A Systematic Review: Criteria and Dimensions of Learning Experience

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Abstract: There has been an increased interest in evaluating students' learning experiences in various academic domain. Some authors consider it an important aspect of education to assess the effectiveness of instructional methods, while others aim to enhance the quality of teaching and learning. Various perspectives can be highlighted, as many articles refer to the learning experience and its evaluation differently. However, few studies provide an explicit dimension to characterize it. Therefore, this study investigates how the learning experience is described in scientific literature, and what criteria are used to characterise learners' learning experiences. This work aims to answer the following questions: Are there any theories used to examine the learning experience? What are the principal dimensions of a learning experience? How did the studies evaluate the learning experience? This literature review aims to provide an overview of research related to the learning experience and its evaluation. The study includes journal articles published in *ScienceDirect*, *Springer*, *Wiley, IEEE Xplore Digital Library*, and *Google Scholar* from January 2012 to November 2022. The PRISMA method was used to conduct a systematic review for this work. After identifying, screening, and synthesising relevant literature (Moher et al., 2009), 68 articles were selected, of which 20 will be addressed in this research stage. The selected studies employ various methods to evaluate the learning experience, including questionnaires, surveys, and scales, and they are conducted in various educational contexts, such as medical education, biology, language teaching, etc. The review analysis shows three principal dimensions of learning experience: the learner's perception of the learning environment, their attitudes and behavior in learning, and the learning activities. The study's findings also highlighted that "learning experience" is used as a broad concept to describe specific teaching and learning scenarios or activities. Furthermore, few references from educational sciences have been identified to characterise it. This article delineates the dimensions characterising the learning experience, which helps develop and design new teaching and learning solutions.

Keywords: Learning Experience, Evaluation, PRISMA Method, Systematic Review, Instructional Design, Teaching Quality.

1. Introduction

Learning is a lifelong journey, and our experiences shape our understanding and perception of the world to some extent. The learning experience can be considered as an interaction between the learner and the environment (Dewey, 1938), whether in a classroom, an online course, or a virtual setting. This term is also frequently used to describe specific teaching and learning scenarios or activities (Ning & Downing, 2011). In the literature, student's learning experience is often related to the flow experience (Li & Liu, 2023), the user experience (Santoso et al., 2014; Az-zahra et al., 2020), and the experiential learning (Reed, 2012; Mor et al., 2018; Grota & O'Neal, 2020). Ning et Downing (2011, p.766) define learning experience as "interpreted as students' interaction with the teaching and learning environment", and Liu (2022, p. 198) states that "learning experience consists of all the feelings that the learner may experience and the results of his interactions with environments during the learning process."[1] Despite these various definitions, there is still a lack of consensus on the key characteristics and dimensions that make up a high-quality learning experience. Without a clear understanding of these factors, it is challenging for educators and instructional designers to create engaging and effective learning environments. Regarding these definitions, the learning experience evaluation can be understood as a general term used to encompass the process of evaluating the effectiveness of a learning experience which includes the evaluation of environment, instructional design, technology, and interaction with teachers and peers. Indeed, the evaluation of the learning experience can be considered as a form of feedback from learners on teaching and learning, allowing learners to express their thoughts, feelings, and perception about the learning experience and giving educators or instructional designers valuable insight into how to

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[1] "L'expérience d'apprentissage consiste en l'ensemble des ressentis que l'apprenant peut éprouver et les résultats de ses interactions avec son environnement durant le processus d'apprentissage" (Liu, 2022, p. 198).

improve their activities. Therefore, it remains necessary to identify and characterise the essential dimensions of the learning experience to develop evidence-based practices and evaluation criteria that support effective teaching and learning.

This study aims to comprehensively review scientific articles on the learning experience and its evaluation. The objective is to understand better the theories used to characterise the learning experience, potential dimensions of learning experiences, and criteria for their evaluation. The theoretical background of the learning experience is presented in section 2. Section 3 then explains the adopted method for article searching, selection, and analysis. The main findings that emerged from the study of the selected articles are presented in section 4, and finally, the conclusion of this work is detailed in section 5.

