

Elements of E-Learning that Facilitate or Hinder Learning Motivation: A Review

Abstract

A new way of teaching has been spawned in the wake of the rapid growth of sophisticated technology. Digital technologies in some way enable the teachers to create teaching material that is more interesting because the learning is tailored to the needs of the students related to their upcoming professional workplaces. Moreover, students can easily and efficiently find learning materials by utilizing digital technology in the classrooms. Student participation in the classroom is increased, as is collaboration within the class. This can allow the student's proficiency to improve. Also, integrating digital technology in the classroom can create an enjoyable teaching-learning process, resulting in a positive attitude to learners, and they become motivated to participate in learning activities. Students can also become distracted or digress when using digital technology in English for Specific Purpose classrooms, for example, when using YouTube or smartphones in the learning process. As we know motivation is the key factor behind learning especially in educational institutions where teachers are the only source of motivation but through the interventions of digital technology learning become e-learning. In electronic teaching learning system presence of teacher is there but what are the other motivational factors in e – learning system that reinforces the learning of students. In the backdrop of this present paper explored the elements in e-content and e learning that act as a motivational element for students in virtual teaching learning process. in this paper researcher conducted a meta-analysis of the past researches conducted on e- learning and motivation. The results of the study points out that e-content and e-learning having interactive features like animation, better organization, collaborative features enhance the learning motivation of students.

Keywords: - learning motivation, e-learning, digital technology, Meta Analysis, Meta-synthesis, e-content.

Introduction

Digital technology penetrates in every aspect of human life. Many devices used this digital technology one such device is computer. Introduction of computer influenced every aspect of human life but education affected more but in positive way. The conventional and traditional teaching modified into modern teaching or technology integrated teaching. Modern classroom changes every aspect of teaching that includes methods of teaching, role of teacher, pedagogic of teaching etc. In traditional classroom everything taught on the blackboard and only verbal teaching is possible but through the digital technology more real life and visual oriented education. In traditional teaching there is no any alternative for blackboard or white board but

digital technology allow teachers to use variety of ways as according to the interest and level of learners. Computer assisted learning, computer managed learning and computer based instruction etc. Networking of computer gives rise to information and communication technology and it open new avenues like e-learning , e-content , virtual university, e- journals, e- magazines etc. The teaching-studying manner has been stimulated through the extension and advancement of pc, network, and multimedia technology. These technologies allow the freshmen to participate as an energetic and self-paced learner. Technology isn't simplest changing the way of teaching topics but also changed the area of coaching resources at the teachers' and beginners' conduct. They have brought interest to the direction content and delivery. because the content enterprise is moving in the direction of developing a fairly interactive multimedia mastering content, most internet primarily based contents have been advanced using text, image, sound, and video, but didn't result in interactivity contents.

Characteristics of Digital Learning –

On the basis of the above discussion various characteristics emerged that are:

- The primary medium for e-learning is the internet, which enables educational activities to take place.
- Information is propagated through network channels.
- Global dissemination and exchange of educational materials.
- A digital study environment that provides a virtual space for students to engage in educational activities, access learning materials, and interact with instructors and peers remotely.
- Diverse methods of learning.
- Adaptability in studying (flexible schedule and location).

