Social Science and Humanities Journal
Everant Journal
ISSN: 2456-2653
Volume 08 Issue 04 April 2024
https:https://sshjournal.com/
Impact Factor: 2024: 6.576
2023: 5.731
Doi: https://doi.org/10.18535/sshj.v8i04.1008

Empowering Minds from Afar: A Systematic Literature Review on the Effectiveness of Collaborative Learning in Open Distance Learning Context

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Received 27-03-2024
Revised 28-03-2024
Accepted 11-04-2024
Published 12-04-2024

Abstract:

Since the advent of modern technology, accelerated by the COVID-19 pandemic, open distance learning (ODL) has become increasingly popular. ODL has emerged as a flexible mode of education that allows learners to collaborate online, breaking down geographical barriers. In the context of ODL, incorporating collaborative learning strategies has gained significant attention due to its potential to enhance the quality of education and foster a sense of community among learners. Cooperative learning in ODL is a pedagogical approach that encourages learners to actively engage with their peers, instructors, and course materials to construct knowledge. It leverages various technologies and online platforms to facilitate interactions among learners, creating a virtual classroom that transcends geographical boundaries. This systematic literature review provides insights into past studies on collaborative learning strategies, focusing on students' interest and motivation, retention, and achievements. The analysis of existing ODL practices aims to highlight the benefits and drawbacks of collaborative learning strategies in ODL. The results of this research contribute to our understanding of effective teaching methodologies in ODL. Additionally, it underscores the pressing need for innovative solutions to address the challenges of fostering collaboration among students.

Keywords: Collaborative learning, open distance learning, online education, effectiveness, engagement, knowledge retention, distance learners.

Introduction:

Open Distance Learning (ODL) has emerged as a powerful paradigm in the rapidly evolving education landscape, redefining the traditional boundaries of time and space. ODL, being a dynamic and inclusive mode of education, has opened doors for learners from diverse backgrounds and geographical locations. Irwanto et al. (2022) highlighted the rising popularity of open online courses attributed to the innovative

integration of technology into the education system, particularly in response to the COVID-19 outbreak, which facilitated the enhancement of students' ICT skills. This statement was further supported by Ivone, Jacobs, and Renandya (2020) that ODL, often referred to as online or remote education, has expanded significantly due to technological advancements and the increasing demand for adaptable educational options, particularly exacerbated by global events such as the COVID-19 pandemic. Ahimbisibwe et al. (2022) state that ODL is a critical consideration of digital technology, and at the same time, it offers students the ability to engage in a diverse array of higher

education offerings globally from their physical locations. It also provides them with unprecedented flexibility and accessibility. However, despite its apparent advantages, ODL has potential challenges, including student isolation, disengagement, and retention concerns. In a study conducted by Van (2020), he concluded that students expressed gratitude for the support they received from their peers, emphasising various aspects of assistance such as social and emotional support, learning aids, acquired knowledge, and participation in online debates.ODL has shown significant changes in the education field. Zhu and Chikwa (2021) concluded that in Africa, some well-established universities provided ODL courses, such as the University of South Africa (UNISA) and the Zimbabwe Open University Malaysia context open distance courses were provided by some universities such as the University of Malaya, Open University Malaysia, and The National University of Malaysia. Thus, it is not an alien term for higher institution students. Kukharenko and Oleinik (2019), in their research on open distance learning for teachers at Kharkiv Polytechnic Institute, concluded that the transformative approach of distance and blended learning shifted the teaching style towards liberal guidance while fostering active student participation.

While ODL has become a beacon of flexibility and accessibility, it has formidable challenges. One of the primary hurdles is the inherent risk of student isolation. Without physical classrooms and face-to-face interactions, learners enrolled in ODL programs may feel disconnected from their peers, instructors, and the broader educational community. Olugbara, Letseka, and Akintolu (2023) agreed that significant challenges arising from ODL include high student dropout rates, primarily stemming from students' isolation from peers, teachers, and institutions. This isolation can lead to disengagement, hindering the collaborative spirit essential for a holistic learning experience. Sevnarayan (2022) concluded in her study that concerns were raised about students often lost in the online learning platform, leading to limited awareness of their struggles. Majola and Mudau (2022) shed light on the role of lecturers. In some cases, lecturers had difficulties providing feedback and instructions, leading to students' struggles in completing the tasks. Blum, Stenfors, and Palmgren (2020) agreed that ODL involves applying critical behaviors or 'required drivers' where learners must share their newfound knowledge with their communities and apply MOOC experiences in real-world contexts. Thus, learners must engage in online learning to adapt the skills learned to real-life contexts. Moreover, the diverse geographical locations of ODL participants introduce technological and infrastructural disparities that can impede seamless collaboration. Access to reliable internet, compatible devices, and digital literacy skills may vary significantly among learners, potentially creating a digital divide.