2.   Theoretical Background of Learning Experience

Learning experience refers to all the processes undertaken by an individual in a learning context. It focuses on creating engaging and meaningful learning experiences that enhance knowledge retention and application. One of the most influential works related to learning and experience is Kolb's (1984) Experiential Learning Theory, which suggests that learning occurs through a cycle that includes concrete experience, reflective observation, abstract conceptualisation, and active experimentation. Another prominent framework is Merrill's (2002), First Principles of Instruction, which identifies five elements of effective learning experiences: activation, demonstration, application, integration, and facilitation. The concept of learning experience can also be linked to the work of John Dewey. Dewey's ideas about experiential learning and the importance of active, hands-on learning experiences still influence educational theory and practice today. Dewey (1938) argued that learning is not simply a matter of acquiring knowledge or skills but an ongoing process of inquiry and problem-solving that is deeply connected to one's experiences and environment. He believed that education should be focused on helping individuals develop critical thinking skills and the ability to reflect on and learn from their experiences. Furthermore, Dewey emphasized the importance of learning experiences that are relevant and meaningful to learners' lives. In his view, learning is most effective when it is connected to real-world problems and challenges, and when learners are actively engaged in the process of discovery and exploration (Dewey, 1916). In contemporary research on learning and teaching, scholars have built upon Dewey's ideas by exploring how technology can be used to create engaging and meaningful learning experiences. For example, the use of simulations, games, and virtual environments can provide learners with opportunities to explore complex concepts and practice real-world skills in a safe and controlled environment (Sitzmann & Ely, 2011). Recently, technology has played an increasingly important role in shaping the learning experience. The use of simulations, gamification, virtual and augmented reality, and artificial intelligence has the potential to create immersive and personalized learning experiences (Lee & Wong, 2020). In all, creating a meaningful learning experience is essential for learners in all areas for the effectiveness of learning.

3.   Research Method

In this study, the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) research method is employed to conduct a comprehensive review of the literature (Moher et al., 2009). This method provides a structured framework for conducting systematic reviews, ensuring transparency and rigour in the selection and analysis of articles. After the initial screening process, we conducted a thorough assessment of the full-text articles, applying specific exclusion criteria to ensure the inclusion of only high-quality studies. The following sections will provide a detailed account of the selected studies, data analysis methods, and key findings.

3.1 Targeted Database and Selection Criteria

This systematic review has been conducted within the extensively used database by the academic community: *ScienceDirect, Springer, Wiley, IEEE Xplore Digital Library, and Google Scholar.* The study focuses on the peer-reviewed journal articles published over the past ten years, in other words, published between January 2012 and November 2022. The inclusion and exclusion criteria of articles selection are as below:

Table 1: Inclusion and exclusion criteria

Criteria	Inclusion	Exclusion
Publication Period	January 2012 to November 2022	Before January 1, 2012, and after November 30, 2022
Publication Type	Peer reviewed journal article	No peer reviewed journal article
Thematic focus	Focus on learning experience and its evaluation: learning experience and evaluation in title	not focus on learning experience and its evaluation: learning experience and evaluation not in title
Population	All kinds of learners	No exclusion
Research type	Reflective, theoretical, conceptual articles, systematic review	Not concentrate on teaching or learning
Language	Articles published in English	Articles not published in English

