STUDENT SUPPORT AS A PANACEA FOR ENHANCING STUDENT SUCCESS IN AN OPEN DISTANCE LEARNING ENVIRONMENT

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ABSTRACT

Student support is a fundamental component of any open and distance learning (ODL) system to mitigate the intrinsic challenges of student isolation, high dropout rates, and low throughput. Research interest in student support is continually growing as a panacea for enhancing student success in ODL, but relatively little research has been carried out to understand factors influencing student support in enhancing student success in an ODL environment. This study conducted a systematic literature review on 84 studies published between 2012 and 2022 as indexed by the Web of Science and Google Scholar, which covered factors influencing student support in the ODL environment. The data were analyzed using the template analysis technique to categorize the factors into the three dimensions of the Simpson distance student support model. The classification sought to provide a comprehensive guide for ODL institutions in the development of support services appropriate for enhancing students' success in an ODL environment.

Keywords: *student support, open distance learning, distance student support model, content analysis*

INTRODUCTION

Open and distance learning (ODL) is the world's fastest growing area of educational development, and it continues to be a complementary mode of learning in the twenty-first century. Despite the growth, accessibility, convenience, and flexibility inherent in the ODL mode of delivery, there is a fundamental challenge of low pass rates and high student dropout rates because of students' isolation from their peers, their teachers, and institutions (Keqiang, 2017). Some scholars (Mpofu, 2016; Pitsoe & Baloyi; 2015; Simpson, 2016**)** recognized that the distance deficit in ODL required the provision of student support to reduce the challenges of students' isolation and late completion of programs. Research interest in student support as a catalyst for student success in ODL is continually growing because students and their lecturers are physically separated from one another. The degree of students' success depends on the number of support services that are made available to them by the ODL institution (Nsamba & Makoe, 2017). However, relatively little research has been carried out to investigate how student support persistently influences student success rates in Open Distance Learning contexts. The main purpose of this conceptual paper is to identify the factors influencing student support to enhance student success in ODL settings and categorize and classify them according to the three dimensions of Simpson's Distance Student Support Model. A comprehension of some of the factors influencing student success will help ODL institutions to determine the type of support services that can be provided to the students.

STUDENT SUPPORT IN OPEN DISTANCE LEARNING

Student support is defined in different ways in

the ODL literature. According to Arko-Achemfuor (2017), student support is a broad term referring to the range of services that are provided by institutions to assist their students in meeting their learning objectives and gaining the knowledge, expertise, and skills to complete their studies successfully. Sánchez-Elvira Paniagua and Simpson (2018) defined student support as all those activities that institutions might undertake to assist students to succeed in their learning endeavors other than the production and delivery of course materials. Stewart et al. (2013) asserted that student support in Distance Education comprises three categories, namely: (a) a course and design element (course design and content delivery), (b) instructional support services (student organizations, academic and technical services), and (c) university support services (orientations, success and retention programs, scholarships and awards, library resources, computing, and technology). However, for this paper, the definition provided by Sánchez-Elvira Paniagua and Simpson (2018) has been adapted and used. Sánchez-Elvira Paniagua and Simpson (2018) argued that, from a student-centered learning perspective, giving support to students is the most powerful way to engage them, promote retention, and enhance their academic performance, satisfaction, and wellbeing. Moreover, student support services are developed by ODL institutions to help strengthen students' motivation, help them develop effective study skills, and assist them in tackling numerous personal, emotional, social, and academic problems in the learning process (Nsamba & Makoe, 2017). In ODL, student support services take on different forms, including the following: registration, tutorial classes, contact sessions, learning management systems, whiteboard, workshops, guidance and counseling, information and communication technologies (ICT), audio-visual technologies, study centers, and financial assistance. All these services enhance student performance in their studies (Arko-Achemfuor, 2017). There are three types of student support (Simpson, 2016), which are outlined below:

Cognitive or Academic Support involves not just teaching but helping students to develop learning skills together with the important skills of assessment and feedback, and helping students reflect on their strengths and weaknesses.

Organizational Support involves helping students with the management of their studies. It includes helping a student manage their study time and keep up with the pace of the course.

Emotional Support involves helping students deal with the emotional side of their learning by helping them to develop learning motivation, and self-confidence and find ways of managing the stress of learning, particularly assessment stress.

The prime aim of this conceptual paper is to explore the enduring factors influencing student support in enhancing student success in ODL contexts. The paper is guided by the following research questions:

- What are the persistent factors that influence student support in enhancing student success in ODL?
- How can the persistent factors be categorized into the three dimensions of the Distance Student Support Model?

THEORETICAL FRAMEWORK

This study is underpinned by Moore's (1997) transactional distance theory, which refers to the distance that exists in all educational programs. According to Moore, distance education is not solely a geographic separation between the teachers and the students, but rather it is a pedagogical concept. The inherent physical separation of a student from the presence of learning activities in distance education has the potential of creating psychological and communication gaps and barriers, and this is what constitutes transactional distance (Moore, 1997). Sánchez-Elvira Paniagua & Simpson (2018) suggest that one way of reducing the transactional distance between students and the institution is through the provision of appropriate and effective support services by the ODL institution for their students to enhance their success rate.

Concerning the study, Moore's transactional distance theory emphasized that ODL students are inherently separated all over the different geographical locations that built psychological and communication gaps. The transactional distance deficit can be reduced through various forms of support being provided by Open Distance Learning Institutions. This means that various stakeholders (teaching and nonteaching staff) in the institutions intervene to assist students who are not physically available by leveraging technology tools to reach

students and using etiquette during a telephonic conversation, for example.

