Learners' Motivation and the Roles of Teachers in e-learning

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1．Introduction

As computers and the Internet develop, so do new learning technologies in education. The growing use of information and communication technologies (ICT) has widespread implications for e-learning, which is now used in a wide range of fields, including early-childhood education, school education, corporate training, and lifelong learning. In the field of English-language learning, a range of e-learning systems have been introduced for different educational levels, skills, and purposes.

Many studies have examined the effects of e-learning on diverse groups of participants, learning outcomes, and learning environments. While some users exploit e-learning effectively, issues have been raised about inequalities in access to e-learning environments. As Bates (2020) has shown, the COVID-19 pandemic exposed current inequalities and the need for universal and low-cost access to the Internet for education. According to Vázquez-Cano et al. (2020), this issue cannot be attributed to e-learning itself, but to the fact that the challenge of online teaching has been underestimated. To make the best possible use of e-learning, its benefits and challenges must be discussed.

This paper, therefore, investigates an effective approach to e-learning, examining its advantages and disadvantages and considering learner

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motivation to engage with e-learning, as a key factor in successful e-learning.

2． Definition of e-learning

Some researchers view e-learning (also called "online learning") as a natural evolution of distance learning or a new generation of distance education. Sangrà & Cabrera (2012) have identified and defined the following four e-learning categories from papers published after 2005 in the field of ICT:

(1) Technology-driven definitions: the use of technology for learning;
(2) Delivery-system-oriented definitions: a means of accessing knowledge (through learning, teaching, or training);
(3) Communication-oriented definitions: a communication, interaction, and collaboration tool (Learning facilitated by the use of digital tools and content that involves some form of interactivity, which may include online interactions between learners and teachers, or between peers);
(4) Educational-paradigm-oriented definitions: a new way of learning or an improved educational paradigm.

Although researchers have recognized the difficulties involved in including all aspects of the e-learning concept within a single definition, Sangrà & Cabrera (2012) have arrived at the following general definition of e-learning:

> …e-learning is part of the new dynamic that characterizes educational systems at the start of the 21st century, resulting from the merging of different disciplines, such as computer science, communication technology, and pedagogy (p. 154).

In addition, the concept of e-learning can be expected to continue evolving from this point on, as it adapts to learning needs that change quickly.

3．History of e-learning

According to Sugawara & Muraki (2007), there were several types of computer-based learning systems before the term, "e-learning", was first used in TechLearn, held in Florida in 1999. In the 1950s and 1960s, some experiments related to Computer Assisted Instruction and Computer Aided Instruction (CAI) were conducted in the United States. Researchers believed that the novelty of computers would attract the interest of learners. However, CAI was still in its developmental stages and its simple structure offered learners repetitive practices that discouraged them from continuing to use the system. In addition, the learning process forced learners to follow a manual, leading to unoptimized learning. In particular, advanced learners had to work on several easy tasks in order to reach an appropriate level. CAI development stagnated after the mid-1970s, due to pedagogical criticism, developing computer technology, and the high cost of mainframe computers.

In the 1980s, with the development of personal computers and Microsoft Windows, the same application could be run using Windows on different hardware, ensuring software compatibility. Furthermore, high-capacity storage media, such as CDs, DVDs, and flash memories, were developed one after another to store data, resulting in the gradual spread of Computer-based Training (CBT) during the late 1980s. In CBT, the teaching materials were organized like a database, enabling learners to set the level of difficulty and choose procedures, based on their needs and interests.

In the 1990s, as personal computers were developed with large memory

capacity and high processing speed, Web-based Training (WBT) was developed and introduced to deliver educational content to learners via the Internet. The major difference between CBT and WBT was the fact that the WBT learning process took place via the Internet. The Internet enabled interactive communication between learners, and between learners and instructors, allowing the latter to monitor the progress of many learners simultaneously.

Since the 2000s, the use of portable electronic devices, including personal computers, tablet computers, and mobile telephones has expanded. The availability of mobile technologies has helped to extend e-learning towards Mobile Learning (m-learning). The latter is easy to access and affordable, increasing the number of learners.

From the perspective of the Advanced Learning Infrastructure Consortium (2003), the Japanese government proposed the e-Japan Strategy in the year 2000, making it the first year of e-learning in Japan. The following goals were established: (1) building an ultra-high-speed Internet network and providing constant Internet access at the earliest date possible; (2) establishing rules on electronic commerce; (3) realizing an electronic government; and (4) nurturing high-quality human resources for the new era (IT Strategy Headquarters, 2001). In 2001 (the following year), the non-profit organization, e-Learning Consortium Japan (eLC), was established to continuously promote and support activities for users and e-learning enterprises, based on the concentrated powers of industry, government, and schools. Since that time, e-learning has grown as an educational strategy, enabling individuals to improve their knowledge and skills.

4. Advantages of e-learning

E-learning continues to provide learners with new ways of learning,

making an important difference, especially to learners who might not have had the opportunity to benefit previously. For example, the Open University in the UK offers flexible part-time study and supported distance and online learning to 175,718 students, including 7,687 international students in 2019/2020 (The Open University, 2022). Online learning gives learners from a range of different backgrounds a chance to learn. Students can obtain degrees or qualifications while continuing to live and work in their home countries. According to Hameed et al. (2008), since the potential student base is global, the cultural diversity of students brought together through e-learning promotes interactions that would otherwise be unlikely.