3.2 Articles Selection

To focus on published works on the evaluation of learning experiences, we used the keywords and Boolean operator "learning experience" AND "evaluation" for title searches. We have chosen these keywords with the expectation that the articles will highlight the necessary criteria, characteristics, and dimensions to define the learning experience. Based on the specified criteria, 14 journal articles from ScienceDirect, 48 articles from Springer, 3 from Wiley, 30 from IEEE Xplore Digital Library, and 100 from Google Scholar were found during the identification step. Figure 1 below illustrates the three phases of the article selection process (Page et al., 2021):
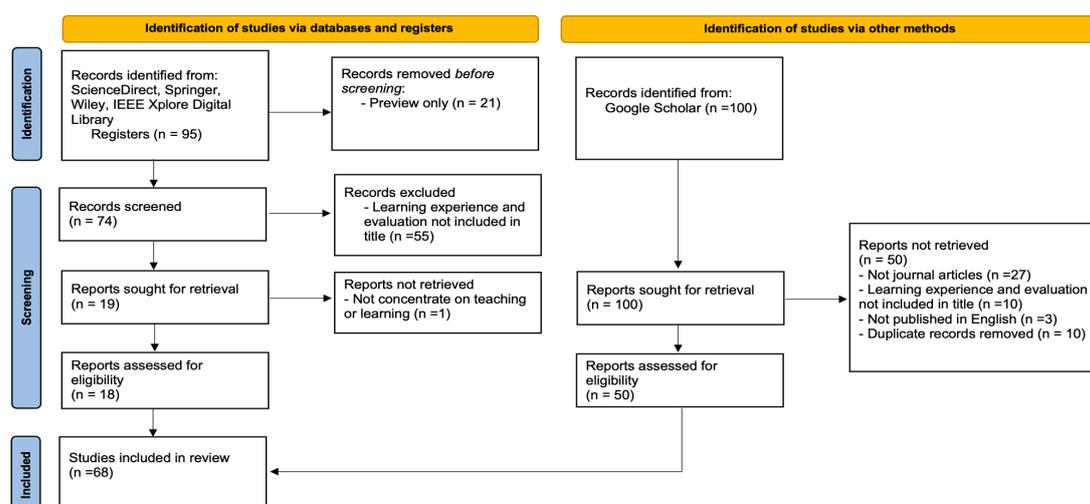

Figure 1: PRISMA flow diagram of the study

3.3 Analysis Method

After selecting the articles, each author independently reads several articles and creates summaries that fill in a comprehensive table containing information such as the article's authors, title, research domain, study characteristics, journal name, sample size and characteristics, methods and measuring instruments, research objectives, use of digital technologies or learning materials, learning type/procedure, learning activity, theories used and emerging characteristics, learning outcomes, proposed definition of learning experience, study results, and discussion. Then, we synthesised the dimensions describing learning experiences, criteria or indicators characterising these dimensions, and the theories mentioned in the articles. If an article does not explicitly mention these aspects, the authors will interpret the learning experience based on the article's main idea. The authors then organised several brainstorming sessions to extract primary dimensions and learning experience evaluation criteria from the selected articles. The current study is grounded on the analysis carried out on 20 out of the 68 chosen articles selected randomly.

4. Results

The chosen articles span four key domains: six pertain to education (Az-zahra et al., 2020 ; Chogo, 2020 ; Hendal et Alkhezzi, 2021 ; Al-smadi et al., 2022; Ogeyik, 2022 ; Lakeman et al., 2022) ; one focuses on veterinary education (Mor et al., 2018), twelve discuss healthcare and medical education (Reed, 2012; Paliadelis et al., 2015 ; Smith et al., 2013; Díaz et al., 2016 ; Björn, 2017 ; Ferguson et al., 2017 ; Kang et Suh, 2018 ; Grota & O'Neal, 2020 ; Lamprect et al., 2020; Guasconi et al., 2021; Riley et al., 2022; Prosen et al., 2022), and one examines scientific studies (Leitão et al., 2021). A few articles use theoretical support related to the learning experience, but they do not specifically define it. Out of these twenty articles, only three mention the theory of experiential learning (Reed, 2012; Mor et al., 2018; Grota & O'Neal, 2020). Most of the studies aim to understand and improve the learning experience particularly in the context of online (Paliadelis et al., 2015; Chogo, 2020; Hendal et Alkhezzi, 2021; Al-smadi et al., 2022; Prosen et al., 2022), and simulation-based learning without technologies (Díaz et al., 2016; Grota & O'Neal, 2020). Those includes determining elements related to student satisfaction (Díaz et al., 2016; Al-smadi et al., 2022), identifying user experience problems in e-learning applications (Az-zahra et al., 2020), and evaluating the effectiveness of teaching strategies (Kang et Suh, 2018; Lakeman et al., 2022). Several studies also aim to develop, validate, or translate measuring tools or scales to assess the learning experience (Grota & O'Neal, 2020; Guasconi et al., 2021; Prosen et al., 2022).

