Library Progress International
Vol.44 No. 3, Jul-Dec 2024: P. 15315-15322

Print version ISSN 0970 1052
Online version ISSN 2320 317X

Original Article

Available online at www.bpasjournals.com

Information literacy skills among undergraduate students: a comparative study of traditional vs. Digital learning environments

[1]Dr. Arvindkumar Bhadrashetty, [2]Dr. Prakash B, [3]Dr. Vinodkumar H

[1]Librarian, Government First Grade College Aland Dist: Kalaburagi Karnataka
arvind.bhadrashetty@gmail.com
[2]Librarian, Government First Grade College Bidar Dist: Bidar (Karnataka)
vagmare@gmail.com
[3]Librarian, Government First Grade College Jewargi Dist: Kalaburagi (Karnataka)
vinodkumarhosmani@gmail.com

How to cite this article: Arvindkumar Bhadrashetty, Prakash B, Vinodkumar H (2024) Information literacy skills among undergraduate students: a comparative study of traditional vs. Digital learning environments. *Library Progress International,* 44(3), 15315-15322

Abstract
In both traditional and digital learning environments, the study examines the benefits and challenges of helping undergraduate students build information literacy abilities. This research probes the benefits and challenges that emerge in the development of information literacy among undergraduate students in either traditional or digital learning environments. Basically, the primary aim is to assess how students perceive their own ability to exhibit information literacy skills while navigating the demands placed by their academic programs within these two settings. A mixed method approach consisting of both quantitative and qualitative techniques applied for first- and second-year undergraduate students in Karnataka was used to survey 500 participants in the research. Particular attention is paid toward the views of students regarding the role of undergraduate lecturers in the development of information literacy both online as well as offline.
Keywords:*Information Literacy, Undergraduate Students, Traditional Learning, Digital learning, Classroom Learning*

1. INTRODUCTION

The ability to use information effectively has become crucial in the knowledge-based world of today. The ability to seek, assess, and use information successfully has become essential for success in both academic and professional settings, as information has become more readily available and more easily accessible, especially through digital platforms. Universities are essential in helping students develop these abilities, but research on how various learning environments affect the development of information literacy is still underway.

1.1. Information Literacy

Finding, assessing, organising, utilising, and communicating information in all of its forms is known as information literacy. This skill is especially important when making decisions, solving problems, or learning new things. It combines research abilities, analytical abilities, computer technology abilities, and communication abilities. Academic achievement, efficient job performance, and active engagement in society as informed citizens all depend on information literacy.

1.2. Traditional Learning

Conventional education, sometimes referred to as face-to-face education or traditional learning, entails students physically visiting classrooms and engaging in one-on-one interactions with peers and teachers. This type of instruction places a strong emphasis on interactive learning, face-to-face interactions, and scheduled courses.
The instant feedback pupils receive from their lecturers is one of the main features of conventional learning. This in-the-moment communication facilitates idea clarification and individualised advice, leading to a more profound comprehension of the material. Furthermore, the physical presence of peers fosters social skill development and teamwork, resulting in a rich learning environment.

1.3. The Advantages of Traditional Learning

- **Enhancing Social Skills**

The chance that conventional education gives pupils to grow their social skills is one of its main advantages. Face-to-face interactions help students develop their ability to work with others, communicate clearly, and form deep connections. Their personal, intellectual, and professional life are improved by these priceless abilities.

Furthermore, traditional learning has a social component that goes beyond the classroom. In order to strengthen their social skills and widen their circle of friends and acquaintances, students might take part in extracurricular activities including clubs, sports teams, and group projects. In addition to providing a well-rounded educational experience, these interactions aid in the development of critical life skills in pupils, such as leadership, cooperation, and dispute resolution.

- **Structured Learning Environment**

Students can learn in a structured setting that is conducive to organisation and focus in traditional classrooms. Students are encouraged to develop time management skills, discipline, and a sense of responsibility when there is a defined timetable and expectations are met. They can thrive academically thanks to this foundation, which also gets them ready for new challenges.

Traditional learning environments are structured, giving pupils a feeling of routine and stability that can help them feel less stressed and anxious. Students can fully engage with the subject and maximise their learning capacity when they have a regular framework for learning and know what to expect each day. These factors can also help to a happy mentality and overall well-being.

- **Direct Interaction with Educators**

Students in traditional learning settings have direct access to knowledgeable teachers who act as mentors and advisors. Students can debate, clarify, and ask questions during face-to-face conversations, all while receiving individualised attention and immediate feedback. This face-to-face engagement develops critical thinking skills and a greater comprehension of the material.

