Journal of Ecohumanism
2025
Volume: 4, No: 4, pp. 2178–2186
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i4.6984

The Role of Open Distance Learning in Lifelong Learning: Opportunities and Challenges

Motlatsi Cletus Lehloka[1]

Abstract

Open distance learning (ODL) supports lifelong learning by providing accessibility and flexibility, as well as designating pathways for continued professional development. It allows an individual to acquire new knowledge and skills during their life, regardless of age, location, or previous education. This continued learning is critical to keep pace with an economy that is changing quickly, and it supports individuals in their development and career pathways. Of particular importance, the integration of open educational resources (OER), into an ODL framework can help to significantly increase access to quality resources and can help to facilitate affordable education. Firstly, institutions that are largely dependent on developing their own teaching and learning resources can use OER to reduce costs, development time, and increase the quality and accessibility of teaching and learning resources. Although distance learning offers opportunities for lifelong learning, it presents several significant challenges which include technical challenges, time management challenges, communication challenges, and ensuring appropriate quality assurance. This paper intents to examine the role of ODL in facilitating the lifelong learning within social science identifying both the opportunities it presents and challenges it faces. The study used a qualitative research approach, as well as detailed literature reviews and case studies in the ODL sector. The findings highlight that ODL does not only facilitates flexibility access to education but also supports the principles of sustainable education, promotes inclusivity and offers diverse learning style. This study offers useful insights for educators interested in using ODL to enhance sustainable lifelong learning.

Keywords: *Open Distance Learning (ODL), Lifelong Learning, Social Science and Open Educational Resources (OER).*

Introduction

Technological developments, globalization, and economic changes have rapidly changed work and education [1]. While all change is a normal part of life, rapid obsolescence of knowledge and skills, and the need for lifetime learning has been heightened by the rapid changes [2]. This means the worker must continually develop their abilities in the employment market [3]. Education means more than the years of childhood and adolescence; education must continue into adulthood [4]. Lifetime learning, the ongoing development of knowledge, skills, and competencies throughout the life of the individual, is becoming increasingly important in order to develop the individual personally and professionally [5]. The pace of change can be disorienting; therefore, continual development is valuable to help people cope with the pressures of new technologies, changing careers, and competition in the marketplace [6]. The notion of lifetime learning has evolved from the changing economic demands of the modern economy, and to raise awareness of the value of recognizing adult or continual learning and skill development [7].

Lifelong Learning Frameworks

Lifelong learning frameworks provide a systematic approach to providing learning support during all phases of the learner's life [8]. ODL can be incorporated into lifelong learning frameworks to provide flexibility and alternative learning options that meet the various needs of learners [9]. ODL programs consider the role of both the facilitator and the learner and no longer express a conventional model (where lecturers do all the teaching) [10]. This model provides a new option for individuals who have missed out on formal education, and offers choice, flexibility, and even the potential to withdraw feelings of inadequacy [11]. ODL service aims to create opportunities for those who feel marginalized and excluded to be re-integrated into main-stream society [12].

[1] University of South Africa Department of Electrical and Smart Systems Engineering Johannesburg, Roodepoort 1709, Email: lehlomc@unisa.ac.za

Journal of Ecohumanism
2025
Volume: 4, No: 4, pp. 2178–2186
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i4.6984

Flexible Learning Pathways

Flexible learning pathways recognize the potential of ODL to provide learners with the freedom to choose when, where and how a learner wants to participate in their studies [13]. Flexible learning pathways can take into consideration different learner needs by allowing flexible modes of education [14]. Flexible learning pathways are not limited to pre-configured educational standards for face-to-face programming and can take many forms through the use of technology in the delivery of programming [15]. As such, online and blended learning subjects, courses and programs delivery supported by the ideas and use of open educational resources (OERs), massive open online courses (MOOCs), and micro-credentials (MC), have become defining features of national higher education systems [16]. Moreover, students can generally proceed at their own pace, whether in a more self-directed way or reducing their course load, and ODL effectively removes geographic constraints since a learner can 'learn from anywhere with internet access [17]. Some ODL programs may offer choice in subject matter or the ability to 'design' the learners' pathway according to their priorities and interests as learners [13]. ODL consistently relies on technologies to help provide the educational experience, including through online systems, digital resources and learning management systems [18].