Ilonga, Ashipala, and Tomas (2020) asserted that most students chose ODL due to employment commitments and flexibility. Still, the challenges faced by the students would be the delays in receiving feedback from lecturers and discriminatory practices compared to full-time students. Additionally, concerns related to retention loom large in ODL environments, as the absence of regular in-person interactions may challenge educators' ability to monitor and support students effectively. Xavier and Meneses (2022) conducted a study showing that the participants failed some online courses due to procrastination. Procrastinators struggled with low hourly constancy, resorting to deadline-driven approaches and last-minute cramming as ODL aimed for self-regulated learning and depended solely on the learner's discipline. Addressing these challenges is crucial for ensuring the success and effectiveness of collaborative learning in ODL settings, where the transformative potential of this pedagogical approach must contend with the practical realities of a dispersed and diverse learner population. To address these challenges, the concept of collaborative learning has gained prominence.

Lei and Medwell (2021) defined online collaborative learning as learners working together to share ideas and opinions, ultimately constructing collaborative products. Abuhassna et al. (2023) revealed that effective communication, collaboration, and autonomy played an essential role in the online learning platform of collaborative learning. This pedagogical approach is instrumental in transforming the ODL landscape by promoting student cooperation, even if vast geographical distances separate them. Collaborative learning within ODL catalyzes the educational journey by fostering a sense of community and facilitating the exchange of ideas among learners who may never meet face-to-face. Mustakim and Mona Adha (2020) researched how implementing collaborative learning through

online platforms encourages self-regulated learning and enhances students' independence in their learning processes. This finding underscores the transformative potential of collaborative learning in ODL.

Crucially, collaborative learning in ODL extends beyond traditional classroom settings. It leverages various technologies, online platforms, and innovative pedagogical approaches to bridge geographical distances, creating virtual classrooms that are as vibrant and interactive as their physical counterparts. Makokotlela (2022) explained that by fostering a sense of belonging and facilitating meaningful conversations among students, collaborative learning has the potential to mitigate the isolating effects often associated with remote education. In this context, the aim is to explore the fundamental principles and advantages of collaborative learning within the ODL framework, shedding light on its transformative potential and how it addresses the challenges posed by the evolving education landscape. Integrating collaborative learning strategies within ODL can revolutionize how we think about remote education, offering learners a dynamic and engaging educational experience that transcends geographical boundaries.

Research Questions:

1. How does collaborative learning affect the academic performance of open-distance learning students?
2. How does collaborative learning influence students' participation in open distance learning courses?

Methodology:

Study Eligibility Criteria:

The eligibility criteria and methods for searching the published literature were established and detailed in Table 1.

Inclusion Criteria:

Searching Google Scholar with terms linked to open-distance education and collaborative learning provides a good starting point. This search focuses on studies assessing the effectiveness of open distance learning, examining its impact on students' participation and the challenges encountered—the screening procedure excludes papers older than five years from search results. The abstracts and titles of these publications are scrutinized for accuracy and relevance to the study's topic. A secondary search of the ERIC database is conducted to determine eligibility, assessing the methodological quality and relevance of the studies to the research issue.

Exclusion Criteria:

Studies were excluded from the review if they investigated contexts outside of ODL. As a result, studies investigating blended learning programs, such as part-time study with mandatory on-campus attendance and online learning, were excluded. Additionally, studies that did not meet the definition of ODL, including collaborative learning or group work, were excluded. Lastly, opinion or commentary papers were excluded due to their lack of reliability and comprehensive reporting on all relevant aspects of a single study, making them unsuitable for the reviewing process.

Search Strategy:

Relevant literature was essential to provide information on the research topic. The search focused on two international educational databases: Educational Resources Information Centre [ERIC] and Google Scholar. A complete list of search terms used in the search is given in Table 2. These terms were included to search for relevant articles. The terms incorporated the keywords in the research questions, including 'open distance learning,' 'collaborative learning,' and 'effectiveness of open distance learning.' The synonyms of the keywords were used to include all the relevant articles. There was no restriction on the type of study or the type of publication.