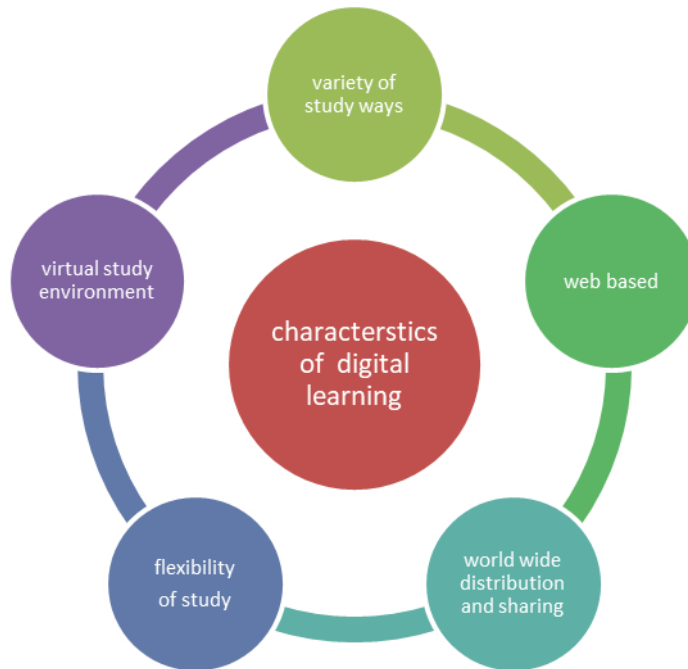


Figure 1. Characteristics of learning

Motivation is derived from the word 'motive' which means a reason for doing something. Motivation is a factor that stimulates an organism for achieving a particular task. For example: If a person has a goal and for achieving that goal, he puts in all his effort. The driving force that stimulates a person to on that particular task to achieve the goal is known as motivation.

Learning Motivation

Motivation is most important element to learn anything. In traditional classroom reinforcement from the teachers the main source of motivation among the students. Teachers verbal and non verbal reinforcers are vital for the motivation of the students. But in electronic learning system the physical presence of teachers is missing. In traditional mode of teaching direct interaction of student and teachers meant a lot where teacher get to know the social, psychological, and emotional aspects of every students. There are various models of motivation like ARCS model of motivation A means attention , R means Relevance, C stands for confidence, S for satisfaction fulfillment of all these elements of model enhance the motivation in students. Rovai, Ponton, Wighting, and Bake (2007) in a study “A Comparative Analysis of Student Motivation in Traditional Classroom and E-Learning Courses” found e-learning students are more intrinsically motivated than traditional students-Study results provide evidence that e-learning students possess stronger intrinsic motivation than on campus students who attend face-to-face classes on three intrinsic motivation measures: (a) to know, (b) to accomplish things, and (c) to experience stimulation.

The rise of the online classroom has made motivating students a salient issue. In the absence of more formal structure, students need to be more intrinsically motivated, especially in online learning environments where instructors' direct influence is diminished. It's imperative that we better understand the implications of various learning activities and associated technologies on aspects of intrinsic motivation in e learning. Online learning environments typically incorporate many choices in how they present learning material and interaction with students is supported in both individual and collaborative contexts. Learning activities should be well matched to pedagogies and supported by videos, audio, and data technologies that are properly selected and integrated. Mobile devices can be used to enhance ubiquitous e-learning scenarios. Shroff et. al 2007.

Relationship between E-Learning and Motivation

E-learning is an innovative and adaptable learning approach that has the potential to enhance the learning and innovation capacity of both organizations and their members. Recent research suggests that students enrolled in e-learning courses demonstrate superior performance compared to those receiving instruction through traditional courses. According to recent research, students who have taken e-learning courses in universities have shown better performance compared to those who have undergone traditional teaching methods. The integration of technology in education does not always ensure enthusiastic students. Moreover, the use of online instruction has led to a decline in the personal connection between teachers and students. As a result, educators are compelled to transform the traditional classroom into a virtual setting, (Picar, 2004).

Objectives of the Study

1. To find out the relationship between e-learning and motivation.
2. To explore the motivational factors that support or hinder e- learning.

Methodology

The main emphasis of this article is to explore the relationship between e-learning and motivation, considering the specific methods employed in systematic reviews, meta-analysis, and meta-synthesis. The researcher relied solely on Google as the search engine for the literature review. Only studies that met the specific purpose of the study were included in the analysis. The two criteria were selected to review the articles: 1. Relationship between E-Learning and Motivation. 2. Motivational factors that responsible for learning in e-learning system. The data was collected and synthesized using thematic analysis.