4.1 Learning experience dimensions

Through the steps outlined above, three main dimensions (activity, perception, and attitudes & behaviours) and eleven corresponding sub-dimensions (interaction, collaboration, technical and pedagogical aspects, relationship to knowledge, to competency, to learning, self-efficacy, satisfaction, motivation, and engagement) are identified. These results are then used to define the main characteristics that shape learning experiences in the selected articles.
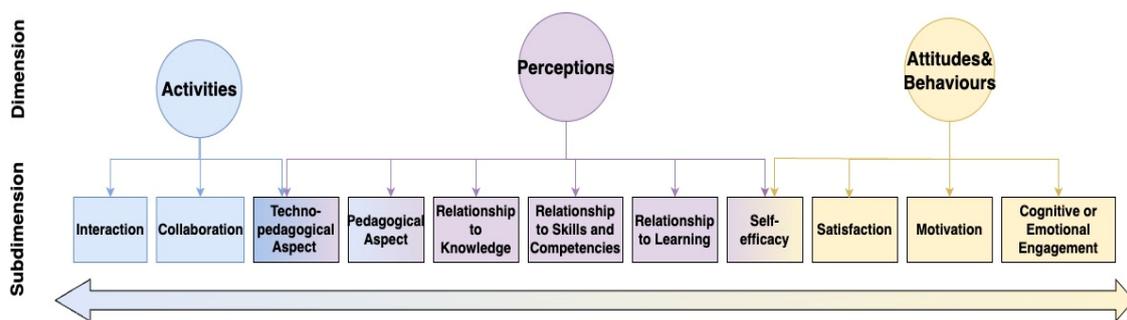

Figure 2: Dimensions and their sub-dimensions of the learning experience

4.1.1 Activities

According to those articles, learning experiences are activities related to any task learners perform, individually or collaboratively, to achieve specific learning outcomes. These activities can involve various levels of interaction between learners and educators (Björn, 2017; Lamprect et al., 2020; Ogeyik, 2022; Prosen et al., 2022), and the learning environment or resources (Grota & O'Neal., 2020; Hendal et Alkhezzi, 2021; Ogeyik, 2022; Prosen et al., 2022), to foster engagement, understanding, and skill development. The selected articles also pointed out that activity is related to techno-pedagogical and pedagogical aspects. Although technology does not always use and presented as a key element to enhance learning, Díaz et al. (2016), Reed (2012), and Grota & O'Neal (2020) agreed that the technological aspects play crucial roles in shaping the effectiveness of learning activities. Furthermore, the design and implementation of technology-enhanced learning environments, such as e-learning platforms (Al smadi et al., 2022; Prosen et al., 2022) and simulations (Grota & O'Neal., 2020; Riley et al., 2022), are also considered essentials to facilitate active and collaborative learning.

Interactions refer to the actions taken by learners in response to information they perceive within a learning context, and these can manifest in various ways, such as engagement with teachers (Björn, 2017; Ogeyik, 2022; Prosen et al., 2022; Lamprect et al., 2020), with peers (Björn, 2017; Ogeyik, 2022; Prosen et al., 2022; Lamprect et al., 2020), or with specific learning resources or activities (Smith et al., 2013; Grota & O'Neal., 2020). When learners interact with teachers or tutors, the interaction may involve various actions such as discussions for knowledge validation, encouraging learner accountability, engaging in learning activities, and exchanging

feedback. These interactions help improve learners' self-efficacy and overall learning outcomes (Björn, 2017; Lamprect et al., 2020; Ogeyik, 2022; Prosen et al., 2022). Peer interactions can take various forms, such as group discussions, teamwork, and collaborative projects. Sometimes, these interactions occur across different levels, with more experienced learners guiding novices (Björn, 2017; Ogeyik, 2022; Prosen et al., 2022; Lamprect et al., 2020). Learners can also interact in specific learning activities using different tools and methods used in the learning process, such as simulators (Grota & O'Neal., 2020), e-learning courses (Hendal & Alkhezzi, 2021; Lamprect et al., 2020), educational materials (Lakeman et al., 2022), or role-playing situations (Smith et al., 2013). These interactions are often mediated by specific resources or instruments, such as chat platforms, forums, or learning management systems (Prosen et al., 2022; Ogeyik, 2022).