Table 1: ***Search Terms***

Key index terms:
Open Distance Learning (ODL)
Collaborative Learning
Collaborative Learning in ODL
The effectiveness of ODL
Online collaborative learning (OCL)
Distance Education
The benefits of cooperative learning in online learning

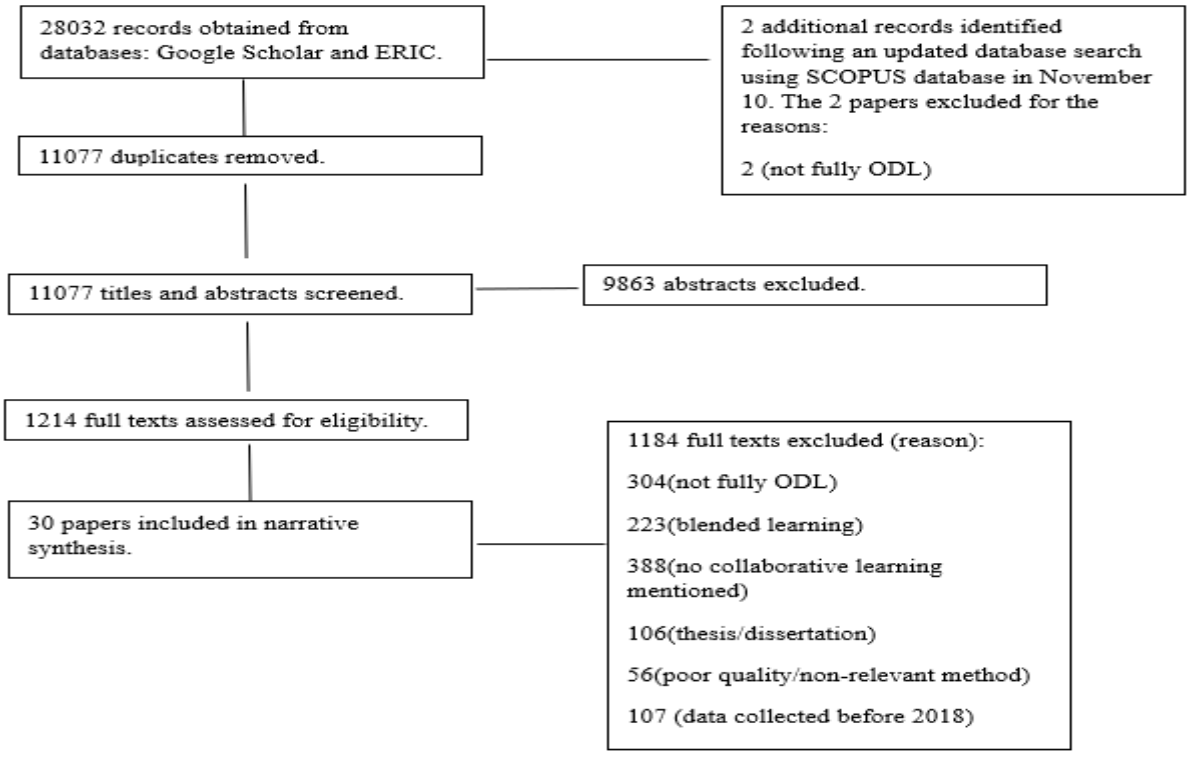
Table 2: Study Eligibility Criteria

Criteria	Inclusion	Exclusion
Focus on higher education.	Journal articles describing primary research studies in higher education	Journal articles describing primary research studies in primary and secondary education
Focus on Open Distance Learning (ODL)	Must be focused on ODL	Studies unrelated to ODL
Focus on Collaborative Learning in ODL	Must address collaborative learning in ODL	Studies not related to collaborative learning in ODL
Transparency	The research method must explicitly indicate sample size, instruments, and analysis.	No details are mentioned on sample size instruments or analysis.
Relevant Publication Type (Scholarly)	Scholarly articles, books, conference papers	Reviews, theoretical/conceptual articles, opinion papers, or commentaries
Publication Date	Recently, within the last five years	Outdated sources

Results:

The results of each search stage are presented as a PRISMA (The Preferred Reporting Items for Systematic Reviews and Meta-Analyses) diagram in Figure 1 (Matthew et al., 2021). The initial search identified 28032 studies. Removal of 11077 studies of which the titles and abstracts were screened for exclusion or inclusion using the process described.