METHOD

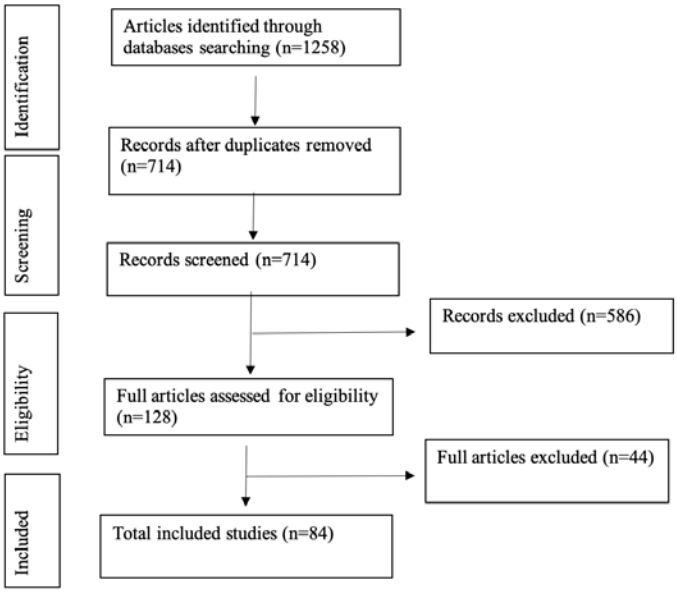
This study employed a systematic review procedure of factors influencing student support to enhance student success in an Open Distance Learning environment. We used the template analysis technique (Albelbisi et al., 2018) to categorize the studies carried out on student success in ODL. We searched related studies from academic databases such as Web of Science and Google Scholar. The reference list of each article was also reviewed to gather more relevant studies. The search was conducted using the following keywords: "student support," "open distance learning," and "student success." Since the primary focus of this study was on identifying factors influencing student support to enhance student success in ODL, we considered articles that investigated student support in ODL, student success in ODL, students' persistence in ODL, students' academic performance, engagement, and perceived quality dimensions. To qualify, an article had to have been peer-reviewed, written in the English language, and published from 2012 to 2022. This allowed us to review the most up-to-date studies on ODL and study the developments in ODL education. We screened and selected articles relevant to the theme of student success in ODL based on the information provided in their abstracts, followed by examining the full text of each article to discard articles not contributing to the scope of the study and methods.

Next, we used Template Analysis to thematically organize and analyze the data. Thematic Analysis (TA) is considered one of the most common methods of content analysis, where the coding is based on designing the categories to capture the major themes that exist in the text (Albessi et al, 2018). Thus, template analysis was employed manually as the classification technique for categorizing and calculating the frequency of the factors identified from literature that influence student support in enhancing student success in the ODL environment according to the three dimensions of Simpson's (2016) Distance Student Support Model (DSSM). The analysis was done by integrating and contrasting the findings from several articles into themes or coding in the textual data (e.g., good learning skills, communication), then organizing them in the template (e.g., academic, organizational, emotional). Table 1 shows the classification of the studies included in this review according to the templates and themes.

RESULTS

The result of the systematic review focused on 84 articles that matched the criteria. The search was based on the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) guidelines by Moher et al., (2009). Figure 1 shows the PRISMA flow diagram of a reviewed article on factors influencing student support to enhance student success in ODL.

Figure 1: Flow Diagram of Articles Selection Process (adapted from Moher et al., 2009; Olugbara, Letseka, et al., 2021)



The 84 articles were published between 2012 and 2022 and the frequency of publication year is displayed in Figure 2.

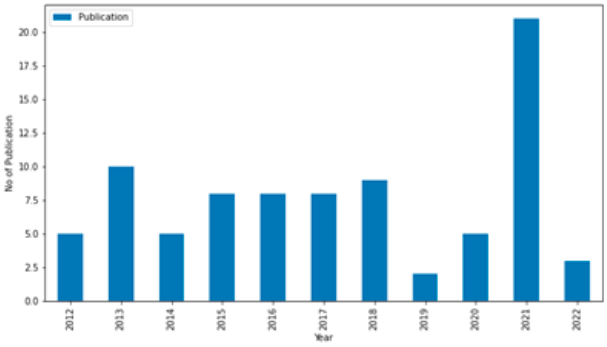


Figure 2 shows that the most prolific year of publication on student success in ODL was 2021 because of the emergency switch to online learning

Table 1: Classification of Factors Influencing Student Support in Enhancing Student Success Based on Simpson's (2016) Distance Student Support Model