Accessibility and Inclusion

Accessible learning and education are priorities as they remove barriers for participation and engagement in learning [19]. To make education accessible means that educational environments and resources are provided for individuals regardless of their physical, cognitive, or organizational capabilities that may be a barrier to engagement [19]. Institutions that make accessibility in education a priority can provide a more inclusive and equitable educational experience for all students, and equitable opportunity for learning, development, and achievement [20]. Accessibility and inclusion are also related to the process of planning and implementing ODL programs to try to provide all learners with similar opportunities for learning regardless of learners' degree of limitation or ability [21]. This relatedness is relevant to the inquiry because it relates to the role of ODL in terms of supporting accessibility and inclusion in education for lifelong learning [22]. ODL contributes to accessibility in lifelong education by attempting to offer educational access to more people and creating accessible, inclusive virtual spaces for online learning [23]. ODL accessibility and inclusion courses prepare, both educators and learners alike, with the skills needed to design and implement online learning experiences that are inclusive for all learners, including those with disabilities [24]. These courses most often identify the unique challenges faced by learners with disabilities within digital learning environments and are grounded in strategies for applying principles of universal design and accessibility features in online products and platforms [25]. The participants learn practical skills to access and apply the accessibility features embedded in a variety of learning management systems and online platforms to create inclusive learning experiences [26]. These courses also frequently signal an emphasis on the importance of creating an inclusive and welcoming educational learning environment where all learners can feel valued and acknowledged [27].

Open Educational Resources (OER)

OER are materials for teaching and learning, in all formats and digital media, that are available to anyone to use, modify, and share; in ODL settings, OER are especially valuable [28]. OER include a full course, modules, texts, videos, and other materials, and with an open license, it is legally acceptable to modify and reuse it without permission from the owner of the copyright [29]. OER have removed price barriers to accessing education and make these materials available to an even larger audience, such as remote learners or those with constrained financial means [30]. OER is adaptable to meet relevant learning needs and contexts, and it users can customize their learning experiences [28]. OER is developed and curated in a field by professionals, assuring that quality is assured and aligned with specific learning outcomes [31]. Engagement with OER, often involves a community of educators, learners and many important stakeholders, to encourage collaboration and knowledge sharing. OER can help facilitate innovations in teaching and learning practices by fostering new and engaging resources [32]. OER model an environment of collaboration between educators in which they can customize, remix and distribute to develop better learning experiences for their students [33].

Journal of Ecohumanism
2025
Volume: 4, No: 4, pp. 2178–2186
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i4.6984

Digital Literacy

Digital literacy is the ability to effectively and critically use digital technology to search for, evaluate, create and share information [34]. It encompasses not only basic skills on a computer, but also the ability to navigate digital environments; assess the credibility of information sources; and engage ethically with digital content [35]. In ODL, digital literacy is vital for learners to be able to participate fully and appropriately in an online educational context [36]. Digital literacy includes basic skills on a computer, abilities to search, evaluate, and use knowledge from multiple digital sources and the ability to collaborate and communicate effectively online [37]. In ODL there is a need to provide digital literacy skills that assist equal access to education [38]. Providing digital literacy skills empowers learners to use the range of online resources and different approaches and ways to learning. Improving digital literacy on ODL platforms enables inclusivity for a diversity of learning styles, cultures, and languages ultimately enhancing a more equitable experience for learners [39]. Digital literacy is vital for learners with disabilities, as it allows them to use assistive technology to overcome physical barriers, and to engage with instructional material more successfully [40]. Meaning, using digital tools and platforms, to personalize learning experiences and use accessibility features [41]. Digital literacy is the foundation to use online course materials and customize learning experiences, especially for people with work, family or other commitments. This allows individualized learning, pace, and time to overcome traditional barriers to learning [42].

Personalized Learning

Personalized learning customizes the learning experience to accommodate the individual needs and abilities of each learner [43]. This approach challenges the one-size-fits-all model as learners choose their own pace and analytical approach [44]. It often involves modifying the curriculum, learning experience, and instructional pace to match students' strengths and weaknesses [45]. ODL might improve personalized learning through its use of learning analytics, adaptive assessments, and personalized learning pathways [12]. ODL can allow learners to learn at their own pace and on their own timetable leaving the geographical divides and accommodating diverse learner needs [9]. Technology can offer personalized learning environments through adaptive learning platforms, personalized recommendations for learning experiences, and a variety of learning options in the forms of videos, online texts, and interactive learning [43]. ODL emphasizes learner accountability and ownership of the learning process and provides practice in such critical thinking skills as managing one's own time, learning independently and assessing the appropriateness of resources and information [46]. Although ODL colleges offer many services for students including online tutorials, counselling, and the provision of course learning materials to ensure (equipped) students have what they need to be successful [47]. AI and data analytics are increasingly being utilized to personalize learning experiences, identify learning gaps and provide targeted assistance [48]. Personalized learning experiences, which allow for individualized content and activities to address specific learner needs and preferences, can make a big difference in engagement and motivation [49]. Educators can better personalize the instruction to match the student's own learning style, the educational experience is more motivating, and students can take greater ownership and responsibility for their learning [50]. Personalized learning improves educational outcomes because it meets the individualized learning needs of students and provides personalized assistance [51]. ODL supported the development of the important competencies that students needed for success such as self-directed learning, time management and problem-solving: all valuable to the student's future academic and career work-life [52]. Personalized learning when supported by ODL can effectively support the various needs of all learners and ensure that all students receive a quality educational experience regardless of their past, background or situation [23]. ODL can be more cost effective compared to traditional approaches since ODL reduces the need for the physical infrastructure and helps ensure assets are allocated purposefully and only utilized where they are necessary [53].