Figure 1: PRISMA flow diagram of the literature's searches and study selection process



Summary:

An in-depth analysis of collaborative learning in ODL has been presented in this results section. It has emphasized the importance of students working together to solve problems and learn new materials. It also addresses the challenges that have arisen, shedding light on the strengths and areas for improvement.

Table 3 Summary table of the selected studies

Database	Journal	Aim	Samples	Findings
Google Scholar	Learning Analytics on Student Engagement Enhance	To investigate the impact of learning analytics on student engagement enhancement in open distance learning.	200 undergraduate ODL students	Learning analytics significantly improved student engagement and performance by providing personalized feedback and guidance.
Google Scholar	Level Consistency Between Students' Self-Reported	To examine the consistency between students' self-reported engagement and engagement levels in open distance education.	150 graduate students enrolled in various ODL courses	A moderate level of consistency was found between self-reported engagement and actual engagement levels, indicating the need for improved self-assessment techniques.
Google Scholar	Triple Threat, Double Jeopardy: Examination	To explore the challenges faced by minority students in collaborative learning within ODL and propose strategies for improvement.	30 minority students participating in collaborative ODL programs	Minority students encountered challenges, including limited access to resources and cultural barriers, emphasizing the need for inclusive and culturally sensitive collaborative learning approaches.
Google Scholar	Students' Perception Towards the Role of Online Teaching Platforms in Enhancing Online Engagement and Academic Performance Levels in Palestinian Higher Education Institutions	To determine the role of online teaching platforms in enhancing learning and teaching as perceived by bachelor students of English specialization.	423 bachelor students from three Palestinian higher education institutions were involved in the study	Findings proved that students engaged less in collaborative learning through online learning platforms as they lacked the skills, experience, and requirements that affected their attitudes toward online learning.
Google Scholar	Massive Open Online Learning (MOOC) Benefits and Challenges: A Case Study in Jordanian Context	To identify the challenges and benefits of Massive Open Online Learning (MOOC) as perceived by the faculty members at Jerash University.	One hundred thirty faculty members were chosen from all the faculties at Jerash University.	Most students agreed to a certain extent that MOOCs helped reinforce self-paced and self-directed learning, promoting collaborative learning. They had mixed feelings about

				implementing MOOCs because of connectivity, issues regarding plagiarism, and the lack of expertise.
Google Scholar	How Student Teachers Describe the Online Collaborative Learning Experience and Evaluate Its Contribution To Their Learning and Their Future Work as Teachers	To examine student teachers' attitudes toward online collaborative learning related to their satisfaction, learning experience, contribution to personal knowledge, and future teaching.	One hundred four students participated in a program that retrains university graduates to become K-12 teachers were involved in the study.	The level of satisfaction towards online collaborative learning was high, where 81% of students agreed that group assignments were assessed and graded well even though they had to work with team members through screen. Despite the difficulties communicating among team members, they agreed they worked well with their group members.
Google Scholar	Level of Consistency Between Students' Self-Reported and Observed Study Approaches in Flipped Classroom Courses: How Does it Influence Students' Academic Learning Outcomes?	It investigates the extent of students' study approaches identified by self-reported and observational log data and the extent of students' academic learning outcomes differ between students who showed consistent and inconsistent study	143 computer science undergraduate students	38.5% of students performed weak self-reported study approaches, leading to low discipline towards the online learning platforms.
Google Scholar	Once they have experienced it, will Pre-Service Teachers be willing to Apply Online Collaborative Learning?	To examine the willingness of pre-service teacher to engage in collaborative learning and their belief and perception towards online collaborative learning	266 pre-service teachers were involved in the study	Pre-service teachers hold the belief that academic learning is learning for personal achievement. In contrast, collaborative learning was ineffective in improving their knowledge acquisition, and they did not accept online learning as a good way for collaborative learning. On the other hand, they agreed that collaborative learning online can promote collaboration among learners and lead to the