Template	Factor	Studies
Academic Support	Assessment	Agbanu et al., 2018; Dhunpath & Dhunpath, 2015; Krull & Duart, 2018; Nyamupangedengu, 2017; Simpson, 2016; Thalplivaal, 2014
	Course Design	Au et al., 2018; Baber, 2020; Dhunpath & Dhunpath, 2015; Garratt-Reed et al., 2016; Hammond & Shoemaker, 2014; Kamble et al., 2021; Kauffman, 2015; Khlaif et al., 2021; Kumar et al., 2021; Muljana & Luo, 2019
	Good Learning / Study Skills	Kara et al., 2019; Krull & Duart, 2018; Pitsoe & Baloyi, 2015; Puspitasari & Oetoyo, 2018; Simpson, 2016
Organizational Support	Communication	Agbanu et al., 2018; Ametepe & Khan, 2021; Aversa & MacCall, 2013; Hazaymeh, 2021; Joo, 2014; Krull & Duart, 2018; Nyamupangedengu, 2017; O'Neill & Sai, 2014; Pitsoe & Baloyi, 2015; Simpson, 2013; Vakoufari & Christina, 2014
	Financial Issues	Aversa & MacCall, 2013; Muljana & Luo, 2019; Parkes et al., 2015; Sánchez-Elvira Paniagua & Simpson, 2018
	Interaction	Adarkwah, 2021; Ametepe & Khan, 2021; Baber, 2020; Dumais et al., 2013; Dzakiria, 2012; Fredrickson, 2015; Garratt-Reed et al., 2016; Gaytan, 2015; Hazaymeh, 2021; Joo, 2014; Kamble et al., 2021; Kara et al., 2019; Kauffman, 2015; Kumar et al., 2021; Langegård et al., 2021; Makoe, 2012; Maré & Mutezo, 2021; Muljana & Luo, 2019; Muzammil et al., 2020; Nsamba & Makoe, 2017; Oliveira et al., 2021; Salta et al., 2022; Sánchez-Elvira Paniagua & Simpson, 2018; Shah & Cheng, 2019; Ulfa & Fatawi, 2021; Zhou & Zhang, 2021
	Lack of Resource Accessibility	Arko-Achemfuor, 2017; Dhunpath & Dhunpath, 2015; Kara et al., 2019; Kuo et al., 2013; Nyamupangedengu, 2017
	Social Presence / Sense of Isolation	Kahu et al., 2013; Kara et al., 2019; Laslo-Roth et al., 2022; Misirli & Ergulec, 2021; Nguyen et al., 2021; Tan, 2021; Vakoufari & Christina, 2014
	Student Engagement	Alman et al., 2012; Baber, 2020; Bagriacik Yilmaz & Banyard, 2020; Eliasquevici et al., 2017; Hammond & Shoemaker, 2014; Khlaif et al., 2021; Kim et al., 2020; Muljana & Luo, 2019; Muzammil et al., 2020; Nguyen et al., 2021; Pinchbeck & Heaney, 2017; Salta et al., 2022; Sánchez-Elvira Paniagua & Simpson, 2018; Schreiber & Yu, 2016; Shah & Cheng, 2019; Wallace et al., 2021
	Time Management	Hart, 2012; Hazaymeh, 2021; Kara et al, 2019; Kauffman, 2015; Khlaif et al., 2021; Krull & Duart, 2018; Laslo-Roth et al., 2022; Leeds et al., 2013; McGhie, 2017; Puspitasari & Oetoyo, 2018; Simons et al., 2018; Simpson, 2016; Tladi, 2013; Yang et al., 2017
Emotional Support	Age	Kara et al., 2019; Knestrick et al., 2016; Kor et al., 2016; Muljana & Luo, 2019; Pratt, 2015; Sánchez-Elvira Paniagua & Simpson, 2018; Wladis et al., 2015; Wuellner, 2013
	Difficulty of Study Materials	Dhunpath & Dhunpath, 2015; Kara et al., 2019; Muljana & Luo, 2019; Tladi, 2013; Yang et al., 2017
	Motivation to Learn	Agbanu et al., 2018; Baber, 2020; Blau et al., 2017; Dilmaç, 2020; Dorsah, 2021; Esra & Sevilen, 2021; Kahu et al., 2013; Kauffman, 2015; Kor et al., 2016; Langegård et al., 2021; Muljana & Luo, 2019; Nguyen et al., 2021; Pitsoe & Baloyi, 2015; Puspitasari & Oetoyo, 2018; Sánchez-Elvira Paniagua & Simpson, 2018; Simons et al., 2018; Simpson, 2013, 2016; ten Hoeve et al., 2017; van Rooij et al., 2018; Wuellner, 2013; Yang et al., 2017
	Satisfaction with the Course	Agbanu et al., 2018; Aldhahi et al., 2022; Bdair, 2021; Hart, 2012; Ho et al., 2021; Kor et al., 2016; Lee & Choi, 2013; Muzammil et al., 2020; Nguyen et al., 2021; Olugbara, Letseka, et al., 2021; Vakoufari & Christina, 2014; van Rooij et al., 2018; Zhou & Zhang, 2021
	Self-Confidence	Gomez, 2013; Hart, 2012; Kara et al., 2019; Kor et al., 2016; Mpofu, 2016; Nyamupangedengu, 2017; Puspitasari & Oetoyo, 2018; Sánchez-Elvira Paniagua & Simpson, 2018; Simons et al., 2018; Simpson, 2016; Vakoufari & Christina, 2014; van Rooij et al., 2018; Wuellner, 2013
	Social-Economic Status	Arko-Achemfuor, 2017; Krull & Duart, 2018; Misopoulos et al., 2018; Mushtaq & Khan, 2012; Pitsoe & Baloyi, 2015; Simpson, 2016
	Technology Skills	Chiu, 2021; Dorsah, 2021; Kara et al., 2019; Krull & Duart, 2018; Parkes et al., 2015; Shaw et al., 2016

at all levels of education due to the outbreak of the COVID-19 pandemic. There is a greater fluctuating trend in the published research between 2012 and 2020 than we expected. We are of the viewpoint that this trend has not followed the rapid development in ODL education but shows that the upsurge of COVID-19 sped up advancement in ODL education. Of the 84 studies, 78 were journals, 4 book chapters, 1 conference paper, and 1 technical report. The results showed that *Open Learning: The Journal of Open, Distance and e-Learning; Education and Information Technologies*; *European Journal of Open, Distance and E-Learning; Distance Education; Turkish Online Journal of Distance Education*; and *American Journal of Distance Education,* were the top six journals that published the highest number of articles related to student success in ODL. The remaining journals in this study offer a single paper only, which demonstrates the scarcity of research findings on students' success in ODL before the outbreak of COVID-19. All 84 papers were classified into 17 identified factors that influence student success in ODL with support, which include: age, assessment, social-economic status, good learning/study skills, motivation to learn, self-confidence, time management, interaction, technology skills, communication, satisfaction with the course, lack of resource accessibility, difficulty of study materials, course design, student engagement, financial issues, and social presence/sense of isolation. The 17 factors that influence student success with support in ODL were then categorized into each of the dimensions of Simpson's (2016) DSSM. Although, we categorized all the factors into each of the three dimensions of the model, some of the factors vacillate between the three dimensions of the model. In this paper, the categorization is based on the precise dimensions of the model.

DISCUSSION

The primary purpose of this study was to explore the underlying factors influencing student support in enhancing student success in ODL. By reviewing 84 peer-reviewed articles published from 2012 to 2022, we found that 17 factors influence student support in enhancing student success in ODL. The influence of the 17 factors on student success in ODL is discussed below according to three dimensions of Simpson's Distance Student Support Model.

Cognitive (Academic Support)

Academic support represents factors related to helping students develop learning skills and skills of assessment and feedback. In this study, there are three (3) academic support factors identified from the systematic literature review:

Assessment

Assessment is an important factor in determining student success in ODL. Agbanu et al, (2018) explained that fair and adequate assessment promotes the image of the institution and motivates students to learn since they can easily analyze their performance based on their internal assessment.