Social Learning Theories

The social learning theory suggests that people learn from others through observing and modelling, instead of through direct experience or reinforcement [54]. The social learning theory combines behaviourism and cognitive processes by specifically noting the importance of mental processes such as attentional processes, cognitive rehearsal, and motivation for social learning [55]. These cognitive thought processes take place

Journal of Ecohumanism
2025
Volume: 4, No: 4, pp. 2178–2186
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i4.6984

when learners observe the actions and behaviours of others (teachers or peers) and then imitate similar attributes [54]. Although relevant across all training methods, this is particularly relevant in an ODL context for example where learners would observe the use of online resources by others, and engage in dialogue, or participate in group projects [56]. Social learning theory highlights the importance of social interaction in learning and development. In an ODL context, this might be done through either an online forum, discussion board, joint projects, and collaborative tools for virtual collaboration [57]. Social cognitive theory stresses the importance of self-efficacy which is described as the individual's belief in their ability to succeed [58]. In the context of ODL, providing experiences which help to build learners' confidence and allow them to experience success is essential for maintaining motivation and persistence [59]. Social learning theory describes the importance of feedback and reinforcement in the development of behaviour [60]. In an ODL learning environment, timely and constructive feedback from the instructor and peers, as well as opportunities for learners to observe the positive impact of their actions, could lead to enhanced learning and motivation [61]. Connectivism, a learning theory that draws attention to networks and relationships, fits well with ODL [62]. Connectivism contends that knowledge is shared through networks and that learning occurs when learners connect with and navigate the networks as they form them [63]. Digital platforms and digital tools enhance the types of connections and interactions that are essential to learning in a connectivism scenario [62].

Artificial Intelligence (AI)

The application of technology in education is the utilization of AI to enhance the junior education and learning process [64]. AI may personalize learning, automatically assess students, and provide instant feedback for students in ODL [23]. Many ODL programs used AI-based technologies including adaptive learning systems, and intelligent tutoring systems to personalize learning and offer targeted help [65]. ODL programs are often strongly aligned with experiential learning and attending to the role AI plays in real-world problems that students prepare to tackle [66]. Multiple ODL programs are being offered for students under the wide range of obligation level for instruction AI including introductory courses, and post-graduate certificates [67]. Having a base knowledge of AI through ODL can open up diverse opportunities in careers in data science, ML, and AI development etc [23]. AI has the potential to provide solutions for certain challenges in ODL such as asynchronous responsiveness and self-regulation among the diverse needs of distance learners [68].

AI in ODL has the potential to improve the learning experience of students through applications of natural language processing, intelligent tutoring systems, adaptive learning systems, and recommendations systems that depend on artificial intelligence algorithms to adapt learning activities and content to meet the learning preferences. In this instance, these systems may adapt to the complexity of the job, provide recommendations, and offer custom learning support on the strengths and weaknesses of learners [41]. AI based adaptive learning adapts to the respective learning preferences and strengths of individuals and therefore creates opportunities to increase the use of self-directed learning and develop deeper knowledge of the material [69]. Researchers and practitioners are identifying the possibilities for AI to change the landscape to learning by improving teaching practices and better learning outcomes [70].