Exclusion and Inclusion Criteria for Selection of Literature

All the research work published on scientific platforms which specifically focused on the relationships between e-learning and motivation, and also explored the factors for nature of

relationship (if any) had constituted the data frame for the present paper. The unpublished research i.e. dissertations etc. and the work published on non-scientific platforms such as commentaries, news articles, reports were not considered under the data frame for their weak potency on authenticity and validity criteria.

Review of Related Literature

Seoud et. al, (2014) found that engaging undergraduate students with interactive features of e-learning increases their motivation for learning where as in another study Seoud et al, (2016), it was suggested that teacher should consider attention, relevance, confidence, and satisfaction in e-learning environment in terms of motivating students. Attention and relevancy can be achieved with animation. Satisfaction can be achieved with electronic certification or electronic recognition within the collaborative students and teachers over e-learning environment. Relevance and confidence can be achieved through clear organization of the materials of the course over the amount of time needed to finish it.

Harandi, (2015), in their study explored that e-learning plays a significant role in enhancing motivation of students. While in another study conducted by Paechter & Maier 2010, studied about Austrian students' preference for online or face to face learning, they prefer online because of structure of e learning, time and communication goals.

Muruganantham (2015) The E-content package allows individual or self-paced learning for each student. The E-content package contributes to making learning enjoyable for each student. Through the E-content package, each student can clarify any doubt during the learning process. Students can exchange their knowledge in the E-content method so they will receive complete information about the unit or lessons. A participant in the learning process, they are an active participant in the learning process. The E-content package promotes cooperation and active learning. They also learn at their own pace.

Law & Lee Yu, (2010) found that individual attitude and expectations, clear direction and remuneration are notably more motivating, for instance. The results also suggest that an e-learning setting with excellent facilitation can enhance learner motivation and self-efficacy.

Nehme, (2010), in his study found that students who have more experience with computers and the internet are less anxious and more motivated, which in turn improves performance. E-learning also helps students to meet fellow students in the online environment, which is beneficial to their learning. Students will not study alone in isolation anymore, but they will be aware of their fellow students who may be able to help them.

Purnomo, et al (2021) conducted a research and results reflected that students' positive reactions to the online lectures, the competence of the teachers, the infrastructure, and facilities also contribute positively to students' willingness to participate in the lectures online. Levels of

activity and motivation are high; on average, 92% of students attended lectures over one semester, and 85% collected their assignments.

In the research study by Sabah, (2013) it was found that there is a correlation between technical skills, attitude of students towards e-learning and computer experiences. And these factors enhance the motivation of students in online learning.

Kannan & Muthumanickam (2010) students, who are having browsing habit found better facilitated in learning through E-content programme than the students those who are not having browsing habit.

Muruganantham (2015), The E-content package allows individual or self-paced learning for each student. The E-content package contributes to making learning enjoyable for each student. Through the E-content package, each student can clarify any doubt during the learning process. Students can exchange their knowledge in the E-content method so they will receive complete information about the unit or lessons. A participant in the learning process, they are an active participant in the learning process. The E-content package promotes cooperation and active learning. They also learn at their own pace.

Buelow et al., (2018) added that prior research has also revealed that online discussion and engaging in interactive assignments stimulate students to share their opinions and develop a personal perspective

Stark, (2019), investigated that despite the low levels of motivation among online students compared to face-to-face students, variables relevant to motivation were also related to course performance in the study. However, little research has directly compared online students to face-to-face students. However, the study did find that variables related to motivation were more strongly correlated with course performance than specific learning strategies.

Mitchell (2019). The majority of students in that study indicated that the debate assignment assisted them in comprehending the course concepts and understanding them better.

Widjaja & chen, (2017) found that the higher online learning flow and the ACAS could have a significant effect on students' perceived skill development, but not their grade. It was also determined that online participation would significantly enhance online learners' flow. Participation in the online learning course was found to be the main factor driving intrinsic motivation

Amy, (2011), found that in a face- to-face classroom it is much simpler to alter pupil interaction and teaching methods. With proper forethought and creativity, this also can be done in the online learning environment. Teaching students active learning strategies could lead to increased

feelings of self-efficacy. Self-efficacy is in turn positively correlated with other desirable aspects of motivation such as achievement goal and science learning value.