Course Design

Kumar et al. (2021) affirmed that the quality of the course content development and design has a significant positive relationship with the student's learning outcomes and success. Au et al. (2018) and Puspitasari and Oetoyo (2018) emphasized that the lack of flexibility in course design affects student success in ODL. The course design and delivery must accommodate students with different learning styles. ODL institutions should provide learning activities that support students with different learning styles and needs.

Good Learning/Study Skills

Good learning and study skills are essential for a student to succeed in ODL institutions (Simpson, 2016). Since ODL students often study alone, they need to adjust their learning habits and must develop the skills of independent learning. Without a routine or fixed study schedule, the students tend to attend to other tasks such as office-related jobs, socializing, or completing other chores, thereby postponing studying and completing assignments (Puspitasari & Oetoyo, 2018).

Organizational Support

Organizational support represents factors related to helping students manage their studies and keep up with the pace of the module, and in this study seven (7) organizational support factors were identified:

Communication

Communication between student and content, student and instructor, and student and student can enhance the student's learning experience. Agbanu et al. (2018) and Adarkwah (2021) asserted that the inherent distance between students,

institutions, and instructors contributes to student ineffectiveness with their courses and a lack of communication between all three, which leads to academic dropout.

Financial Issues

Financial problems were also contributing issues to students' dropout problems. Many ODL students paid the tuition fees out of pocket. Financial problems were considered an additional responsibility for them and thereby influenced their decision to continue with their studies (Muljana & Luo, 2019; Parkes et al., 2015; Sánchez-Elvira Paniagua & Simpson, 2018).

Interaction

Active interaction between the instructor and students is one of the most influential factors encouraging students' performance, success, and retention in ODL settings (Hazaymeh, 2021; Maré & Mutezo, 2021). An active learning strategy engages the students to interact with the course or to get involved in the learning process (Ulfa & Fatawi, 2021). Learner-content interaction contributes predominately toward the successful realization of the expected learning outcomes (Kumar et al., 2021). Garrat-Reed et al. (2016) reported that instructors' ineffective interaction with students may lead to several learning challenges especially when the instructors have limited communication with students or fail to provide them with a timely response. A study by Muzammil et al., (2020) among students in open and distance learning universities in Indonesia showed that interaction among students, the interaction between students and teachers, and interaction between students and content have a positive impact on student engagement and their success in an ODL space.

Lack of Resource Accessibility

Accessing reliable information and learning resources through the internet is a serious challenge for students in ODL institutions. Studies show that some ODL students, most especially those in rural areas, are not able to access the learning materials adequately because of technological challenges and poor internet connectivity, which negatively impacts their studies and learning experiences (Arko-Achemfour, 2017; Dhunpath & Dhunpath, 2015).

Social Presence/Sense of Isolation

Social presence has been found to enhance students' performance in their learning and facilitate the development of student confidence in the ODL environment (Vankoufari & Christina, 2014). A study carried out by Laslo-Roth et al., (2022) demonstrated that students experienced higher levels of loneliness and increased social isolation with distance learning during the COVID-19 pandemic. In another study with distance education students, Kara et al., (2019) reported that the sense of isolation caused by a lack of interaction and insufficient communication between the instructors and the students and among students increased the risk of dropout.

Student Engagement

Student engagement is a reliable predictor of student success and lack of it affects the effectiveness of ODL programs (Hammond & Shoemaker, 2014). Some scholars (Bagriacik Yilmaz & Banyard, 2020; Khlaif et al., 2021) assert that student engagement in ODL enhanced the performance and outcomes of the learning process and increased student retention rates in distance learning education. Schreiber and Yu (2016) indicated that instructors' continuous active engagement with students fosters their knowledge acquisition and persistence with the program.

Time Management

Time management skills are important for student persistence in ODL programs (Yang et al., 2017). Miscalculating the time required for a student to complete the study materials could influence their decision to withdraw (Muljana & Luo, 2019). Most ODL students are working class and need more time and greater commitment to complete their studies. However, poor time management was also reported to cause students to withdraw from ODL. Students who are unable to manage their study time tend to procrastinate their learning activities and are likely to be unsuccessful in their studies (Puspitasari & Oetoyo, 2018).

Emotional Support

Emotional support represents factors related to helping students deal with the emotional side of their learning, and in this study, there are seven (7) emotional support factors:

Age

Sánchez-Elvira Paniagua and Simpson (2018) reported that students in ODL are older than

students in conventional institutions and have other demands that affect their time to study, such as family and work. Some of them have been away from formal education for a long duration, and this affects their success rate.

Difficulty of Study Materials

Yang et al. (2017) found that the difficulty level of the academic program is another influential determinant of student retention in ODL. They also indicated that students tend to drop out when the curriculum or program is too difficult to understand and fails to meet their learning preferences. Similarly, program difficulty, in general, is also reported as a challenge that leads to dropouts in distance education programs (Kara et al., 2019).

Motivation to Learn

Motivation is considered a critical factor influencing student success in ODL. It is the engine that controls students' learning process with the course materials and helps sustain student persistence to complete their courses (Esra & Sevilen, 2021; Langegård et al., 2021; Simpson, 2016). In their study, Yang et al. (2017) established that a lack of motivation to learn may lead to students dropping out, especially when the study materials and assignments are too boring. A study by Esra and Sevilen (2021) found that motivation is a key factor that affects students' success and performance in their learning process.

Satisfaction with the Course

Student satisfaction with their course or program is an important determinant of the quality of learning experiences and enhances the success of learning in higher education (Aldhahi et al., 2022; Ho et al., 2021). Muljana and Luo (2019) confirmed that students who are satisfied with their program can better cope with academic demands and obtain higher scores in examinations. Students who are not satisfied may be preoccupied with the dilemma of whether to proceed with the program. A meta-analysis study by Olugbara, Letseka, et al. (2021) and a multiple correspondence analysis by Olugbara, Letseka, & Olugbara (2021) found satisfaction to be a strong significant factor influencing student acceptance of MOOCs and success in Open Distance Learning. Zhou and Zhang (2021) in their study of the perception of students' learning experience in online distance learning revealed that students' high level of satisfaction with the course influenced their overall performance and success in the course.