Methodology

Mixed methods were engaged in this study to investigate the significance of ODL in support of lifelong learning. The study engaged qualitative method that incorporated an extensive literature review and case studies in the ODL field, providing a holistic understanding of the opportunities and challenges of ODL in this space. The qualitative method incorporated an online survey for students and teachers engaged in ODL activity. The survey was intentionally designed to understand people's perceptions of ODL, in particular the functional aspects and usability. The sample approach used a purposive sample comprising experienced ODL practitioners. The target populations were learners and facilitators from institution utilizing ODL programs (University of South Africa – UNISA) to be specific. The survey was disseminated through social media platforms. The interviews followed a semi-structured format, providing a level of flexibility, while still ensuring all essential components were covered. The interview guide included

Journal of Ecohumanism
2025
Volume: 4, No: 4, pp. 2178–2186
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i4.6984

questions about the interviewee's own experiences with ODL, the specific challenges faced in ODL programs, and suggestions for improvement based on how it can most effectively promote lifelong learning. Video conferencing tools were used so that both parties could engage in the interviews in a manner that best suited the participants. The mixed-methods approach provide a strong basis for clarifying how ODL fits into lifelong learning.

Findings and Discussion

ODL represents a rational compromise between flexibility and accessibility of education, however, it has its own unique risks and limitations compared to conventional face to face classroom settings. In addition to offering different paths to education, ODL also broadened horizons for people all over the world to access education or training throughout their lives regardless of age, location or previous experience. ODL removed traditional barriers to education, typically limiting access, ODL expands learning opportunities to larger populations. Similar to traditional resource-based learning ODL added other options for learning, such as online courses, blended learning or directed study, making education and learning accessible to learners based on their circumstances and supporting them to learn at their own pace and convenience in overcoming barriers for individuals with geographical barriers or time constraints.

ODL can serve the education needs of a variety of users including people with disabilities, people in work, and people with a need to upskill or reskill. ODL's flexibility, offers a rich strategy for the growth of inclusive or equitable education in lifelong learning. ODL programs provide an opportunity for practitioners to build skills and knowledge, and they will have chances to be highly competitive with the job market. ODL programs are meant to help learners to adapt to the changing demands of the modern workforce by creating access and exposure to relevant and updated knowledge. ODL allows learners to achieve certificates, short courses, and various degrees at a level to suit their professional activities before they have to alter their professions. ODL promotes improving their skills, moving up in their current positions, or changing careers while maintaining employment and other responsibilities.

ODL focuses more on the learner by attending to student-centred principles, valuing active student learning as an agent in their study. ODL seeks to re-direct the emphasis from focusing on the teacher to focusing on the learner, allowing the students to have the responsibility of their learning process. ODL programs build a culture and experience of life-long learning and personal growth through on-going educational experiences. This means developing a culture, where learning exists in a greater frame of reference than just formal learning as a perpetual and evolving activity that lasts, well, for a lifetime! In general, ODL programs are less costly than traditional education because they eliminate expenses from transportation and housing.

Effective time management is critical to success in ODL. Learners need to be organized, set achievable goals and create a chronological timetable that allows them to coordinate their study with their other obligations. Issues with time management relate to the barriers individuals experience in organizing, prioritizing and completing work to a deadline. This can be exhibited as procrastination, distractions, failure to prioritize properly, and general disarray. The consequences are stress, deadlines missed and low levels of productivity. It is a struggle for people in the ODL community, particularly as they procrastinate and sometimes leave it until the last moment and rush to complete work, sometimes leading to added stress. The combination of social media bringing disruption, means that they are consistently distracted by outside forces. Learners' inability to distinguish between urgent and important means the time and effort is misallocated.

Engaging in several activities at once, multi-tasking, reduces attentiveness and productivity, and is especially problematic for learners. Going above and beyond on a project, to the point of perfectionism, can lead to delays and missed deadlines. Not appropriately monitoring projects, timelines, and other critical details dramatically increases the potential for mismanagement, as well as inefficiency and lost opportunities. This could lead to missed deadlines, budget overruns, and ultimately, project failure. Effective monitoring is critical for identifying deviations from the plan early on to implement corrective actions, in order to mitigate negative impacts. Students who do not take periodic breaks experience exhaustion and decreased

Journal of Ecohumanism
2025
Volume: 4, No: 4, pp. 2178–2186
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i4.6984

productivity. Students experience feelings of overwhelm and fatigue related to too much work and not enough time to get it all done. Students have goals that are too big or too difficult to achieve in the time allotted.

Insufficient computing abilities of learners pose a serious barrier to successful ODL. This challenge is more apparent in today's digital learning environment, where technology is often necessary for finding a learning resource, participating in a digital learning activity, or interacting with a facilitator. When a learner lacks computing abilities, it may inhibit their level of engagement, progress and ultimately their achievement within an ODL program. Learners may not always understand how to effectively navigate online learning platforms, access course materials, or properly use digital tools and resources. If learners encounter issues connecting with their facilitator and peers, using whatever means of online communication-be it email, chat, or video conferencing-they may develop a sense of isolation and feel as though they are learning alone. Some learners experience difficulties with word processing software, developing presentations, or submitting assignments online, hence unable to fulfil academic requirements of the course. Furthermore, learners can experience informal and peripheral barriers when struggling with basic troubleshooting skills that are necessary to manage common technology challenges that occur in online learning such as software malfunction or intermittent internet connectivity. Learners from socioeconomically disadvantaged and isolated backgrounds do not generally have access to devices, software or reliable internet on their own, which intensifies the pressures of limited computing skills.