Collaboration in a learning experience refers to the process and action of working together with others (peers or between teachers and learners) to achieve a common goal or complete a shared activity. It can occur in various settings and facilitate learning through face-to-face interactions (Ferguson et al., 2017; Björn, 2017), digital environments (Leitão et al., 2021; Ogeyik, 2022), or even role-playing games (Smith et al., 2013). Collaboration is beneficial in various learning situations, such as practical training, where students from different years or backgrounds can learn from each other and enhance their knowledge (Lamprecht et al., 2020). However, it may not always be efficient for theoretical learning, especially when the gap in knowledge levels among participants is significant (Lamprecht et al., 2020). In some instances, such as game-based learning, collaboration is preferred over competition, fostering a cooperative learning environment (Leitão et al., 2021).

Furthermore, teachers often use techno-pedagogical aspects to create an effective and engaging learning environment that supports and enhances the learning process. This aspect is the integration of both technical and pedagogical components within a learning experience. From a technical perspective, the learning experience can be considered a series of interactions between the learner and the tools, technologies, or digital environments implemented to facilitate learning. These tools and technologies can include e-learning devices (Al Smadi et al., 2022; Prosen et al., 2022), online learning platforms (Hendal & Alkhezzi, 2021), simulations or software (Björn, 2017; Grota & O'Neal., 2020), and mobile devices such as online tutoring mobile applications (Az-zahra et al., 2020). Additionally, fluid, smooth, intuitive navigation can provide students with a better learning experience (Al Smadi et al., 2022). In contrast, bugs or lack of in-person contact hinder the learning experience (Al Smadi et al., 2022; Hendal & Alkhezzi, 2021). From a pedagogical perspective, the learning experience is described as a teaching and learning process to develop the learner's knowledge, skills, and attitudes. In this context, the learning experience is designed to be interactive, collaborative, and learner-centred, allowing the learner to participate in their learning actively. It relies on learning scenarios that alternate individual and group work, interaction with peers, collaborative projects as presented in serious games, and interactions with digital learning spaces (Riley et al., 2022; Björn, 2017). Indeed, the technical and pedagogical aspects must be perceived as an indissociable combination, forming a balanced ensemble that contributes to the learning experience.

4.1.2 Perceptions

From the chosen articles, we deduce that the way learners perceive their learning experience can be shaped by various factors, such as pedagogical and technical elements (Björn, 2017; Grota & O'Neal., 2020; Hendal & Alkhezzi, 2021; Al Smadi et al., 2022; Prosen et al., 2022), their connection with knowledge (Reed, 2012; Paliadelis et al., 2015; Díaz et al., 2016; Mor et al., 2018; Grota & O'Neal., 2020; Chongo, 2020; Riley et al., 2022) and skills (Reed, 2012; Smith et al., 2013; Mor et al., 2018; Grota & O'Neal., 2020; Lamprect et al., 2020), including the learning process itself, and their self-efficacy (Díaz et al., 2016; Kang et Suh, 2018; Guasconi et al., 2021; Prosen et al., 2022; Riley et al., 2022). This perception is significant as it greatly affects learners' attitudes toward the act of learning. The perception of the learning experience relies on the subjectivity of the learners and the meaning they give to the learning situation. Furthermore, technical, and pedagogical aspects of learning environments also play a crucial role in shaping learners' perceptions. These aspects include the use of technology, instructional design, and teaching strategies employed in the learning process.

The relationship to knowledge can be defined as how people perceive, apprehend, and use knowledge and how they refer to and acquire it through their learning experiences (Hofer et Pintrich, 1997). Teaching methods, learning approaches, and educational systems are key aspects that influence one's relationship to knowledge. In the various selected articles, knowledge acquisition is stated as the goal or the desired outcome of any learning experience. Indeed, much effort in terms of scenario writing and pedagogical design must be ensured to match the knowledge that needs to be acquired and what learners already possess (Díaz et al., 2016; Paliadelis et al, 2015; Mor et al., 2018). Although the relationship to knowledge is not always explicitly mentioned in

articles, it is underlying and appears as a concern for designing and developing various learning devices or pedagogical methods.