In other experimental study on augmented reality by Khan, Johnston and Ophoff, (2019), observed that there was significant difference in pre and post test. Attention satisfaction and confidence elements of motivation increased by mobile augmented learning whereas relevance factor came insignificant. Motivation was increased after the intervention of mobile augmented reality application.

James , (2017) concluded that e-content or technology integration can aid in improving teaching techniques and more effectively supporting inclusionary education as well as enhancing student motivation. Research has shown that students felt motivated when they were using technology specifically in the classroom, whether it is for pedagogical purposes or for accommodations necessary by an Individual Education Plan (IEP).

Yahiaoui, (2022) study indicated that e-Learning systems, encompassing technical and electronic requirements, personal requirements, perceived value, and credibility of e-Learning, exert a significant influence on student motivation (Attention, Relevance, Confidence, and Satisfaction) as well as student outcomes (knowledge, skills, and attitudes). In the given context, Barba et al. (2016) have demonstrated a significant correlation between learner motivation and engagement in online environments. Likewise, Çebi and Güyer (2020) have provided empirical evidence indicating that students with greater motivation to learn exhibit increased interactions with educational materials.

Çebi, (2022) investigation discovered that the preparedness for e-learning and the level of motivation exhibited by students are highly indicative of their engagement in distance learning. Furthermore, this study shed light on the significance of e-learning readiness in fostering motivation among students. Additionally, it has been unveiled that the indirect impacts on student interactions in distance learning hold considerable importance, with the indirect effects of e-learning readiness and motivation on teacher-student interaction being the most prominent.

Lin, (2017), Digital learning has been found to have a more positive impact on learning motivation compared to traditional teaching methods. To enhance teaching effectiveness, it is essential to integrate the latest teaching trends and leverage the benefits of digital learning to create practical teaching strategies.

Chan et al. (2016) investigated the significance of asynchronous discussion in terms of students' self-preferences, engagement level, and motivation. The results of their research revealed that students' inclination, dedication, and involvement in asynchronous discussion indirectly contributed to enhancing their motivation to learn.

Zheng et al. (2018) utilized a structural model to evaluate online self-regulated environments and the motivation of learners. The findings indicated that learners who are motivated in their online

learning experience tend to exhibit greater independence in the learning process and overall experience.

Stark's (2019) research, online students displayed a lower level of motivation compared to face-to-face students. However, the study also found that motivation variables had a stronger correlation with course performance in online courses than learning strategies.

In a separate study conducted by Pugh (2019) on online learning, it was discovered that there was an association between gender and motivation, but no correlation was found between age and motivation.

Slater and Davies (2020) indicated that students prefer lectures, course notes, and primary literature available online, because these e-teaching materials were perceived as available and easy to engage with from outside the university campus.

Karagiannis and Satratzemi (2018) introduced a versatile method in Moodle that aims to capture both the attitude and knowledge of learners. Their innovative approach utilizes a hybrid dynamic user model, which incorporates techniques based on learner knowledge and behavior. The results of their experiments demonstrated the significant impact of their approach on students' motivation and performance. Researchers are currently conducting an ongoing study to explore the correlation between motivation to learn using e-learning systems and traditional face-to-face learning.

In their study, Truhlar et al. (2018) investigated the impact of synchronous chats within an online course. Their findings revealed that when roles were assigned to students, there was a notable increase in the proportion of student-student interaction.

Krishan et al, (2023) concluded that E-learning had a positive impact on students' motivation due to its convenience and easy access to resources, which students preferred. They found that e-learning allowed for self-learning and the development of important skills, as well as broadening their perspectives. The use of various educational techniques in e-learning further increased their enthusiasm for learning. Additionally, the study found that e-learning led to consistent engagement in lessons and improved academic performance. The flexibility of studying in preferred locations also contributed to their overall success. Effective communication between teachers and students was crucial for the success of e-learning, as interactions with instructors positively influenced students' motivation and academic outcomes. The study also identified the delivery of engaging content and captivating teaching techniques as key factors that motivated students.