Conclusions

Open distance learning (ODL) has many advantages such as equitable access, flexibility. There are many ways to engage in learning but there are also some challenges including unequal access to technology, motivation of students and peers, and being able to assess learning reliably. Overall, there is a need to address all the various challenges in ODL, in order to take advantage of all the possibilities available within the ODL. There must be an inventive ways and support systems for students to engage with the challenges presented in order to make the ODL successful. Institutions need to have sustainable resources available to implement effective digital literacy education for all students enrolled in ODL programs. There are pressing challenges such as digital literacy education, equitable access to technology for all students enrolled in ODL programs, and these challenges must be treated seriously. Offering customized coursework and online resources concerning essential computing skill sets related to ODL like how to use learning platforms, how to interact with other people, and how to submit digital assignments is essential.

Also, connecting students to peer mentorships by linking students to others who have experience in a digital learning environment is very critical. Facilitating students to have access and affordability to technology and the internet regardless of if that is subsidized technology or access to the internet is very key. To change the accessibility of the online learning environment, it must be as consistent and user-friendly for all the students, including those students with a minimum of technology literacy, to set them up for the best opportunity for learning. This is inclusive of, but certainly not limited to, intentional sequencing of course materials, expected functionality of navigating buttons, and short relevant syntax expected at different level of engagement and technology experience. It may be helpful to regularly check in with students on a computer competency knowledge test and provide quality feedback in a way that supports understanding and dialogue about the areas for further improvement. This reflective type of learning, in the educational process, is known as formative learning, as that information can direct students' knowledge of their capability and limitations in their digital literacy and help to develop and improve their continued learning experience. In anticipating these challenges, educators can help maintain an ODL setting and instil a more inclusive environment for all learners to thrive in a digital environment.

Acknowledgement

I wish to acknowledge The University of South Africa for financial support.

References

Journal of Ecohumanism
2025
Volume: 4, No: 4, pp. 2178–2186
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i4.6984

R. A. Rahimi and G. S. Oh, "Rethinking the role of educators in the 21st century: navigating globalization, technology, and pandemics," Journal of Marketing Analytics, vol. 12, no. 2, pp. 182–197, 2024.

A. Kunn-Nelen, "Employability: the race between skills obsolescence ¨ and lifelong learning," in Handbook of Education and Work, pp. 293– 316, Edward Elgar Publishing, 2025.

T. Molnar, S. Jenei, E. Moreno, V. P. Lakshmi, S. Malatyinszki, and L. D. ´ David, "The role of lifelong learning in labour market competitiveness," ´ Journal of Ecohumanism, vol. 3, no. 8, pp. 7743–7761, 2024.

K. Miller, C. Morley, B. J. Fraser, S. L. Gall, and V. Cleland, "Types of leisure-time physical activity participation in childhood and adolescence, and physical activity behaviours and health outcomes in adulthood: a systematic review," BMC Public Health, vol. 24, no. 1, p. 1789, 2024.

B. Niyomves, N. Kunacheva, and S. Kenaphoom, "The role of lifelong learning in navigating the future of work," in Modern management science practices in the age of AI, pp. 297–316, IGI Global, 2024.

M. I. Beane and P. M. Leonardi, "Pace layering as a metaphor for organizing in the age of intelligent technologies: Considering the future of work by theorizing the future of organizing," Journal of Management Studies, vol. 62, no. 5, pp. 2025–2052, 2025.

I. Vrdoljak, "The importance of lifelong education in modern economy," ENTRENOVA-Enterprise Research Innovation, vol. 10, no. 1, pp. 601– 617, 2024.

W. P. Thwe and A. Kalman, "Lifelong learning in the educational setting: A systematic literature review," The Asia-Pacific Education Researcher, vol. 33, no. 2, pp. 407–417, 2024.

D. M. O. Edwards-Fapohunda, "The role of adult learning and education in community development: A case study of New York," Iconic Research And Engineering Journals, vol. 8, no. 1, pp. 437–454, 2024.

A. Scott, M. E. Gath, G. Gillon, B. McNeill, and D. Ghosh, "Facilitators of success for teacher professional development in literacy teaching using a micro-credential model of delivery," Education Sciences, vol. 14, no. 6, p. 578, 2024.