				recognition of meaningful tasks.
ERIC	Collaborative Learning in Small Groups in an Online Course – A Case Study	To describe, explore, and discuss how the students collaborated in small groups in an online course.	13 interviewees were interviewed.	The collaboration in small groups resulted in three different working processes, depending on the student's ability to be flexible and take responsibility for their own and shared learning.
ERIC	Developing a Sense of belonging in a Collaborative Distance Learning course: Breaking Isolation in online learning	Collect and examine students' opinions on online collaborative courses and develop a sense of belonging.	Twenty-five students were interviewed for the data.	Findings showed that collaborative tasks and multimedia learning content by online tutors reduced the sense of isolation in the online learning environment.
ERIC	Open Distance Learning in Medical Education: Does It Improve Students' Motivation	To explore the impact of digital learning usage on learning motivation among medical students of The National University of Malaysia.	302 UKM undergraduate medical students participated in this study	Most medical students were highly motivated to use digital platforms as a learning process.
ERIC	Dynamics and Causal Factors of Team Satisfaction in Open and Distance Learning Collaborative Writing Class	To explore the impact of team dynamics, team acquaintance, and instructor support in ensuring team satisfaction in an academic writing course in an online collaborative environment.	Sixty-seven students enrolled in an academic course from three different faculties.	This study manifested a positive and significant correlation between TD and TS. IS's integral and supportive role is essential in ensuring success in collaborative group work in ODL.
ERIC	Student Teachers' Experiences In Using Open Education Resources in The Open Distance Learning Context	To explore the student teachers' experiences in using open education resources in ODL	Ten student teachers were interviewed.	The student teachers agreed to a certain extent that open education resources helped them in collaborative group tasks. However, it was not practical for the lecturers to provide feedback to them.

ERIC	The Challenges Distance Education Students Experience during Their Education Degree Program in the Faculty of Education at the University of Namibia	To identify the challenges distance education students experience during their education degree studies.	Three hundred fifty-four responses from students were collected.	The research findings suggest that enhancements are required at the University of Namibia, specifically regarding internet speed, restricted internet accessibility, student-teacher interaction, and collaboration among distance education students.
ERIC	Why Does Collaborative Learning Not Always Work Even When The Appropriate Tools Are Available?	To investigate the implications of Collaborative Learning in the ODL environment	One hundred fifty-five learners at the Open University of Mauritius were selected as the participants.	The study revealed that about one-third of respondents did not participate in collaborative learning (CL), missing its benefits. CL participants used it to understand course content and improve grades, emphasizing the vital role of tutors. Challenges included insufficient infrastructure for CL meetings, a lack of awareness about CL benefits, and difficulties finding time due to family and professional commitments.

Result Analysis Based on Research Questions:

Research Question 1: How does collaborative learning affect the academic performance of open-distance learning students?

Positive Effects:

Enhanced Understanding and Knowledge Retention:

An examination of the data showed that students' grades improved significantly when they worked together to study (Han, 2023). The two studies above show that collaborative learning in an open-distance context helps students enhance their understanding. In Kaur and Chowdhury's (2022) study, the data analysis showed that participants relatively accepted that collaborative learning in ODL classrooms contributed to their motivation and satisfaction with the courses and helped them produce high-quality group projects. Hamid et al.'s (2021) study proved that most students agreed that online learning improves learners' performance and can achieve learning outcomes successfully, as collaborative learning settings lead to longer-term memory recall and a more thorough comprehension of course content for students. Johar et al. (2023) agreed that collaborative learning required students to overcome challenges such as technology limitations and student preferences. Students must be disciplined enough to take charge of their studies and contribute to collaborative learning tasks. A study conducted by Appavoo et al. (2019) revealed that collaborative learning aided students in understanding the course content and enhancing their understanding of the course requirements. Collaborative learning fosters a shared learning experience, benefiting students from diverse perspectives and insights. When mature students actively engage in collaborative tasks, it often leads to a deeper understanding of the subject matter and improved knowledge retention. In a study conducted by Jacobs and Ivone (2020),

collaborative learning was found to significantly affect academic achievement across various disciplines. The collaborative process encourages students to explain concepts to their peers, reinforcing their understanding and contributing to a more robust knowledge foundation. Appavoo et al. (2019) suggested that if the learners paired up with capable peers, it would enhance their group presentation overall.