Aslan (2023) conducted a randomized controlled trial to examine the impact of gamification techniques on the learning motivation of Jordanian university students in e-learning environments. The study included 80 university students who were assigned to either a gamified or non-gamified e-learning course. Data were collected using a survey to measure student

motivation and engagement. The results of the study showed that gamification techniques had a positive impact on student motivation and engagement in e-learning environments. The gamified group reported higher levels of motivation, engagement, and satisfaction with the course content and instructional design.

Abuhassna and Yahaya (2022) highlighted the importance of incorporating a wider variety of pedagogical approaches in e-learning to enhance student engagement and motivation. Their study revealed a significant increase in student engagement and motivation within e-learning environments. This emphasizes the critical need for diversifying pedagogical methods in the realm of e-learning.

Table 1: analysis of the results of the review studies

S no.	Authors	Year	Results
1.	Shroff et. al.	2007	pedagogies and interactive video, audio enhance the motivation in e learning system
2.	Law , lee and Yu,	2010	Excellent facilitation in e-learning enhance the learner motivation
3.	Kanan and Muthumanikam	2010	Browsing habit is better facilitator to enhance the motivation in electronic content.
4.	Nehme	2010	Experience in using computer and internet is the main motivating factor
5.	Amy	2011	Low level of motivation in online learning course
6.	Sabah	2013	Technical skills and positive attitude contribute a lot in improving motivation in online learning.
7.	Seoud et. al	2014	Interactive featureres of e –learning increases the motivation
8.	Harandi	2015	e-learning system enhance the motivation
9.	Muruganatham	2015	The e-content promote co-operation and active learning and also helps to clarify doubts.

10.	Seoud et. al.	2016	Animation, certification and organization of e content are some of the motivational elements in e learning.
11.	James	2017	E content enhance students motivation and support inclusionary education
12.	Stark	2017	Low level of motivation in online course performance
13.	Widjaja & Chen	2017	Participation in online learning course is the main factor for driving intrinsic motivation.
14.	Purnomo,et al	2021	Internet facilities also contribute positively to students' willingness to participate in the lectures online
15.	Buelow et al.,	(2018)	Online discussion and engaging in interactive assignments stimulate students to share their opinions and develop a personal perspective.
16.	Khan, Johnston and Ophoff,	2019,	Motivation was increased after the intervention of mobile augmented reality application.
17.	Yahiaoui,	(2022)	e-Learning, exert a significant influence on student motivation
18.	Barba et al.	(2016)	significant correlation between learner motivation and engagement in online environments.
19.	Çebi and Güyer	(2020)	significance of e-learning readiness in fostering motivation among students.
20.	Lin,	(2017),	Digital learning has been found to have a more positive impact on learning motivation compared to traditional teaching methods.
21.	Chan et al.	(2016)	students' inclination, dedication, and involvement in asynchronous discussion indirectly contributed to enhancing their motivation to learn.
22.	Zheng et al.	(2018)	greater independence in the learning process and overall experience.
23.	Stark's	(2019)	Motivation variables had a stronger correlation with course performance in online courses than learning strategies.

24.	Pugh	(2019)	There was an association between gender and motivation, but no correlation was found between age and motivation.
25.	Slater and Davies	(2020)	e-teaching materials were perceived as available and easy to engage with from outside the university campus
26.	Karagiannis and Satratzemi	(2018)	significant impact of their approach on students' motivation and performance.
27.	Truhlar et al.	(2018)	there was a notable increase in the proportion of student-student interaction in synchronous e-learning..
28.	Krishan et al,	(2023)	E-learning had a positive impact on students' motivation due to its convenience, easy access to resources, consistent engagement, flexibility of studying in preferred locations also contributed to their overall success.
29.	Aslan	(2023)	gamification techniques had a positive impact on student motivation and engagement in e-learning environments
30.	Abuhassna and Yahaya	(2022)	incorporating a wider variety of pedagogical approaches in e-learning to enhance student engagement and motivation