H. Littman-Ovadia and P. Russo-Netzer, "Exploring the lived experience and coping strategies of fear of missing out (fomo) among emerging adults," Current Psychology, pp. 1–21, 2024.

I. Jung, "Personalized education for all: The future of open universities," Open Praxis, vol. 16, no. 1, pp. 24–36, 2024.

] L. Barua and B. B. Lockee, "A review of strategies to incorporate flexibility in higher education course designs," Discover Education, vol. 3, no. 1, p. 127, 2024.

M. Amini, L. Ravindran, and K.-F. Lee, "Adapting education shifts in Malaysia after covid-19: A comprehensive review of flexible assessments, lifelong learning initiatives, and diversified learning trajectories," Asian Journal of Assessment in Teaching and Learning, vol. 14, no. 1, pp. 1–14, 2024.

S. E. de Freitas Santos, E. M. D. F. Jorge, I. Winkler, M. L. V. Araujo, ´ A. S. Nascimento Filho, and H. S. P. Cardoso, "Conceptual model for virtual learning environments enhanced by artificial intelligence (2025)," Authorea Preprints, 2025.

K. Omona and M. K. O'dama, Global perspectives on micro-learning and micro-credentials in higher education. IGI Global, 2024.

H. Sharma, V. Jain, E. Mogaji, and A. S. Babbilid, "Blended learning and augmented employability: a multi-stakeholder perspective of the microcredentialing ecosystem in higher education," International Journal of Educational Management, vol. 38, no. 4, pp. 1021–1044, 2024.

A. M. Alomari, "Perceptions of faculty members on using moodle as a learning management system in distance education.," International Journal of Technology in Education and Science, vol. 8, no. 1, pp. 75– 110, 2024.

H. Debasu and A. Yitayew, "Examining elements of designing and managing of creating inclusive learning environment: Systematic literature review," International Journal of Special Education, vol. 39, no. 1, pp. 33–43, 2024.

M. Matsieli and S. Mutula, "Covid-19 and digital transformation in higher education institutions: Towards inclusive and equitable access to quality education," Education Sciences, vol. 14, no. 8, p. 819, 2024.

T. N. T. Dinh, H. Van Nguyen, A. T. L. Vu, P. M. Nguyen, T. T. A. Nguyen, and L. T. Phan, "The capacity of primary school inclusive teachers meets the requirements of the 2018 general education program," Multidisciplinary Science Journal, vol. 7, no. 3, pp. 2025170–2025170, 2025.

[22] M. Akintolu and S. E. Adewoye, "Systematic review of the role of open and distance education in achieving the sustainable development goals (sdgs)," International Journal of Learning, Teaching and Educational Research, vol. 23, no. 12, pp. 113–129, 2024.

M. R. M. Amin, I. Ismail, and V. M. Sivakumaran, "Revolutionizing education with artificial intelligence (ai)? challenges, and implications for open and distance learning (odl)," Social Sciences & Humanities Open, vol. 11, p. 101308, 2025.

A. Rodriguez-Ascaso, E. M. Molanes-Lopez, J. Perez-Martın, and E. Leton, "Performance of students with different accessibility needs ´ and preferences in "design for all" moocs," Plos one, vol. 19, no. 3, p. e0299090, 2024.

M. Seymour, "Enhancing the online student experience through the application of universal design for learning (udl) to research methods learning and teaching," Education and Information Technologies, vol. 29, no. 3, pp. 2767–2785, 2024.

L. N. Yeganeh, N. S. Fenty, Y. Chen, A. Simpson, and M. Hatami, "The future of education: A multi-layered metaverse classroom model for immersive and inclusive learning," Future Internet, vol. 17, no. 2, p. 63, 2025.

O. T. Akintayo, C. A. Eden, O. O. Ayeni, and N. C. Onyebuchi, "Inclusive curriculum design: Meeting the diverse needs of students for social improvement," International Journal of Applied Research in Social Sciences, vol. 6, no. 5, pp. 770–784, 2024.

J. Gisip, N. Ibrahim, S. Ratim, and F. S. Abdul Ghani, "Open educational resources (oer) in e-learning for higher education," International Journal of e-Learning and Higher Education (IJELHE), vol. 19, no. 2, pp. 449– 463, 2024.

B. Barman, "Beyond copyright walls: An introduction to creative commons, copyleft, and open educational resources," RESEARCH AND, p. 250, 2024.