Skills and competencies development is also the desired outcome of learning. The articles considered skills and competencies as technical gestures that must be mastered through repeated experimentation or as abilities to make decisions or solve complex problems (Grota & O'Neal., 2020). Therefore, at the heart of scenario writing and design, how skills will be solicited, developed, acquired, and transferred plays an essential role in any learning experience. This aspect also depends on the professional and didactic skills of the tutor (Reed, 2012). The skills targeted may vary depending on the topic and learning subjects. However, they are generally linked to those required in the professional world (Smith et al., 2013; Grota O'Neal, 2020), while questions related to knowledge development tend to be more relevant to university learning experiences (Lakeman et al., 2022; Hendal & Alkhezzi, 2021).

When discussing the relationship of learning, some studies highlight the importance of a structured, reflective, and engaging learning process for the learning experience, which encourages learners to engage with the content actively, reflect on their experiences, and ultimately enhance their competency and understanding. In online environments, learners' abilities to manage their learning, access, and use technology, and interact with the learning materials and facilitators are essential (Chongo, 2020). Similarly, simulation-based learning, such as High-Fidelity Patient Simulation (HFPS), allows students to apply classroom content, engage in critical thinking, and enhance clinical competency (Smith et al., 2013; Díaz et al., 2016). Such experiences are particularly effective when followed by debriefing sessions, allowing learners to reflect on their performance and learn from their mistakes (Smith et al., 2013; Grota & O'Neal., 2020; Guasconi et al., 2021). Kolb's Experiential Learning model resonates in different contexts, such as field trips and classroom-based activities, where students can better understand professional practice (Mor et al., 2018). Furthermore, the use of gamified apps illustrates the integration of enjoyment and learning content, recognizing learning as a process that requires engagement with the material before mastery (Leitão et al., 2021).

4.1.3 Attitudes and Behaviours

Learning experience could also be understood as learners' attitudes and behaviours which are influenced by various approaches and strategies implemented by educators or instructional designers, for example, to improve students' motivation (Leitão et al., 2021; Prosen et al., 2022; Lakeman et al., 2022) and self-efficacy (Díaz et al., 2016; Kang et Suh, 2018; Guasconi et al., 2021; Prosen et al., 2022; Riley et al., 2022), enhance their cognitive and emotional engagement (Paliadelis et al., 2015; Lamprect et al., 2020; Leitão et al., 2021; Prosen et al., 2022; Ogeyik, 2022; Lakeman et al., 2022), and increase their learning experience's satisfaction (Kang & Suh, 2018; Lamprect et al., 2020; Guasconi et al, 2021; Hendal & Alkhezzi, 2021; Al Smadi, 2022; Prosen et al., 2022).

Self-efficacy in the learning context refers to an individual's belief in their ability to accomplish a specific learning task based on their experiences, skills, and knowledge. Self-efficacy is closely related to self-management, autonomy, and individual responsibility, contributing to learners becoming more proactive and responsible for their learning (Kang & Suh, 2018). For example, in simulation-based learning environments (Díaz et al., 2016; Guasconi et al., 2021), training offers advantages such as an improved patient approach to decision-making skills, collaboration, and promoting self-reflection and self-confidence (Guasconi et al., 2021). The study of Riley et al. (2022) indicates that valuable learning experiences in communication can contribute to the development of self-efficacy. Prosen et al. (2022) recognize self-efficacy as an essential motivator for academic success, although the study does not delve into the concept in detail. Kang and Suh (2018) measure self-efficacy as an attitude expected from learners, positively influencing their learning experience.

Furthermore, motivation is the internal or external drive that stimulates and sustains a person's behaviour and actions toward achieving a goal or objective. Motivation refers to the factors that inspire and direct a person's efforts and persistence to learn. Various factors can influence motivation, such as game-based learning elements such as points and badges (Leitão, 2019) and the e-learning system (Prosen et al., 2022). Leitão et al. (2021) focus on the characteristics of game-based learning to enhance motivation in learners. Points and badges serve as motivational stimuli, ranging from extrinsic motivators such as monetary rewards or status to intrinsic motivators. The study found that games have a more significant effect on intrinsic than extrinsic motivation. In Prosen et al. (2022) study, motivation is briefly mentioned in the e-learning context. While the study does not delve into motivation in detail, it acknowledges that certain shortcomings of e-learning, such as the lack of spontaneity in interpersonal interactions and communication, can negatively affect learners' motivation.