Moreover, in a traditional context, the bond between teachers and students extends beyond academic assistance. Teachers frequently act as role models for their students, providing insightful guidance, inspiration, and support as they negotiate not only their academic obligations but also personal struggles and professional goals. Students' attitudes, aspirations, and prospects for success in the future may be significantly shaped by this individualised approach to education.

1.4. Digital Learning

Digital learning environments are central to endeavors to design, develop, and deliver learning opportunities. While Learning Management Systems or LMS are typically utilised in such endeavours, a number of alternative digital learning environments have been used. The notion of the learning environment is related with the constructivist movement, as attention has moved from the individual to the context, to the place and space around learning and instruction.

The Digital Learning Environment is a suite of tools that may be used to aid and promote effective teaching practices and extend your teaching and the learning experience for students beyond the constraints of typical teaching places in-class and online.

1.5. Traditional Learning vs Digital Learning

Traditional learning gives a more immersive and participatory experience, but digital learning is more flexible and convenient. Students develop a sense of community and the learning process is reinforced by in-person interactions and partnerships. Additionally, traditional learning facilitates prompt explanation and on-the-spot support, which improves the learning process overall.

In order to accommodate different learning styles, hands-on activities and real-world demonstrations are frequently included in traditional learning environments. Through tactile interactions, complicated concepts can be better understood and retained, providing a more comprehensive approach to teaching. In traditional classrooms, students participate actively and critically through conversations and debates that happen in real time.

2. LITERATURE REVIEW

Renaud, K. (2021) showed a considerable uniqueness in the experiences of the students from the partaking universities. The "home learning environment," "engagement," and the assessment of the "influence on learning abilities" were demonstrated to be the main differences. The review countries, South Africa, Wales, and Hungary, have shifting degrees of economic and digital development, which explains the varieties in the "home learning environment." At long last,

differentiating social foundations highlight a discernible variety in the support, engagement, and learning abilities of students.

Kim, S. (2021) demonstrated that in Finland and Korea, the intention to use digital apparatuses for learning is directly impacted by data literacy. There is a slight correlation between increased data literacy and higher intentions to use digital technologies for learning. Digital literacy mediumly affects intention to utilize technologies, and its influence is completely mediated by propensity and performance expectancy. Multigroup analysis (MGA) was employed in this review to investigate potential differences between respondents from Finland and Korea regarding the influence of data and digital literacy on the intention to utilize digital technology for learning. Recommendations for further research as well as theoretical and reasonable consequences are explored considering these discoveries.

Kharakhordina, M. (2020) examine the teachers' level of digital literacy as well as the potential and promising trends in digital didactics for the development of competences that will serve as the establishment for a new learning model developed in the context of the emergence of a digital knowledge society. There have been two essential approaches: a survey and the legitimate and digest model's elaboration. The review made use of information from a survey that the NAFI Logical Center conducted in 2018 to gauge the degree of digital literacy among Russian lecturers and professors. There were 555 general education teachers and 634 higher education lecturers among the responders. Based on the instructional learning triangle, the digital literacy arrangement model was created with consideration for the integration of three learning environments: real, virtual, and neuropsychological.

Alt, D., & Raichel, N. (2020) investigated the chance of utilizing gamified problem-based learning (henceforth: the intervention) to improve undergraduate students' creative self-concept and digital literacy (DL) abilities. The review's underlying phase involved creating and approving an effective apparatus to gauge how well students thought they understood their DL abilities. Step 2 used an interventional concentrate on design with a semi experiment to verify the research hypotheses. To achieve this, data was acquired from two gatherings of education students: the research bunch and the benchmark group, which didn't receive the intervention. Two surveys were conducted on the members' reported DL abilities and creative self-concept (CSC): one before the three-month intervention (pretest) and one after (posttest). At last, to comprehend the outcomes of the quantitative information analysis better, qualitative information was gathered and examined (Step 3).

Audrin, C., & Audrin, B. (2022) intends to provide an exhaustive overview of the research area of the fuse of digital literacy into teaching and learning. It uses text mining to go through 1037 research distributions that were published on the point between 2000 and 2020. This research indicates that a number of terms are associated with digital literacy. Furthermore, our review identifies six key components that are present all through the literature: data literacy, digital learning, developing digital literacy, ICT, virtual entertainment, and twenty-first-century digital abilities. These components fall into three primary categories: 1) 21st-century digital abilities; 2) digital literacy; and 3) digital learning.