Promote Critical Thinking and Problem-Solving Skills:

One study reported findings about collaborative learning in fostering critical thinking and problem-solving skills. In the study of Lee et al. (2023), the analysis showed that 56.9% of students showed high motivation with online learning mode as it boosted their motivation and, at the same time, promoted critical thinking. Through collaborative learning, ODL students can get the opportunity to engage in discussions, participate in group activities, and share and exchange ideas. As stated by Margaliot et al. (2018), online collaborative learning (OCL) extends more than mere communication and knowledge sharing; it also serves as a platform for participants to collaboratively generate new knowledge where they can exchange problems and solutions online. This process enhances critical thinking and problem-solving skills and, at the same time, prepares the students for real-world applications of their academic knowledge. Besides, positive collaborative experiences also contribute to developing a supportive learning community among ODL students. The sense of shared responsibility and mutual assistance can positively impact academic performance as students will feel connected and motivated to succeed together.

Negative Effects:

Unequal Participation and Free-Riding Students:

Two studies mention free riding or social loafing in online collaborative learning. Yasin et al. (2021) defined social loafing and free-riding as individuals who do not contribute to completing tasks. In their study, the control group faced problems with free-rider members not contributing to the group task. One of the challenges in collaborative learning is the potential for unequal participation, with some students contributing more than others. This imbalance can negatively impact academic performance, mainly if free-riding occurs, hindering the learning experience for the entire group as the group members that contribute more will feel unfair and affect students' self-efficacy. To overcome this issue, Yu (2023) suggested that ODL instructors keep the group smaller and create group roles so that each member has a task to complete till the end.

Time Management Issues:

The challenge of managing time effectively is inherent in open distance learning (ODL), where students grapple with diverse schedules and commitments. Fidalgo et al. (2020) underscored this issue, revealing that the online learning mode can lead to time management challenges. The study by Johar et al. (2023) further emphasized the significance of learning analytics in addressing time management issues by providing personalized feedback to enhance student engagement and performance. Additionally, the study of Mustakim et al. (2021) highlighted the effectiveness of online collaborative learning during the COVID-19 pandemic, emphasizing the need for adaptive strategies to manage time efficiently. On the other hand, a study by Xavier and Meneses (2022) into the persistence and time challenges in an open online university provides insights into the time-related obstacles learners face. Furthermore, the study by Majola and Mudau (2022) examined lecturers' experiences administering online examinations, highlighting the time-related challenges encountered in the ODL environment.

Maturity and Task Comprehension:

Effectively managing time poses a distinctive challenge in open distance learning (ODL) as students contend with diverse schedules and commitments. Fidalgo et al. (2020) brought attention to this challenge in their study, revealing that the online learning mode inherent in ODL can engender difficulties in time management. Johar et al.'s (2023) study further underscores the role of learning analytics in mitigating time management issues by offering tailored feedback to augment student engagement and performance. Mustakim et al.'s (2021) research contributes by emphasizing the efficacy of adaptive strategies in navigating time constraints during online collaborative learning, particularly during the challenges posed by the COVID-19 pandemic. Xavier and Meneses (2022) delved into the persistence and time-related hurdles encountered by learners in an open online university, providing valuable insights into the

multifaceted nature of time-related obstacles. Additionally, Majola and Mudau's (2022) exploration of lecturers' experiences in administering online examinations focused on the nuanced time-related challenges within the ODL.

Research Question 2: How does collaborative learning influence student participation in open distance learning?

Positive Influence:

Increased Engagement and Interest:

Students are more engaged in open distance learning when they are engaged in collaborative learning. Students who worked on group projects showed greater interest in the material, became more motivated, and felt more a part of the online learning community, all of which contributed to a more engaging and rewarding learning environment (Horn, 2019; Han, 2023; Majola & Mudau, 2022). Collaborative learning positively influences student participation in open distance learning (ODL) by fostering increased engagement and interest. Research conducted by Horn (2019) indicates that students who actively participate in collaborative learning, mainly through group projects, demonstrate more significant interest in the material. The interactive nature of collaborative activities tends to capture students' attention and makes the learning experience more engaging. Moreover, the social interaction inherent in collaborative learning contributes to a sense of shared responsibility, encouraging students to invest more effort in their studies.

Motivation Enhancement:

Collaborative learning in ODL has a positive impact on student motivation. Hamid et al. (2021) suggest that the collaborative setting provides students with a support system, and the shared responsibility for group tasks can serve as a motivational factor. Students who engage in collaborative activities are more likely to stay motivated throughout the course, driven by a sense of accountability to their peers. This motivational enhancement is crucial in ODL, where students often face challenges related to self-discipline and self-motivation. Furthermore, collaborative learning, by its nature, promotes a sense of community and shared goals, contributing to sustained motivation throughout the course. Marrhich et al. (2020) and Mustakim et al. (2021) also emphasize the motivational benefits of collaborative learning in the context of open-distance learning.