Engagement can refer to the determination to accomplish a task and put it into action, including emotional, cognitive, or learning engagement, depending on the context. Paliadelis et al. (2015) focus on emotional engagement, describing learners' ability to connect with characters and situations in online stories on a personal level. This emotional connection can help learners develop empathy and a greater appreciation for the challenges healthcare professionals face in rural areas. Ogeyik (2022) uses Bloom's Digital Taxonomy to evaluate how well webcast applications support different thinking skills (remembering, understanding, applying, analysing, evaluating, and creating) among student-teachers during the COVID-19 pandemic. Prosen et al. (2022) discuss how positive learning experiences contribute to greater learning satisfaction and engagement. These works highlighted the necessity of cognitive engagement in a learning process. These also revealed that learning satisfaction is an important indicator of students' enjoyment of their studies and is a vital evaluation component in assessing learning effectiveness.

Satisfaction refers to students' attitudes and behaviours about their learning experiences in e-learning, simulations, or gamified applications. It is a subjective measure that can affect the perception of personal experience and influence the success of learning methods and the willingness to continue learning. Several studies mentioned satisfaction as an indicator of the learning experience. Al Smadi (2022) examines students' satisfaction with e-learning through their attitudes and behaviour, including their self-efficacy, enjoyment, usage, perceptions, and insights about e-learning. Prosen et al. (2022) recognise satisfaction as a subjective dimension of each individual, which can affect their perception of personal experience. The study acknowledges the limitations related to the perception of personal experience and satisfaction due to its highly subjective nature. In this regard, Guasconi et al. (2021) use the self-report of Satisfaction with Simulation Experience (SSE) to assess nursing students' satisfaction after a clinical learning experience through simulation. Moreover, for Kang & Suh (2018), satisfaction is investigated using a gamified application and knowledge acquisition. Although different studies explore satisfaction through various approaches, including e-learning, simulation, and gamification, these studies showed that a high level of satisfaction promotes continuous learning and a willingness to engage in further training.

5. Conclusion

This work uses a unique approach to article analysis to illustrate dimensions and sub-dimensions of the learning experience. Despite the number of analysed articles in this preliminary stage, the summarised dimensions of the learning experience offer us a fresh perspective. The selected articles conclude that the learning experience is multidimensional, referring to the perception of any interaction, activity, or situation that enables an individual to acquire new understanding, knowledge, skills or competencies. The individual's emotions influence this process during the experience and occur in various contexts, such as traditional classrooms, e-learning platforms, simulations, or gamified applications, and may involve different instructional methods and materials with or without technologies. These experiences are also influenced by collaboration, self-efficacy, engagement, motivation, and satisfaction, which contribute to the effectiveness and success of the learning process.

The present work also shows that the learning experience encompasses the diverse ways learners interact with content, educators, and their peers to gain knowledge and develop skills that promote personal growth and development. Most articles focused on implementing technology in educational settings to facilitate learning. Indeed, technology serves as a mediator in learning contexts, and it becomes meaningful for learning activities when it is used and interacted with by the learner or teacher. Therefore, to evaluate a learning experience's effectiveness, technical and pedagogical aspects must be carefully considered. Educational technologies should be selected and used in conjunction with pedagogical objectives. In both contexts, with or without technology, elements such as instructional design, learning objectives, and feedback mechanisms can influence the learning experiences of learners (Grota & O'Neal., 2020). This study also highlighted that the perception of a learning experience is influenced by factors such as personal epistemology, technical and pedagogical aspects of learning environments, relationships with competency, attitudes toward learning, and self-efficacy beliefs. Understanding these influences can help educators and instructional designers create engaging and effective learning experiences that cater to learners' needs, motivations, and aspirations (Chen et al., 2018). In future research, we intend to investigate whether these dimensions and sub-dimensions are also present in other articles and explore their interrelations.

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