Self-confidence

Self-confidence enables students to persevere in learning and perform adequately in the ODL environment (Simons et al., 2018). Many researchers (e.g., Van Rooij et al., 2018) pointed out that students who are more confident in their academics tend to regulate their effort and manage their study time and environment more effectively than students with low self-confidence.

Social-economic Status

Pitsoe and Baloyi (2015) indicated that the socio-economic status of the student is vital in understanding student success problems in ODL. They also reported that many students in ODL institutions come from diverse socio-economic backgrounds in both rural and urban areas. Some students come from schools that are poorly resourced and they are not adequately prepared for higher education. When these students enroll in higher education, they are expected to learn complex new materials independently, and adjusting to new ways of learning in ODL becomes a problem for them.

Technology Skills

Some scholars (Dorsah, 2021; Maré & Mutezo, 2021) stated that students who succeed in an online learning environment are those who are well prepared, ready to follow their study online, and skilled in the use of technology to interact with other students and teachers. In their study, Kara et al., (2019) reported that a lack of technology skills makes the instructional process challenging for adult students in ODL institutions. The adult student has difficulty participating in collaborative activities because of inadequate technical skills to interact with the instructors and their peers on the internet. Likewise, Kahu et al., (2013) revealed that some of the students had technical problems participating in educational activities at their home and they could not study in their workplaces.

CONCLUSION

The primary need for student support in Open and Distance Learning (ODL) is to assist students to succeed in their learning. This study has compiled publications related to student support and success to better understand factors that influence student success in ODL. Understanding the factors

influencing student success in ODL education will help ODL institutions control the rate of attrition of students and increase student retention. Thematic content analysis was employed to identify 17 factors that influence student success in ODL. Simpson's Distance Student Support Model has been successfully applied to classify the 17 factors into the three dimensions of the model. The study established that both academic and nonacademic support was influential in promoting student retention in ODL, with nonacademic support being more prominent. This study demonstrated that nonacademic support should be considered important in enhancing students' success and curbing the attrition of students in ODL. The findings offer implications for ODL practitioners such as academics, administrators, faculty, and support personnel to be cognizant of the type of support services that could best meet the expectations of their students.

The study has limitations, therefore, the findings of this study may only be cautiously interpreted and generalized. First, this study reviewed 84 relevant published articles written in English between 2012 and 2022. We had no access to raw data from any study, and all our assumptions were made based on the interpretations and analysis of the findings reported by the 84 selected studies. Future research should conduct empirical studies with robust analysis for comparison and to corroborate our results. Second, this study only examined the Web of Science and Google Scholar databases. Although the most popular journals in the topic of this study are included in these databases, the search parameters might have excluded a few relevant studies that contain useful information that could have enriched our findings. Future research should include more edatabases, educational journals, and theses and dissertations in the search process to provide a deeper understanding of the topic. Nevertheless, this study has provided valuable information regarding factors that influence student success in an ODL space.

DISCLOSURE STATEMENT

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References

Adarkwah, M. A. (2021). I'm not against online teaching, but what about us? ICT in Ghana post Covid-19. Education and Information Technologies, 26(2), 1665–1685. https://doi.org/10.1007/s10639-020-10331-z

Agbanu, P. G., Sonyo, E., & Ahias, G. (2018). Examining factors influencing student satisfaction in distance education in Ghana: A study of the Institute for Educational Development and Extension, University of Education, Winneba. The Online Journal of Distance Education and e-Learning, 6(1), 33–44.

Albelbisi, N., Yusop, F. D., & Salleh, U. K. M. (2018). Mapping the factors influencing success of Massive Open Online Courses (MOOC) in higher education. Eurasia Journal of Mathematics, Science and Technology Education, 14(7), 2995–3012. https://doi.org/10.29333/ejmste/91486

Aldhahi, M. I., Alqahtani, A. S., Baattaiah, B. A., & Al-Mohammed, H. I. (2022). Exploring the relationship between students' learning satisfaction and self-efficacy during the emergency transition to remote learning amid the coronavirus pandemic: A cross-sectional study. Education and Information Technologies, 27, 1323–1340. https://doi.org/10.1007/s10639-021-10644-7

Alman, S. W., Frey, B. A., & Tomer, C. (2012). Social and cognitive presence as factors in learning and student retention: An investigation of the cohort model in an iSchool setting. Journal of Education for Library and Information Science, 53(4), 290–302.

Ametepe, J. D., & Khan, N. (2021). Teaching physics during COVID-19 pandemic: Implementation and report of teaching strategies to support student learning. Physics Education, 56(6), 065030. https://doi.org/10.1088/1361-6552/ac266f

Arko-Achemfuor, A. (2017). Student support gaps in an open distance learning context. Issues in Educational Research, 27(4), 658–676.

Au, O., Li, K., & Wong, T. M. (2018). Student persistence in open and distance learning: Success factors and challenges. Asian Association of Open Universities Journal, 13(2), 191–202. https://doi.org/10.1108/AAOUJ-12-2018-0030

Aversa, E., & MacCall, S. (2013). Profiles in retention part 1: Design characteristics of a graduate synchronous online program. Journal of Education for Library, 54(2), 147–161.

Baber, H. (2020). Determinants of students' perceived learning outcome and satisfaction in online learning during the pandemic of COVID-19. Journal of Education and e-Learning Research, 7(3), 285–292. https://doi.org/10.20448/journal.509.2020.73.285.292

Bagriacik Yilmaz, A., & Banyard, P. (2020). Engagement in distance education settings: A trend analysis. Turkish Online Journal of Distance Education, 21(1), 101–120. https://doi.org/10.17718/tojde.690362

Bdair, I. A. (2021). Nursing students and faculty members' perspectives about online learning during COVID-19 pandemic: A qualitative study. Teaching and Learning in Nursing, 16(3), 220–226. https://doi.org/10.1016/j.teln.2021.02.008

Blau, G., Mittal, N., Schirmer, M., & Ozkan, B. (2017). Differences in business undergraduate perceptions by preferred classroom learning environment. Journal of Education for Business, 92(6), 280–287. https://doi.org/10.1080/08832323.2017.136567

Chiu, T. K. (2021). Digital support for student engagement in blended learning based on self-determination theory. Computers in Human Behavior, 124, 106909. https://doi.org/10.1016/j.chb.2021.106909

Dhunpath, S., & Dhunpath, R. (2015). Student support for Open Distance Learning (ODL). In M. Letseka (Ed.), Open Distance Learning (ODL) in South Africa (pp. 105–116). Nova Science Publishers, Inc.