Journal of Ecohumanism
2025
Volume: 4, No: 4, pp. 2178–2186
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i4.6984
B. K. Swain and R. K. Pathak, "Benefits and challenges of using oer in higher education: a pragmatic review," Discover Education, vol. 3, no. 1, p. 81, 2024.
A. A. M. Al-Balushi, Evaluating the Alignment of Open Educational Resources (OER) with Quality Standards at Al Buraimi University College (BUC) in the Sultanate of Oman. Sultan Qaboos University (Oman), 2024.
M. Zamiri and A. Esmaeili, "Methods and technologies for supporting knowledge sharing within learning communities: A systematic literature review," Administrative Sciences, vol. 14, no. 1, p. 17, 2024.
E. A. Ahmad, "Revolutionizing learning: leveraging social media platforms for empowering open educational resources," International Journal of e-Learning and Higher Education (IJELHE), vol. 19, no. 1, pp. 83–106, 2024.
L. A. T. Nguyen and A. Habok, "Tools for assessing teacher digital ´ literacy: a review," Journal of Computers in Education, vol. 11, no. 1, pp. 305–346, 2024.
S. Moustaghfir and H. Brigui, "Navigating critical thinking in the digital era: An informative exploration," International Journal of Linguistics, Literature and Translation, vol. 7, no. 1, pp. 137–143, 2024.
I. Kazanidis and N. Pellas, "Harnessing generative artificial intelligence for digital literacy innovation: A comparative study between early childhood education and computer science undergraduates," AI, vol. 5, no. 3, pp. 1427–1445, 2024.
D. Dasi˘c, M. I. Kostadinovi ´ c, M. Vlajkovi ´ c, and M. Pavlovi´c, "Digital´literacy in the service of science and scientific knowledge," International Journal of Cognitive Research in Science, Engineering and Education, vol. 12, no. 1, pp. 219–227, 2024.
C. A. Eden, O. N. Chisom, and I. S. Adeniyi, "Promoting digital literacy and social equity in education: Lessons from successful initiatives," International Journal of Management & Entrepreneurship Research, vol. 6, no. 3, pp. 687–696, 2024.
F. N. Memon and S. N. Memon, "Digital divide and equity in education: Bridging gaps to ensure inclusive learning," in Impact of Digitalization on Education and Social Sustainability, pp. 107–130, IGI Global, 2025.
M. A. S. Khasawneh, "The efficacy of a programme utilizing digital learning technology in fostering the life skills of students with learning disabilities," International Journal of Learning, Teaching and Educational Research, vol. 23, no. 4, pp. 18–33, 2024.
D. Gm, R. Goudar, A. A. Kulkarni, V. N. Rathod, and G. S. Hukkeri, "A digital recommendation system for personalized learning to enhance online education: A review," IEEE Access, vol. 12, pp. 34019–34041, 2024.
S. Rafiq, S. Iqbal, and A. Afzal, "The impact of digital tools and online learning platforms on higher education learning outcomes," Al-Mahdi research journal (MRJ), vol. 5, no. 4, pp. 359–369, 2024.
K. S. Kaswan, J. S. Dhatterwal, and R. P. Ojha, "Ai in personalized learning," in Advances in technological innovations in higher education, pp. 103–117, CRC Press, 2024.
K. Khelifi and H. Hamzaoui-elachachi, "Beyond'one-size-fitsall'teaching: Embracing the learner-centered paradigm through differentiated instruction," vol. 14, no. 2, pp. 708–726, 2024.
N. Goyibova, N. Muslimov, G. Sabirova, N. Kadirova, and B. Samatova, "Differentiation approach in education: Tailoring instruction for diverse learner needs," MethodsX, vol. 14, p. 103163, 2025.
C. D. Barbuceanu, "Exploring heutagogy-the digital twist in self- ˘ determined learning and education," Revista de Stiinte Politice. Revue des Sciences Politiques, no. 81, pp. 62–69, 2024.
W. M. Ndege, Learner support services, learner interactions and retention of students in open distance learning programmes: The case of selected universities in Kenya. PhD thesis, University of Nairobi, 2024.
V. J. Arockia, R. Vettriselvan, D. Rajesh, P. R. R. Velmurugan, and C. Cheelo, "Leveraging ai and learning analytics for enhanced distance learning: Transformation in education," in AI and Learning Analytics in Distance Learning, pp. 179–206, IGI Global Scientific Publishing, 2025.
P. R. Velmurugan, R. Swadhi, K. R. Varshney, J. C. Regins, and K. Gayathri, "Creating engaging and personalized learning experiences in distance education: Ai and learning analytics," in AI and Learning Analytics in Distance Learning, pp. 103–126, IGI Global Scientific Publishing, 2025.
O. Awoyemi, F. A. Atobatele, and C. A. Okonkwo, "Personalized learning in high school social studies: Addressing diverse student needs in the classroom," Journal of Frontiers in Multidisciplinary Research, vol. 5, no. 1, pp. 176–183, 2024.
O. O. Ayeni, N. M. Al Hamad, O. N. Chisom, B. Osawaru, and O. E. Adewusi, "Ai in education: A review of personalized learning and educational technology," GSC Advanced Research and Reviews, vol. 18, no. 2, pp. 261–271, 2024.
C. Zhao and Y. Wang, "A comprehensive assessment of self-leadership among students in China's ethnic regions: Insights and implications for higher education," Studies in Higher Education, vol. 50, no. 3, pp. 615– 637, 2025.
M. B. Al Zami, S. Shaon, V. K. Quy, and D. C. Nguyen, "Digital twin in industries: A comprehensive survey," IEEE Access, 2025.
A. Rumjaun and F. Narod, "Social learning theory—albert bandura," in Science education in theory and practice: An introductory guide to learning theory, pp. 65–82, Springer, 2025.
N. T. Saka, "Social learning theory," in Exploring Adult Education through Learning Theory, pp. 135–162, IGI Global, 2025.
A. L. Hijriyah, A. H. Putri, A. Setiyawan, and A. H. Badrisya, "The social cognitive theory by albert bandura and its implementation in arabic language learning," Mantiqu Tayr: Journal of Arabic Language, vol. 4, no. 2, pp. 626–639, 2024.
O. Yashenkova, "Enhancing democratic competences through action learning: from national initiative to coil projects," Action Learning: Research and Practice, pp. 1–21, 2025.
Y. Shengyao, H. Salarzadeh Jenatabadi, Y. Mengshi, C. Minqin, L. Xuefen, and Z. Mustafa, "Academic resilience, self-efficacy, and motivation: the role of parenting style," Scientific reports, vol. 14, no. 1, p. 5571, 2024.
L. Bognar and M. S. Khine, "The shifting landscape of student engagement: A pre-post semester analysis in ai-enhanced classrooms," Computers and Education: Artificial Intelligence, vol. 8, p. 100395, 2025.