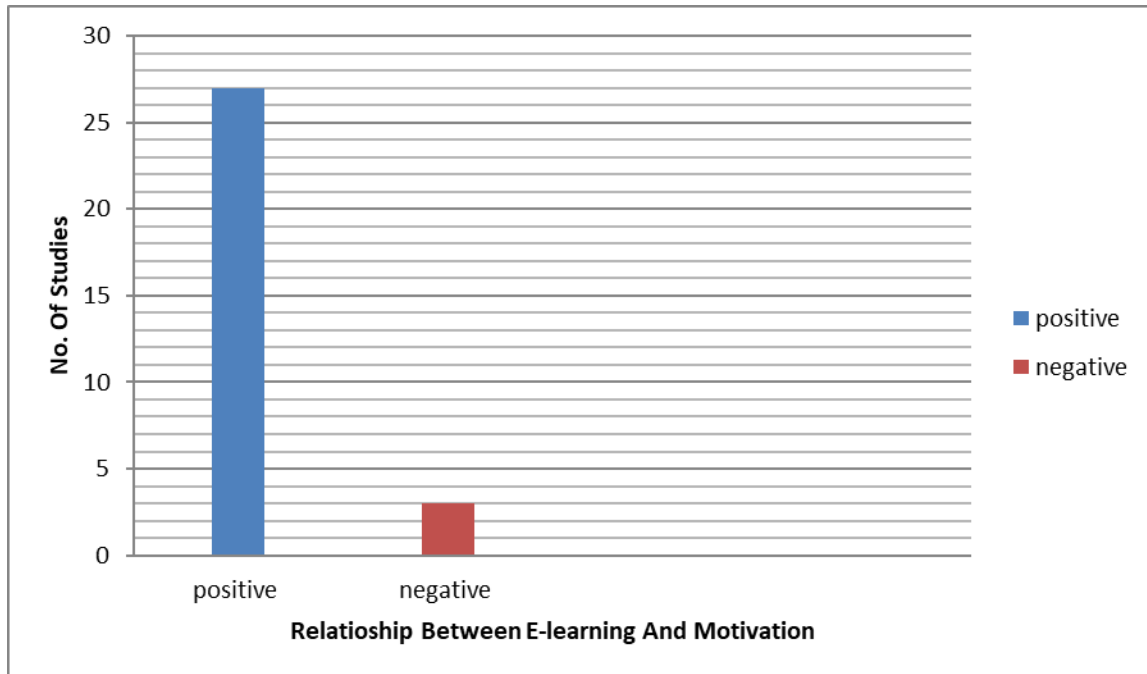


Figure 2. : exploring the relationship between e-learning and motivation

Analysis of the Review on Relationship Between E-Learning and Motivation

The literature review revealed that a majority of the studies support a positive correlation between e-learning and motivation. Several factors were identified as facilitators in enhancing student motivation. The autonomy provided by digital learning allows learners to have flexibility in terms of time and space, which in turn increases their motivation. Additionally, involving and engaging students in online learning activities serves as a source of encouragement. Elements such as animations, graphics, gamification, and other interactive features act as stimuli, motivating learners to actively participate in every task. However, it is worth noting that only a few studies have explored the issue of low motivation and disengagement among students in online learning, which can be attributed to factors such as limited real-time interaction and lack of technological skills.