Dilmaç, S. (2020). Students' opinions about the distance education to art and design courses in the pandemic process. World Journal of Education, 10(3), 113–126. https://doi.org/10.5430/wje.v10n3p113

Dorsah, P. (2021). Pre-service teachers' readiness for emergency remote learning in the wake of COVID-19. European Journal of STEM Education, 6(1), 1–12. https://doi.org/10.20897/ejsteme/9557

Dumais, S. A., Rizzuto, T. E., Cleary, J., & Dowden, L. (2013). Stressors and supports for adult online learners: Comparing first-and continuing-generation college students. American Journal of Distance Education, 27(2), 100–110. https://doi.org/10.1080/08923647.2013.783265

Dzakiria, H. (2012). Illuminating the importance of learning interaction to Open Distance Learning (ODL) success: A qualitative perspectives of adult learners in Perlis, Malaysia. European Journal of Open, Distance and E-Learning, 1–9.

Eliasquevici, M. K., da Rocha Seruffo, M. C., & Resque, S. N. F. (2017). Persistence in distance education: A study case using Bayesian network to understand retention. International Journal of Distance Education Technologies, 15(4), 61–78. https://doi.org/10.4018/IJDET.2017100104

Esra, M. E. Ş. E., & Sevilen, Ç. (2021). Factors influencing EFL students' motivation in online learning: A qualitative case study. Journal of Educational Technology and Online Learning, 4(1), 11–22.

Fredrickson, J. (2015). Online learning and student engagement:

Assessing the impact of a collaborative. Academy of Educational Leadership Journal, 19(3), 127–141.

Garratt-Reed, D., Roberts, L. D., & Heritage, B. (2016). Grades, student satisfaction and retention in online and face-to-face introductory psychology units: A test of equivalency theory. Frontiers in Psychology, 7(673), 1–10. https://doi.org/10.3389/fpsyg.2016.00673

Gaytan, J. (2015). Comparing faculty and student perceptions regarding factors that affect student retention in online education. American Journal of Distance Education, 29(1), 56–66. https://doi.org/10.1080/08923647.2015.994365

Gomez, D. (2013). Leadership behavior and its impact on student success and retention in online graduate education. Academy of Educational Leadership Journal, 17(2), 13–37.

Hammond, D. E., & Shoemaker, C. (2014). Are there differences in academic and social integration of College of Agriculture Master's students in campus based, online and mixed programs? NACTA Journal, 58(3), 180–188.

Hart, C. (2012). Factors associated with student persistence in an online program of study: A review of the literature. Journal of Interactive Online Learning, 11(1), 19–42.

Hazaymeh, W. A. (2021). EFL students' perceptions of online distance learning for enhancing English language learning during Covid-19 pandemic. International Journal of Instruction, 14(3), 501–518. https://doi.org/10.29333/iji.2021.14329a

Ho, I. M. K., Cheong, K. Y., & Weldon, A. (2021). Predicting student satisfaction of emergency remote learning in higher education during COVID-19 using machine learning techniques. Plos one, 16(4), e0249423. https://doi.org/10.1371/journal.pone.0249423

Joo, K. P. (2014). A cultural-historical activity theory investigation of contradictions in open and distance higher education among alienated adult learners in Korea National Open Universit. The International Review of Research in Open and Distance Learning, 15(1), 41–61. https://doi.org/10.19173/irrodl.v15i1.1605

Kahu, E. R., Stephens, C., Leach, L., & Zepke, N. (2013). The engagement of mature distance students. Higher Education Research & Development, 32(5), 791–804. https://doi.org/10.1080/07294360.2013.777036

Kamble, A., Gauba, R., Desai, S., & Golhar, D. (2021). Learners' perception of the transition to instructor-led online learning environments: Facilitators and barriers during the COVID-19 pandemic. International Review of Research in Open and Distributed Learning, 22(1), 199–215. https://doi.org/10.19173/irrodl.v22i1.4971

Kara, M., Erdoğdu, F., Kokoç, M., & Cagiltay, K. (2019). Challenges faced by adult learners in online distance education: A literature review. Open Praxis, 11(1), 5–22. https://doi.org/10.5944/openpraxis.11.1.929

Kauffman, H. (2015). A review of predictive factors of student success in and satisfaction with online learning. Research in Learning Technology, 23, 1–13. https://doi.org/10.3402/rlt.v23.26507

Keqiang, L. (2017). Innovation in open and distance learning (ODL) system in India: The need to remove systemic barriers. Ennovate, 4(15), 1–9.

Khlaif, Z. N., Salha, S., & Kouraichi, B. (2021). Emergency remote learning during COVID-19 crisis: Students' engagement. Education and Information Technologies, 26(6), 7033–7055. https://doi.org/10.1007/s10639-021-10566-4

Kim, D., Lee, Y., Leite, W. L., & Huggins-Manley, A. C. (2020). Exploring student and teacher usage patterns associated with student attrition in an open educational resource-supported online learning platform. Computers & Education, 156, 103961. https://doi.org/10.1016/j.compedu.2020.103961

Knestrick, J. M., Wilkinson, M. R., Pellathy, T. P., Lange-Kessler, J., Katz, R., & Compton, P. (2016). Predictors of retention of students in an online nurse practitioner program. The Journal for Nurse Practitioners, 12(9), 635–640. https://doi.org/10.1016/j.nurpra.2016.06.011

Kör, H., Erbay, H., Demir, E., & Akmeşe, Ö. F. (2016). A Study on the factors affecting the academic performance of distance education students and formal students. Hitit University Journal of Social Sciences Institute, 9(2), 1029–1050.