Strengthening Online Learning Community:

Collaborative learning contributes to forming a robust online learning community in ODL. Fidalgo et al. (2020) found that students who actively participate in collaborative activities feel more connected to their peers and the broader learning community. This sense of belonging fosters a supportive environment, encouraging students to participate more actively in discussions and collaborative projects. Developing a robust online learning community has been associated with increased student satisfaction and persistence in ODL programs. Additionally, collaborative learning, through its emphasis on shared experiences, further enhances this community-building aspect of distance education. Kaur and Chowdhury (2022) and Sevnarayan (2022) support the idea that collaborative learning strengthens the online learning community.

Negative Influence:

Unequal Participation and Social Dynamics:

While collaborative learning can enhance participation, it may also lead to unequal group involvement. Appavoo et al. (2019) suggest that some students may be hesitant to contribute, while others may dominate discussions, impacting the overall effectiveness of the collaborative experience. This unequal participation can hinder the development of a supportive learning community and may discourage less assertive students from actively engaging in collaborative tasks. Unequal participation is a critical issue that can diminish the effectiveness of collaborative learning experiences. Van Den BERG (2020) also acknowledges this concern, highlighting the challenge of overcoming unequal participation in open-distance learning. Mustakim et al. (2021) echo this sentiment, emphasizing the need to address unequal participation to create an inclusive learning environment.

Time Management Challenges:

Collaborative learning in ODL may introduce time management challenges, affecting student participation. Ahimbisibwe et al. (2022) point out that students in different time zones or with conflicting schedules may find it challenging to coordinate collaborative activities. This can result in delays and difficulties in synchronizing

participation, potentially leading to frustration and reduced student engagement. Mustakim et al. (2021) and Majola and Mudau (2022) also highlight the impact of time management challenges on student participation in collaborative learning in the open distance learning environment.

Discussion:

This systematic review has synthesized published evidence about open-distance learning and their collaborative learning experience in an open-distance learning context (Fidalgo et al., 2020). The employed literature review methodology has yielded a robust evidence synthesis rooted in an exhaustive literature search. The conclusion obtained from the analysis contributes to the findings on open-distance learning and collaborative learning in an open-distance learning context.

The integration of learning analytics has demonstrated a substantial positive impact on student engagement and performance, providing personalized feedback and guidance (Fidalgo et al., 2020). However, a moderate consistency between self-reported and actual engagement levels suggests that improved self-assessment techniques are necessary. This insight is crucial as it highlights the importance of aligning students' perceptions with their engagement in educational activities. In parallel, the study unveils challenges minority students face, including limited access to resources and cultural barriers (Johar et al., 2023). These challenges underscore the need for collaborative learning approaches that are not only inclusive but also culturally sensitive. Implementing strategies to address these challenges ensures that the benefits of education are accessible to students from diverse backgrounds. As identified in the study, the barriers to collaborative learning in online platforms reveal that students may lack the necessary skills, experience, and requirements (Appavoo et al., 2019). This limitation hampers their engagement and shapes negative attitudes toward online learning. Recognizing these barriers is crucial as collaborative learning becomes an integral aspect of education, necessitating measures to enhance skills and provide the necessary support.

Moreover, the mixed feelings expressed by students regarding Massive Open Online Courses (MOOCs) highlight the nuanced nature of their implementation (Hamid et al., 2021; Blum et al., 2020). While MOOCs are recognized for reinforcing self-paced and self-directed learning, concerns related to connectivity issues, plagiarism, and perceived lack of expertise reveal potential obstacles. Addressing these concerns is vital for maximizing the effectiveness of MOOCs in enhancing the learning experience. Despite these challenges, overall satisfaction with online collaborative learning remains high, as evidenced by students' agreement that group assignments are well-assessed (Fidalgo et al., 2020). This resilience, even in the face of communication difficulties, emphasizes effective teamwork. The positive perception suggests collaborative learning can thrive in online environments with appropriate support and structures.