3. RESEARCH METHODOLOGY

A mixed-methods strategy was used to accomplish the study's goals, integrating qualitative and quantitative research techniques to offer a thorough understanding of undergraduate students' information literacy abilities in both traditional and digital learning environments.

3.1. Participants

The participants selected were 500 in total, from two different academic years, two cohorts of undergraduate students. From the respondents, 56 percent are economics majors who come in the first year, 44 percent are management majors in the second year. This has enabled an understanding of the influence of these two factors on the ability of undergraduate students to navigate information across different learning contexts.

3.2. Data Collection

A combination of questionnaires and structured interviews were used to collect the data. The questionnaires included thirty well prepared questions in both open-ended and closed-ended versions. Open-ended questions gave participants the chance to elaborate on their ideas and observations, whereas closed-ended questions were intended to measure students' opinions and experiences with relation to their information literacy abilities. A deeper comprehension of the subtle differences between students' perceptions and experiences of traditional and digital learning environments was made possible by this dual approach.

3.3. Survey Administration

Both online and in-person administration of the surveys was done to optimise participation and guarantee a wide variety

of replies. The online questionnaires were sent to students enrolled in the chosen courses through email and social media channels. In-person surveys were administered in classroom environments, providing an instantaneous opportunity to interact with students and address any queries they might have had about the survey.

4. DATA ANALYSIS

The survey's questions focused on the attitudes of students towards traditional and online learning environments, as well as the challenges and benefits of distance learning. The distinctions between a teacher's job in a classroom setting and one conducted virtually was another question posed to the pupils.

Table 1: Preferred forms of education

Preferred forms of Education	Frequency	Percentage (%)
Traditional Learning	150	30.0%
Online Education	125	25.0%
Hybrid Learning	225	45.0%
Total	500	100

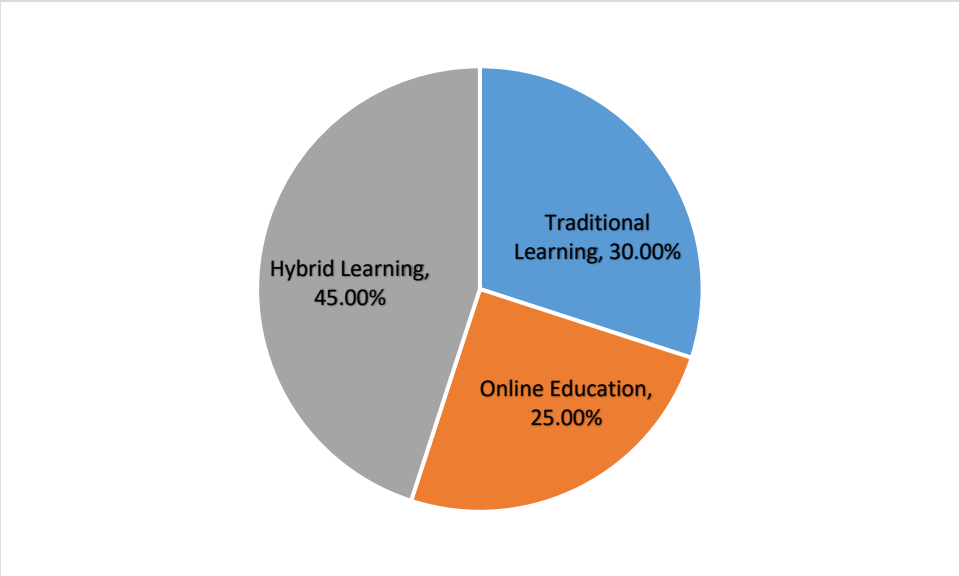

Figure 1: Preferred forms of education

Table 1 presents the preferred modes of education for the 500 participants. With 45% of respondents favouring hybrid learning—which blends traditional and online methods—it was determined to be the most popular choice. This suggests that a sizable percentage of students like the balance and flexibility that hybrid learning offers. Thirty percent of respondents selected traditional learning, indicating that a sizable portion of students still value in-person interactions and the regimented setting of traditional classrooms. Only 25% of students choose online learning, making it the least popular option. This could be due to factors including lower participation and possible technological issues.

Depending on the learning purpose, hybrid education is thought to be a successful method that combines components of digital education, creative teaching and learning strategies, and traditional classroom activities.