Journal of Ecohumanism
2025
Volume: 4, No: 4, pp. 2178–2186
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i4.6984

L. Cairns, "Reinforcement," in The handbook of communication skills, pp. 209–234, Routledge, 2025.

A. Konstantinidis, "An integrative review of the literature on factors influencing student well-being in the learning environment," International Journal of Educational Research Open, vol. 7, p. 100384, 2024.

M. A. Alam, "Connectivism and traditional learning theories: Implications for contemporary educational and pedagogical practices," Bhartiyam Int. J. Educ. Res., vol. 14, pp. 1–24, 2024.

H. Mukhlis, E. Y. Haenilah, D. Maulina, L. Nursafitri, et al., "Connectivism and digital age education: Insights, challenges, and future directions," Kasetsart Journal of Social Sciences, vol. 45, no. 3, 2024.

W. Park and H. Kwon, "Implementing artificial intelligence education for middle school technology education in republic of korea," International journal of technology and design education, vol. 34, no. 1, pp. 109–135, 2024.

R. K. Yekollu, T. Bhimraj Ghuge, S. Sunil Biradar, S. V. Haldikar, and O. Farook Mohideen Abdul Kader, "Ai-driven personalized learning paths: Enhancing education through adaptive systems," in International Conference on Smart data intelligence, pp. 507–517, Springer, 2024.

P. Napier and T. Wada, "Bridging the skills gap: The design education landscape with ai and experiential learning," Design Management Journal, vol. 19, no. 1, pp. 19–30, 2024.

A. A. Azim and K. A. Azim, "Innovation in endodontic education—cliche or necessity? a perspective on post-graduate training," ´ International Endodontic Journal, 2025.

M. AbdAlgane and R. Ali, Strategies for e-learning in teaching English as a foreign language: digital pathways. Cambridge Scholars Publishing, 2024.

W. Strielkowski, V. Grebennikova, A. Lisovskiy, G. Rakhimova, and T. Vasileva, "Ai-driven adaptive learning for sustainable educational transformation," Sustainable Development, vol. 33, no. 2, pp. 1921– 1947, 2025.

D. Yadav, "Navigating the landscape of ai integration in education: opportunities, challenges, and ethical considerations for harnessing the potential of artificial intelligence (ai) for teaching and learning," BSSS Journal of Computer, vol. 15, no. 1, pp. 38–48, 2024.