However, a notable proportion of students reported weak study approaches, contributing to low discipline toward online learning platforms (Han, 2023; Fidalgo et al., 2020). Understanding the factors influencing study approaches and discipline is critical for designing interventions that promote effective learning strategies in the online learning environment. Service teachers' views on collaborative learning reveal a complex perspective (Margaliot et al., 2018). While they may not view collaborative learning as directly improving knowledge acquisition, recognizing the potential for meaningful task recognition suggests an openness to collaborative strategies. This duality in perspectives underscores the complexity of educators' attitudes toward collaborative learning in an online context.

Furthermore, the diverse working processes identified in small collaborative groups emphasize the importance of fostering a culture that encourages adaptability and shared responsibility within collaborative learning environments (Demosthenous et al., 2020; Fidalgo et al., 2020). These findings highlight the need to recognize and nurture diverse learning styles within collaborative settings. The study also emphasizes the positive impact of collaborative tasks and multimedia learning content on reducing the sense of isolation in online learning environments. This insight underscores the importance of incorporating interactive elements to enhance the learning experience and promote community among online learners. The correlation between team development and success underscores team dynamics' integral role in collaborative group work (Fidalgo et al., 2020). Recognizing this correlation

highlights the importance of fostering effective team development strategies to enhance team success in collaborative learning environments.

Moreover, the study emphasizes the supportive role of Information Systems (IS) in ensuring success in collaborative group work in Open and Distance Learning (ODL) (Fidalgo et al., 2020). Acknowledging the pivotal role of IS underscores the need for a robust technological infrastructure to facilitate effective collaboration among distance education students. However, challenges at the University of Namibia, such as internet speed, restricted internet accessibility, student-teacher interaction, and collaboration among distance education students, reveal areas for improvement (Ilonga et al., 2020). Addressing these challenges is imperative for fostering an inclusive and supportive learning environment at the university.

Lastly, the study reveals a concerning trend where approximately one-third of respondents did not participate in collaborative learning (CL), missing out on its potential benefits (Fidalgo et al., 2020). CL participants, however, utilized it to understand course content and improve grades, emphasizing the critical role of tutors in supporting and guiding collaborative learning initiatives (Fidalgo et al., 2020). Identified challenges, including insufficient infrastructure for CL meetings and a lack of awareness about CL benefits, underscore the need for targeted interventions to enhance participation and awareness. This comprehensive discussion links the various findings, highlighting the interconnected nature of challenges and opportunities in collaborative learning environments.

Conclusion:

In open distance learning (ODL), exploring collaborative learning's impact on student participation and academic outcomes has unveiled a nuanced landscape. As we delved into the positive and negative influences of collaborative learning, it became evident that this pedagogical approach is a double-edged sword, offering rich benefits while presenting significant challenges. The positive influence of collaborative learning in ODL is marked by heightened engagement, increased interest, and a strengthened sense of community. Students actively participating in collaborative activities display a genuine enthusiasm for the course material, driven by the dynamic exchange of ideas and the shared responsibility inherent in group tasks. Moreover, the collaborative experience contributes to forming a robust online learning community, fostering a sense of belonging and support vital in the distance learning landscape.

However, the journey through collaborative learning in ODL is not without obstacles. Unequal participation emerges as a notable challenge, where varying levels of assertiveness and expertise can hinder the equitable contribution of all group members. This issue not only jeopardizes the academic benefits of collaboration but also threatens the overall cohesion of the learning community. Social dynamics further complicate the collaborative landscape, as diverse backgrounds, communication styles, and cultural differences impact the formation of cohesive groups. As we navigate the complexities of collaborative learning in ODL, it is crucial to recognize the need for intentional instructional design and facilitation. Educators must implement strategies to foster equal participation, create inclusive group cultures, and address interpersonal challenges. Peer evaluation and self-reflection mechanisms can serve as tools for promoting awareness of participation dynamics and cultivating a sense of accountability among students.

In conclusion, collaborative learning in open-distance settings is a dynamic force that can revolutionize the learning experience. Its positive influences on engagement, motivation, and community building underscore its value in the ODL landscape. Nevertheless, the challenges of unequal participation and social dynamics require thoughtful consideration and proactive interventions to ensure that the benefits of collaborative learning are fully realized. As we navigate this educational frontier, collaborative learning is a promising avenue for enriching the open-distance learning experience if we are mindful of its intricacies and committed to fostering an environment where every voice is heard. Every student actively participates in the collaborative journey.

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