Table 2: Advantages and Disadvantages of Distance Education as Perceived by Students

Advantages of Distance Education	**Frequency**	**Percentage of Respondents (%)**
Saving Time	400	80%
Availability and Flexibility	375	75%
Comfort	100	20%
Innovative Technologies and Teacher's Individual Approach	50	10%
Disadvantages of Distance Education		**Percentage of Respondents (%)**
Difficulty in Understanding Learning Material	175	35%
Reduced Involvement in Education Process	150	30%

Lack of Direct Teacher-Student Communication	125	25%
Lack of Socialization	200	40%
Internet Connection Problems	100	20%
Insufficient Technology Skills of Teachers	75	15%
Screen Fatigue	250	50%
Lack of Motivation to Learn	150	30%

Based on student replies, Table 2 displays the perceived benefits and drawbacks of remote learning. Time-saving was cited by 80% of respondents as one of the main benefits, and availability and flexibility provided by distance learning were valued by 75% of respondents. Twenty percent of students emphasised comfort, while ten percent emphasised the utilisation of cutting-edge technologies and customised teaching methods. Still, a number of difficulties were also mentioned. Screen weariness, which affects 50% of pupils, has emerged as the biggest drawback. In addition, 35% reported having trouble understanding the course materials, and 40% mentioned a lack of socialisation. Reduced participation in the educational process (30%), a lack of direct communication between teachers and students (25%), problems with internet connectivity (20%), teachers' inadequate use of technology (15%), and a lack of desire to study (30%) were among the other complaints. These results show that people's perceptions of remote learning are conflicted, with difficulties with participation and technological aspects outweighing its flexibility and convenience.

