activities serve as an active learning approach that allows students to cultivate vital teamwork skills and gain significant experience prior to graduation (Šerić & Garbin Praničević, 2018). Collaborative tasks facilitate knowledge exchange, idea sharing, and the development of democratic principles among students (Elliott & Reynolds, 2014). Upon inquiry regarding their preference, all of the five faculty members

preferred group work. Stating its benefits one of the interviewees articulated the subsequent rationale:

"My favored active learning technique is collaborative work, which enhances student engagement and participation in the classroom. Students' exhibit increased engagement in class, and their responses are also enhancing. They can address the issue more effectively both individually and collectively." (IP-4)

Preferred Strategy-02: Video Demonstration

Video demonstrations rank as the second most favored active learning approach among students and educators in BOU's classroom. Utilizing video demonstrations in the classroom improves knowledge acquisition, develops cognitive abilities, and boosts student desire and passion for learning (Cruse, 2006). Video demonstrations enhance student involvement in the classroom by clearly explaining intricate concepts (Cook & Hazelwood, 2002). All five faculty members selected video demonstration as their secondary favorite strategy. One of the participants articulated their preference by stating its advantages:

"In my classroom, I prefer to showcase videos." Students observe the film meticulously and endeavor to discern the significance of the facts presented.

Preferred Strategies-03 & 04: Brainstorming and Case Study

In the contemporary BOU classroom, brainstorming and case studies are equally preferred by teachers and students. To give pupils an interesting and demanding experience, educators have used brainstorming, a creative problem-solving method (Wood, 1970). Using case studies as an active learning strategy promotes the development of critical thinking skills and makes clinical problem solving easier (Popil, 2011). Out of 5 faculty members some kept brainstorming third and some kept case study third but all agreed that brainstorming and case study placed third and fourth preferred strategies. One of the interviewees gave the following justification for the BOU classroom's preference for brainstorming:

"Students appear to favor brainstorming. Through brainstorming, students can participate in group discussions to generate novel ideas that enhance their higher-order thinking skills. It fosters innovative thinking." (IP-4)

Active learning practices are well recognized as successful in ODL environments (Brown, 2014). Despite facing implementation issues, the teachers interviewed acknowledge the importance and usefulness of active learning practices in the context of BOU.

Amplified Student Engagement

In the context of ODL, active learning techniques improve student participation and create a lively and engaged learning environment.

Studies have indicated that when active learning approaches are used in the ODL context, students perform better. Their increased level of participation and involvement in the learning process is the reason for this (Brooks 2011; Walker, Brooks, and Baepler, 2011). All of faculty members mentioned student engagement would be amplified if active learning strategies had been applied. Stating its importance, one of the faculty members offers a counterargument during the interview, saying:

"The pupils' sensor functions more effectively in active learning tactics. In typical lectures, only auditory and visual faculties are engaged, however in active learning, all sensory modalities are involved. In active learning, students engage in experiential learning. When faculty members provide lectures on a certain topic, students may acquire only partial knowledge; however, if faculty members organize an industrial visit, students will gain comprehensive understanding through practical experience." (IP-3)

Better Interaction

In the realm of ODL, interaction constitutes a fundamental element of education. The most arduous aspect of the ODL environment is facilitating communication among students, tutors, and technology. Dzakiria (2012) asserts that this significantly influences the quality of ODL programs and the teaching process. Significant contact is essential in an ODL context (Anderson, 2003; Tinto, 2002; Rumble, 2000; Walker, 2002). Active learning methodologies should be integrated into the existing classroom setting to enhance engagement and involvement within the ODL environment (Dzakiria, 2012). All of faculty members mentioned students' interaction would be better if active learning strategies had been applied. One of the professors added:

"Presently, the majority of Western universities, particularly in the ODL context, exclusively implement active learning methodologies due to their numerous advantages. It not only involves students in the learning process but also sustains their motivation by facilitating interaction with peers and educators. The conventional pedagogical approach at BOU results in elevated dropout rates, inadequate class attendance, and diminished motivation among both students and teachers, so undermining effective learning. Consequently, the implementation of interactive teaching and learning has become essential in the ODL method to address this dilemma." (IP-5)

In the ODL environment, the majority of students are adults. Due to the conflicting obligations of employment, domestic responsibilities, and academic pursuits, adult learners seek substantial flexibility in their education. The absence of in-person connection with peers and tutors leads to demotivation. Tutors and key stakeholders endeavor to apply

active learning methodologies inside the ODL framework to enhance the ODL experience, reduce dropout rates, and sustain ODL success narratives. Active learning strategies promote enhanced participation and interaction in the classroom by facilitating student mobility and fostering eye contact with educators and peers (Dzakiria et al., 2013).