Krull, G., & Duart, J. M. (2018). Meeting the needs of digital learners: Learner support patterns and strategies. In 13th International Conference on E-Learning (ICEL), 5–6 June 2018, Capetown, South Africa (pp. 212–219). Academic Conferences International Limited.

Kumar, P., Saxena, C., & Baber, H. (2021). Learner-content interaction in e-learning-the moderating role of perceived harm of COVID-19 in assessing the satisfaction of learners. Smart Learning Environments, 8(1), Article 5. https://doi.org/10.1186/s40561-021-00149-8

Kuo, Y., Walker, A. E., Belland, B. R., & Schroder, K. E. (2013). A predictive study of student satisfaction in online programs. The International Review of Research in Open and Distributed Learning, 14(1), 16–39. https://doi.org/10.19173/irrodl.v14i1.1338

Langegård, U., Kiani, K., Nielsen, S. J., & Svensson, P. A. (2021). Nursing students' experiences of a pedagogical transition from campus learning to distance learning using digital tools. BMC Nursing, 20(1), 23. https://doi.org/10.1186/s12912-021-00542-1

Laslo-Roth, R., Bareket-Bojmel, L., & Margalit, M. (2022).

Loneliness experience during distance learning among college students with ADHD: The mediating role of perceived support and hope. European Journal of Special Needs Education, 37(2), 220–234. https://doi.org/10.1080/08856257.2020.1862339

Lee, Y., & Choi, J. (2013). A structural equation model of predictors of online learning retention. The Internet and Higher Education, 16(1), 36–42. https://doi.org/10.1016/j.iheduc.2012.01.005

Leeds, E. M., Campbell, S., Baker, H., Ali, R., Brawley, D., & Crisp, J. (2013). The impact of student retention strategies: An empirical study. International Journal of Management in Education, 7(1/2), 22–43. https://doi.org/10.1504/IJMIE.2013.050812

Makoe, M. (2012). Bridging the distance: The pedagogy of mobile learning in supporting distance learners. In P. B. Muyinda (Ed.), Distance education (pp. 63–80). IntechOpen. https://doi.org/10.5772/48079

Maré, S., & Mutezo, A.T. (2021). The effectiveness of etutoring in an open and distance e-learning environment: evidence from the University of South Africa. Open Learning: The Journal of Open, Distance and e-Learning, 36(2), 164–180. https://doi.org/10.1080/02680513.2020.1717941

McGhie, V. (2017). Entering university studies: Identifying enabling factors for a successful transition from school to university. Higher Education Journal, 73(3), 407–422. https://doi.org/10.1007/s10734-016-0100-2

Misirli, O., & Ergulec, F. (2021). Emergency remote teaching during the COVID-19 pandemic: Parents experiences and perspectives. Education and Information Technologies, 26(6), 6699–6718. https://doi.org/10.1007/s10639-021-10520-4

Misopoulos, F., Argyropoulou, M., & Tzavara, D. (2018). Exploring the factors affecting student academic performance in online programmes: A literature review. In A. Khare & D. Hurst (Eds.), On the line (pp. 235–250). Springer. https://doi.org/10.1007/978-3-319-62776-2_18

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. Annals of Internal Medicine, 151(4), 264–269. https://doi.org/10.7326/0003-4819-151-4-200908180-00135

Moore, *M*. (*1997*). *Theory of transactional distance*. In *D*. *Keegan* (*Ed*.), *Theoretical principles of distance education (pp. 22–38)*. *Routledge*.

Mpofu, N. (2016). What can we still offer? Understanding student support in distance education teacher preparation programmes. Progressio, 38(1), 33–46.

Muljana, P. S., & Luo, T. (2019). Factors contributing to student retention in online learning and recommended strategies for improvement: A systematic literature review. Journal of Information Technology Education: Research, 18, 19–57. https://doi.org/10.28945/4182

Mushtaq, I., & Khan, S. N. (2012). Factors affecting students' academic performance. Global Journal of Management and Business Research, 12(9), 16–22.

Muzammil, M., Sutawijaya, A., & Harsasi, M. (2020). Investigating student satisfaction in online learning: The role of student interaction and engagement in distance learning university. Turkish Online Journal of Distance Education, 21(Special Issue-IODL), 88–96. https://doi.org/10.17718/tojde.770928

Nguyen, T., Netto, C. L., Wilkins, J. F., Bröker, P., Vargas, E. E., Sealfon, C. D., Puthipiroj, P., Li, K. S., Bowler, J. E., Hinson, H. R., Pujar, M., & Stein, G. M. (2021). Insights into students' experiences and perceptions of remote learning methods: From the COVID-19 pandemic to best practice for the future. Frontiers in Education, 6, 647986. https://doi.org/10.3389/feduc.2021.647986

Nsamba, A., & Makoe, M. (2017). Evaluating quality of students' support services in open distance learning. Turkish Online Journal of Distance Education, 18(4), 91–103. https://doi.org/10.17718/tojde.340391

Nyamupangedengu, E. (2017). Investigating factors that impact the success of students in a Higher Education classroom: A case study. Journal of Education, 68, 113–130.

Oliveira, G., Grenha Teixeira, J., Torres, A., & Morais, C. (2021). An exploratory study on the emergency remote education experience of higher education students and teachers during the COVID□19 pandemic. British Journal of Educational Technology, 52(4), 1357–1376. https://doi.org/10.1111/bjet.13112

Olugbara, C. T., Letseka, M., Ogunsakin, R. E., & Olugbara, O. O. (2021). Meta-analysis of factors influencing student acceptance of MOOC for open distance learning. African Journal of Information Systems, 13(3), 370–400.