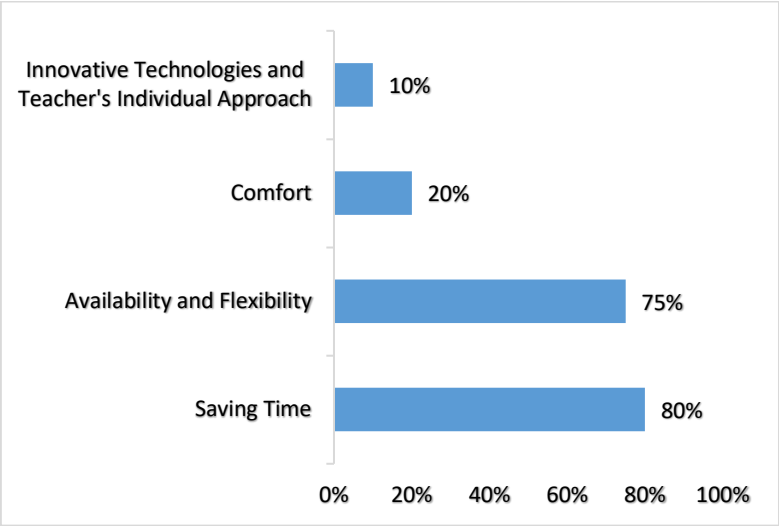

Figure 2: Advantages of Distance Education

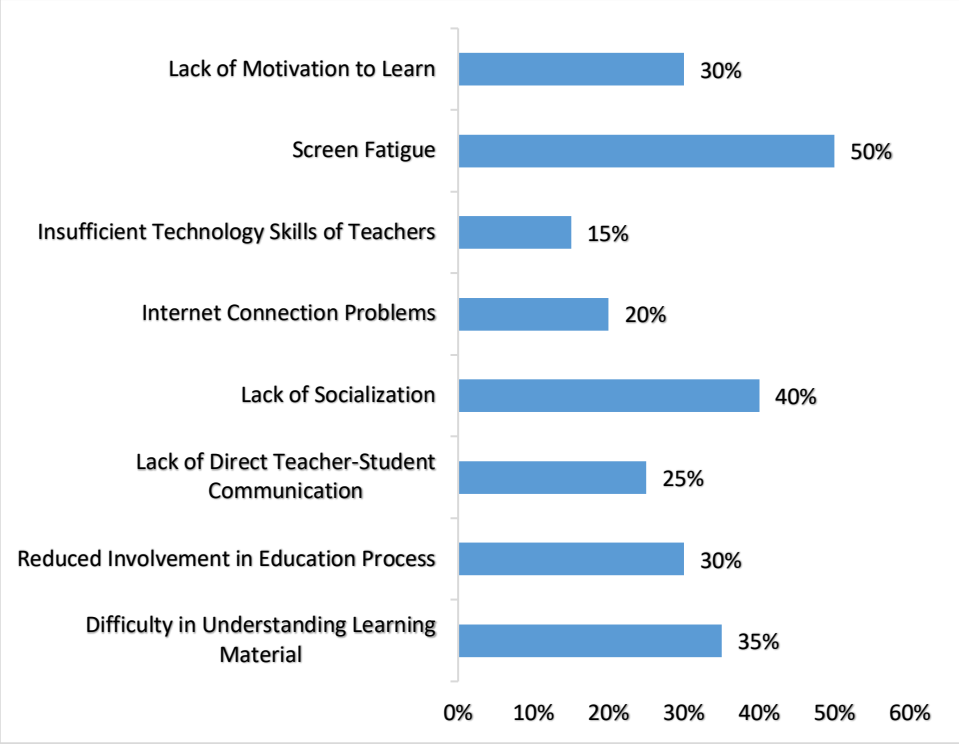

Figure 3: Disadvantages of Distance Education

Table 3: Students' Perceptions of the Role of Undergraduate Teachers in Traditional vs. Digital Learning Environments

Perception of Undergraduate Teacher Role	**Frequency/Percentage (%)**
Emphasized Teaching and Transferring Knowledge	80%
Expectations for Effective Teaching	
Teach Well	85%
Explain in Simple Terms	78%
Present Material Engagingly	82%
Recognized Roles (e.g., Mentor, Tutor)	10%
Identified Teacher as a Supportive Figure	13%
Focus on Personal Characteristics	
Patience, Inspiration, Flexibility, Effective Communication	70%
Mentioned Usage of Modern Technologies	30%
Acknowledged Teacher's Power to Enhance Learning Environment	92%
Agreement on Teacher's Role in Student Motivation	100%

Students' perceptions of the function of undergraduate lecturers in traditional versus digital learning situations are shown in Table 3. A sizable majority (80%) emphasised the importance of imparting knowledge and underlined the need for competent instruction; specifically, 85% of respondents desired their professors to "teach well," 78% favoured clear explanations, and 82% thought highly of engaging presentations. Merely 13% of respondents considered instructors to be supporting characters, whereas just 10% recognised roles like tutor or mentor. There was a clear emphasis on human qualities; 70% of respondents said that qualities like inspiration, patience, adaptability, and effective communication were essential for instructors. Furthermore, thirty percent of students acknowledged the value of using technology in the classroom today. Additionally, a startling 92% of respondents recognised that teachers can enhance the learning environment, and 100% of respondents felt that teachers are crucial in motivating students.

Table 4: Preferred forms of teacher-student interaction

Aspect of Teacher-Student Interaction	Response	Percentage of Respondents (%)
Preference for Direct Communication	In the Classroom	39.50%
Preference for Online Communication	Online Interaction	15.80%
Perception of No Significant Difference	No Difference in Communication Impact	44.70%