Table 2: factors facilitate and hinder motivation in e-learning

Factors Facilitating Motivation in E-Learning	Supporting Studies
Gamification techniques	Aslan , (2023),
Synchronous chats promotes students interaction	James, (2017), Truhlar, et al. (2018),
Attention, relevance, satisfaction and confidence elements of motivation increases in e-learning system	Seoud et al, (2016), Johnston and Ophoff (2019), Yahiauhi, 2022
Independence in the learning process	Muruganathan, (2015), Cheng et al, (2018), Krishan et al, (2023),
Better browsing habit and technical skills good motivation	Nehme, (2010), Laman and Muthumanickam, (2010), Aslan, (2013)
Online discussion and Interactive videos	Seoud, et al (2014), Subah, (2013), Barba et al, (2016), Cebi And Guyer, (2020), Purnomo et al, (2021), Buelow, et al (2018), Mitchell (2019), Widaja And Chen, (2017), Cebi, (2022),
Factors that Hinder Motivation in E-Learning	
No real time interaction between student and teachers and peer –peer interaction	Nehme, (2010), Stark (2019), Amy, (2011),
Lack of discussion and feedback	Chen et al (2016)
Lack of better pedagogical approaches and practical teaching strategies	Abuhassna and Yahaya (2022),
Lack of concrete study material	Slater and Davies (2022)

Novelty/Uniqueness: Prospective Contribution of the present Research Work

This study delves into the abundance of literature available on e-learning and motivation. Existing studies have shown diversity in methods and sample selection. Experimental, qualitative, quantitative, and conceptual studies have been conducted, but there is a lack of studies that specifically explore the type of motivation through meta-analysis of existing literature on e-learning. This qualitative study not only focuses on the relationship between e-learning and motivation, but also discusses the positive and negative elements of motivation. The findings of this study are beneficial for teachers and content designers in developing e-content that caters to the learners' needs.

Educational Implications of the Study

The educational implication of motivation in e-learning is essential for Motivation plays a crucial role in the success of e-learning initiatives, influencing learners' engagement, persistence, and overall performance. Understanding the educational implications of motivation in e-learning is

essential for designing effective online educational experiences. Here are some educational implications:

1. Designing Engaging Content

Educators should focus on creating content that is not only informative but also engaging and interactive. Motivated learners are more likely to actively participate in their learning journey. Incorporating multimedia, simulations, and gamified elements can enhance engagement.

2. Personalized Learning Paths

Recognizing and accommodating individual differences in learning styles and preferences. Motivated learners benefit from tailored experiences. Adaptive learning systems and personalized content delivery can help cater to diverse learning needs, maintaining learner interest and engagement.

4. Providing Timely and Constructive Feedback

Establishing mechanisms for providing prompt and constructive feedback. Feedback serves as a motivational tool by helping learners understand their progress and areas for improvement. Timely feedback reinforces positive behaviors and encourages ongoing effort.

5. Creating a Supportive Learning Environment

Fostering a sense of community and support among learners. Motivated learners often thrive in environments where they feel connected to their peers and instructors. Discussion forums, collaborative projects, and virtual study groups can contribute to a supportive online learning community.

6. Incorporating Real-World Applications

Integrating real-world examples and applications. Motivation is enhanced when learners can see the practical relevance of what they are studying. Connecting theoretical concepts to real-world scenarios helps learners understand the applicability of their knowledge.

7. Promoting Autonomy and Self-Regulation

Encouraging learners to take control of their learning process. Motivated learners often exhibit a higher degree of self-regulation. Providing opportunities for learners to set goals, monitor their progress, and make choices about their learning path can enhance motivation and autonomy.

By considering these educational implications, e-learning designers and educators can create a more motivating and effective online learning experience for students.

Conclusion

From the review it is crystal clear that there is positive relationship between learning motivation and e-learning system. There are various elements in e-learning systems that facilitate the motivation of the students in online teaching learning process. Maximum studies reflected that e-learning system enhances the motivation except two studies. The interactive features of e-content includes animation, certification, and organization of material, are some of the motivational elements that enhance confidence, satisfaction among students and students who have better browsing habits and frequently uses internet performed better in online course because of high motivation. Learning activities must be matched with the pedagogies and audio, videos and other features of e learning systems should be interactive and collaborative. The e learning systems promotes collaborative and active learning where students have scope to clear any doubts regarding to their subjects.

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