Olugbara, C. T., Letseka, M., & Olugbara, O. O. (2021). Multiple correspondence analysis of factors influencing student acceptance of massive open online courses. Sustainability, 13(23), 1–21. https://doi.org/10.3390/su132313451

O'Neill, D. K., & Sai, T. H. (2014). Why not? Examining college students' reasons for avoiding an online course. Higher Education, 68(1), 1–14. https://doi.org/10.1007/s10734-013-9663-3

Parkes, M., Gregory, S., Fletcher, P., Adlington, R., & Gromik, N. (2015). Bringing people together while learning apart: Creating online learning environments to support the needs of rural and remote students. Australian and International Journal of Rural Education, 25(1), 65–78. https://doi.org/10.47381/aijre.v25i1.96

Pinchbeck, J., & Heaney, C. (2017). Case report: The impact of a resubmission intervention on level 1 distance learning students. Open Learning: The Journal of Open, Distance and e-Learning, 32(3), 236–242. https://doi.org/10.1080/02680513.2017.1348290

Pitsoe, V., & Baloyi, G. (2015). Conceptions of success in open distance learning. In M. Letseka (Ed.), Open Distance Learning (ODL) in South Africa (pp. 91–104). Nova Science Publishers, Inc.

Pratt, K. (2015). Supporting distance learners: Making practice more effective. Journal of Open, Flexible and Distance Learning, 19(1),12–26.

Puspitasari, K. A., & Oetoyo, B. (2018). Successful students in an open and distance learning system. Turkish Online Journal of Distance Education, 19(2), 189–200. https://doi.org/10.17718/tojde.415837

Salta, K., Paschalidou, K., Tsetseri, M., & Koulougliotis, D. (2022). Shift from a traditional to a distance learning environment during the COVID-19 pandemic. Science & Education, 31(1), 93–122. https://doi.org/10.1007/s11191-021-00234-x

Sánchez-Elvira Paniagua, A., & Simpson, O. (2018). Developing student support for open and distance learning: The EMPOWER Project. Journal of Interactive Media in Education, 2018(1), 9. https://doi.org/10.5334/jime.470

Schreiber, B., & Yu, D. (2016). Exploring student engagement practices at a South African university: Student engagement as reliable predictor of academic performance. South African Journal of Higher Education, 30(5), 157–175.

Shah, M., & Cheng, M. (2019). Exploring factors impacting student engagement in open access courses. Open Learning: The Journal of Open, Distance and e-Learning, 34(2), 187–202. https://doi.org/10.1080/02680513.2018.1508337

Shaw, M., Burrus, S., & Ferguson, K. (2016). Factors that influence student attrition in online courses. Online Journal of Distance Learning Administration, 19(3), 211–231.

Simons, J., Beaumont, K., & Holland, L. (2018). What factors promote student resilience on a level 1 distance learning module? Open Learning: The Journal of Open, Distance and e-Learning, 33(1), 4–17. https://doi.org/10.1080/02680513.2017.1415140

Simpson, O. (2013). Student retention in distance education: Are we failing our students? Open Learning: The Journal of Open, Distance and e-Learning, 28(2), 105–119. https://doi.org/10.1080/02680513.2013.847363

Simpson, O. (2016). Student support services for success in open and distance learning [Technical Report]. CEMCA EdTech Notes. Commonwealth Educational Media Centre for Asia.

Stewart, B. L., Goodson, C. E., Miertschin, S. L., Norwood, M. L., & Ezell, S. (2013). Online student support services: A case based on quality frameworks. Journal of Online Learning and Teaching, 9(2), 290–302.

Tan, C. (2021). The impact of COVID-19 pandemic on student learning performance from the perspectives of community of inquiry. Corporate Governance: The International Journal of Business in Society, 12(6), 1215–1228.

ten Hoeve, Y., Castelein, S., Jansen, G., & Roodbol, P. (2017). Dreams and disappointments regarding nursing: student nurses' reasons for attrition and retention: a qualitative study design. Nurse Education Today, 54, 28–36. https://doi.org/10.1016/j.nedt.2017.04.013

Thapliyal, U. (2014). Perceived quality dimensions in distance education: Excerpts from student experiences. Turkish Online Journal of Distance Education, 15(3), 60–67. https://doi.org/10.17718/tojde.76579

Tladi, L. S. (2013). Factors affecting examination attrition: Does academic support help? A survey of ACN203S (cost accounting and control) students at Unisa. Open Learning: The Journal of Open, Distance and e-Learning, 28(1), 67–82. https://doi.org/10.1080/02680513.2013.782812

Ulfa, S., & Fatawi, I. (2021). predicting factors that influence students' learning outcomes using learning analytics in online learning environment. International Journal of Emerging Technologies in Learning (iJET), 16(1), 4–17. https://doi.org/10.3991/ijet.v16i01.16325

Vakoufari, M., & Christina, A. (2014). Self-esteem and loneliness as factors affecting distance learning student. European Journal of Open, Distance and e-Learning, 17(2), 101–116. https://doi.org/10.2478/eurodl-2014-0022

Van Rooij, E. C. M., Jansen, E. P. W. A., & van de Grift, W. J. C. M. (2018). First-year university students' academic success: The importance of academic adjustment. European Journal of Psychology of Education, 33(4), 749–767. https://doi.org/10.1007/s10212-017-0347-8

Wallace, S., Schuler, M. S., Kaulback, M., Hunt, K., & Baker, M. (2021). Nursing student experiences of remote learning during the COVID‐19 pandemic. Nursing Forum, 56(3), 612–618. https://doi.org/10.1111/nuf.12568

Wladis, C., Conway, K. M., & Hachey, A. C. (2015). The online STEM classroom—Who succeeds? An exploration of the impact of ethnicity, gender, and non-traditional student characteristics in the community college context. Community College Review, 43(2), 142–164. https://doi.org/10.1177/0091552115571729

Wuellner, M. R. (2013). Student learning and instructor investment in online and face-to-face natural resources courses. Natural Sciences Education, 42(1), 14–23. https://doi.org/10.4195/nse.2012.0023

Yang, D., Baldwin, S., & Snelson, C. (2017). Persistence factors revealed: Students' reflections on completing a fully online program. Distance Education, 38(1), 23–36. https://doi.org/10.1080/01587919.2017.1299561

Zhou, J., & Zhang, Q. (2021). A survey study on US college students' learning experience in COVID-19. Education Sciences, 11(5), 248. https://doi.org/10.3390/educsci11050248