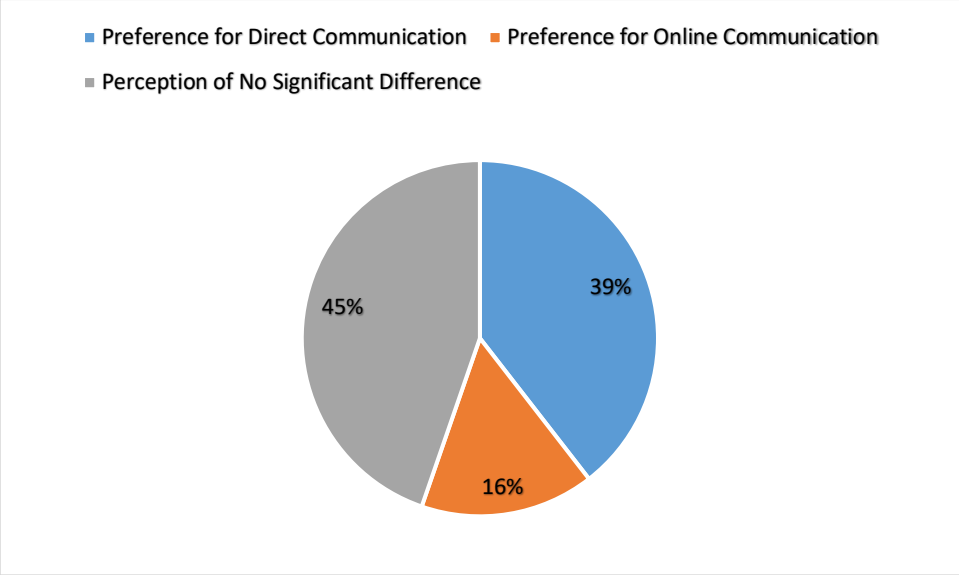

Figure 4: Preferred forms of teacher-student interaction

Students' favoured ways of teacher-student interaction are displayed in Table 4. Notably, 39.5% of respondents said they preferred direct connection in the classroom, demonstrating a substantial preference for in-person contact. However, only 15.8% of students preferred corresponding with their lecturers online, indicating that most people find digital connection less engaging. It's interesting to note that 44.7% of students felt there was no discernible difference in how different communication approaches affected their education.

5. CONCLUSION

The results of the study show that college students in Karnataka who are enrolled in traditional and digital learning environments differ significantly in their information literacy skills. The findings demonstrate a preference for hybrid learning, suggesting that students believe combining the two methods will enhance their learning. Digital education has numerous advantages, including flexibility and time savings, but it also has disadvantages, like poor student participation and understanding problems. According to the survey, college teachers in Karnataka are crucial in helping students learn successfully. Students also emphasise the importance of personal qualities and effective teaching techniques.

REFERENCES

1. *Affouneh, S., Salha, S., & Khlaif, Z. N. (2020). Designing quality e-learning environments for emergency remote teaching in coronavirus crisis. Interdisciplinary Journal of Virtual Learning in Medical Sciences, 11(2), 135-137.*
2. *Al Mamun, M. A., Lawrie, G., & Wright, T. (2020). Instructional design of scaffolded online learning modules for self-directed and inquiry-based learning environments. Computers & Education, 144, 103695.*
3. *Alt, D., & Raichel, N. (2020). Enhancing perceived digital literacy skills and creative self-concept through gamified learning environments: Insights from a longitudinal study. International Journal of Educational Research, 101, 101561.*
4. *Audrin, C., & Audrin, B. (2022). Key factors in digital literacy in learning and education: a systematic literature review using text mining. Education and Information Technologies, 27(6), 7395-7419.*
5. *Bygstad, B., Øvrelid, E., Ludvigsen, S., & Dæhlen, M. (2022). From dual digitalization to digital learning space: Exploring the digital transformation of higher education. Computers & Education, 182, 104463.*
6. *Carter Jr, R. A., Rice, M., Yang, S., & Jackson, H. A. (2020). Self-regulated learning in online learning environments: strategies for remote learning. Information and Learning Sciences, 121(5/6), 321-329.*

7. *Castro, M. D. B., & Tumibay, G. M. (2021). A literature review: efficacy of online learning courses for higher education institution using meta-analysis. Education and Information Technologies, 26(2), 1367-1385.*
8. *Chiu, T. K., Lin, T. J., & Lonka, K. (2021). Motivating online learning: The challenges of COVID-19 and beyond. The asia-pacific education researcher, 30(3), 187-190.*
9. *Cranfield, D. J., Tick, A., Venter, I. M., Blignaut, R. J., & Renaud, K. (2021). Higher education students' perceptions of online learning during COVID-19—A comparative study. Education Sciences, 11(8), 403.*
10. *Ferrer, J., Ringer, A., Saville, K., A Parris, M., & Kashi, K. (2022). Students' motivation and engagement in higher education: The importance of attitude to online learning. Higher Education, 83(2), 317-338.*
11. *Ivanov, I., Cobo, J. C., & Kosonogova, M. (2020). Implementation of developmental education in the digital learning environment. Procedia Computer Science, 172, 517-522.*
12. *Jang, M., Aavakare, M., Nikou, S., & Kim, S. (2021). The impact of literacy on intention to use digital technology for learning: A comparative study of Korea and Finland. Telecommunications Policy, 45(7), 102154.*
13. *Kaufmann, R., & Vallade, J. I. (2022). Exploring connections in the online learning environment: student perceptions of rapport, climate, and loneliness. Interactive Learning Environments, 30(10), 1794-1808.*
14. *Liu, Z. J., Tretyakova, N., Fedorov, V., & Kharakhordina, M. (2020). Digital literacy and digital didactics as the basis for new learning models development. International Journal of Emerging Technologies in Learning.*
15. *Müller, C., & Mildenberger, T. (2021). Facilitating flexible learning by replacing classroom time with an online learning environment: A systematic review of blended learning in higher education. Educational Research Review, 34, 100394.*

1.