Discussion

Educators have been polled on their preferences for active learning strategies in the classroom. The teachers' interview reveals that faculty members in the ODL setting prefer a variety of instructional methods, including brainstorming, group work, video demonstrations, concept mapping, role-playing, presentations, oral questioning, think-pair-share, flipped learning, quizzes, and debates. In the brainstorming process, students produce creative ideas and discern solutions to a specific problem. Brainstorming is a crucial active learning strategy that enhances creativity and promotes problem-solving in education (Al-Khatib, 2012). During group work, students participate in collaborative brainstorming sessions, acquiring a thorough understanding of the subjects involved. They participate in comprehensive discussions on intricate themes, which enhance their learning process. Through participation in role-playing activities within their B.Ed and M.Ed degree programs, students acquire a thorough comprehension of the duties and viewpoints of both educators and learners. Concept maps visually depict diverse subjects. Students have acquired pedagogical skills by engaging in presentation practice. Prompt evaluation of students' focus and knowledge retention can be accomplished through verbal questioning. The think-pair-share method promotes autonomous understanding of lessons among students. Flipped learning assigns the duty of education to students, allowing them to assimilate knowledge at their own pace. Quizzes allow students to promptly obtain their results. Video demonstrations are an effective method for clarifying intricate topics. In debates, students derive enjoyment from idea generation and engage in a competitive atmosphere focused on achieving success. These active learning approaches significantly influence students' educational outcomes, fostering a good attitude towards learning, improving academic achievement, boosting motivation, and increasing attendance (Prince, 2004; Bryson & Hand, 2007).

Educators have been questioned on the importance of active learning practices within the ODL framework and how these strategies are perceived as more effective than conventional lectures. The instructors' interview indicated that active learning strategies are crucial for attaining educational objectives and outcomes while conforming to Bloom's

taxonomy in Open and Distance Learning (ODL). Active learning methodologies in the ODL context significantly enhanced positive emotions and self-efficacy beliefs, concurrently benefiting students' learning outcomes (Jeong et al., 2019). The primary demographic participating in the ODL approach comprises adults. Thus, active learning promotes student involvement and augments learning via diverse activities that enhance the efficacy of their lectures. Active learning practices are crucial in the ODL environment for enhancing students' cognitive development. Active learning tactics promote profound comprehension and facilitate the actual application of knowledge. Utilizing active learning tactics improves comprehension of the course material (Ahmed, 2018). They excelled in classes that utilized active learning approaches by professors. The application of active learning practices in the classroom is essential for fostering rapport between instructors and students, therefore enhancing an effective learning environment.

The majority of adult learners experience challenges while studying. Consequently, the implementation of active learning strategies would render the learning process effortless and enjoyable for them. The students' sensor operates more efficiently in active learning methodologies. In conventional lectures, only auditory and visual senses are activated; conversely, active learning engages all sensory modalities. Active learning entails students obtaining knowledge through practical, experiential techniques. Goolamally et al. (2010) assert that students demonstrate heightened attentiveness during active learning practices in contrast to conventional classroom environments. Students readily participate in active learning strategies. Consequently, active learning practices are considered advantageous in the ODL environment.

Conclusion

Active learning is a well acknowledged pedagogical method. Many scholarly research support the implementation of active learning approaches in educational settings. The prevalent reliance on teacher-centred pedagogies and traditional lecture methods in Bangladesh obstructs the adoption of active learning practices in classrooms (Habib, 2015). BOU administers its educational programs through Open and Distance Learning methodologies, especially catering to adult learners. The execution of active learning methodologies is essential for efficient learning. This study seeks to evaluate the efficacy of active learning within the ODL context. This study aims to examine the preferred active learning methodology utilized by faculty in the classroom, as well as the effectiveness of the current active learning strategies applied by these educators. The majority of faculty members at BOU unanimously concur

that active learning methodologies are vital for improving educational outcomes in the ODL context. The majority of students demonstrate a preference for collaborative work, video presentations, and brainstorming among the diverse active learning tactics in the BOU classroom (Figure# 01).

This study demonstrated multiple constraints. Integrating the perspectives of additional stakeholders, such as students and university administrators, in this research may yield diverse outcomes. This is a limited study. Introducing a significant sample size may result in increased variability in the outcomes. A primary constraint of the study was the employment of convenience sampling for qualitative data collection, which impeded the generalizability of the findings to the broader community.

There is a scarcity of research investigating the effectiveness of active learning methodologies in Bangladeshi classrooms. This study's findings can improve higher education by integrating active learning and student-centred instruction inside the ODL framework. The data gathered from this study can provide ODL educators with insights regarding the progression of pedagogical methods and the incorporation of active learning in the ODL classroom.

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