E-learning has succeeded in eliminating the time and space limitations of learning transactions based on face-to-face and text-to-text encounters (Alexander & Boud, 2001). The flexibility and accessibility of e-learning are considered to be its main benefits. Nowadays, e-learners are able to learn in any place where they can access an Internet connection via a computer, tablet, or smartphone —at any time of day they find convenient. They can also control the pace at which they progress through the materials. Gherhes et al. (2021) surveyed university students in Romania to examine the advantages of e-learning. Their results revealed that "time efficiency" (15.7%), "convenience" (14.7%), and "accessibility" (11.6%) were the most frequently cited advantages of e-learning.

Some studies have found that online learning is perceived to be at least as effective as face-to-face classes (Jiang & Ting, 2000; Picciano, 2002). For certain subjects and students, Picciano (2006) suggests that online learning may be more appropriate than face-to-face classes. In addition, pedagogical techniques, such as reflective teaching practice, collaborative learning, self-pacing, and intensive writing may work better in online learning environments.

5. Disadvantages of e-learning

However, Alexander & Boud (2001) have argued that, although the online learning environment is a new and more complex space for teaching and learning, it is just another physical environment, and technology itself does not improve learning. Mayes (2001) argues as follows;

> ...it is not new pedagogies that we need, but new ways of providing existing pedagogy efficiently and flexibly. This may provide the real challenge for online learning. It is the challenge of how to offer the pedagogical experience equivalent to that of an individual tutorial with a knowledgeable, sympathetic and well-equipped teacher to large numbers of learners in geographically dispersed and socially diverse setting. (p. 17)

John et al. (2021) have examined the advantages and disadvantages of e-learning through a survey of medical students studying anatomy in India. Their results reveal that online learning can never replace interactive face-to-face classroom learning or practical sessions, with many students showing a preference for pre-recorded videos of cadaveric dissection. Although online learning in the form of live classes and recorded videos can be incorporated into the routine anatomy curriculum, traditional face-to-face classes are also necessary.

Mayes & de Freitas (2004) have questioned whether e-learning is simply a device for supporting existing methods of learning; they have called for further research on this issue. Other studies have revealed that the complete absence of vital personal interactions, not only between learners and teachers, but also among colleague learners, is cited as one of the most significant concerns about e-learning. Kikuchi (2006) has found that even independent and motivated adult e-learners need to interact with other peer

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learners to some extent. Lee et al. (2019) identify the higher dropout rate as a key problem, explaining that learners tend to engage less in e-learning environments than in traditional learning environments because the distance reduces their interactions with teachers. According to Bouchrika (2022), young learners, in particular need the positive effects of face-to-face educational interactions (which e-learning methods cannot provide) in order to learn successfully. Klein & Ware (2003) point out that the lack of social interaction makes e-learning less effective for many students. In a survey by Baczek et al. (2021), medical students who used e-learning during COVID-19 in Poland found it less effective than face-to-face learning in building medical technical skills and social competence. However, they did consider e-learning equally effective in increasing knowledge.

According to Akhter et al. (2021), e-learning can potentially promote a tendency toward psychological isolation. People who spend most of their time engaged in online learning and teaching may not try to interact with other people because they do not consider physical social interaction important. These authors also find that e-learning decreases learners' confidence levels. In face-to-face classes, learners have opportunities to interact with other students and teachers physically. They gain confidence from the experience of delivering their own opinions to other people directly. Face-to-face classrooms also develop their confidence. In face-to-face classes, various types of learning, including lectures, discussions, and group work, encourage students to learn and interact with others.

Xavierine et al. (2022) carried out a questionnaire survey of university students in Malaysia to examine the disadvantages of e-learning. They found that poor networks and connectivity were the most disliked features of online learning. The lack of interaction, distractions, and one-sided learning were also mentioned as further disadvantages.

Gherhes et al. (2021) conducted a survey on Romanian university students; their questionnaire included the following question: "What is the

biggest disadvantage of e-learning, compared to face-to-face learning?" About 20% of the respondents chose "lack of interaction" as the main drawback, suggesting that they missed interacting with their peers in an online learning environment during COVID-19. In addition, about half of the respondents said that "they prefer[red] to return to face-to-face learning after the end of the pandemic." Online students also had concerns about the quality of education and academic support they were receiving.

Although some online learning systems offer social interactions between learners and teachers (or among learners), these are not enough to engage learners in learning, compared to face-to-face instruction.

6．Blended learning

To reduce the disadvantage of e-learning, a "blended learning" approach has been proposed. Hameed et al. (2008) have found that blended learning works effectively to enhance traditional face-to-face learning. The basic concept combines classroom-based tuition with private study, using interactive multimedia resources. Mayadas & Picciano (2007) have defined blended learning as a combination of face-to-face and online learning. In simple terms, it combines instructor-led traditional learning with computer-aided learning. In blended-learning environments, teachers design programs and courses that mix and match the two teaching modalities, taking advantage of the best pedagogical techniques of face-to-face tuition and online instruction.

Akkoyunlu & Soylu (2006) have examined student views of a blended learning environment, discovering that students enjoy participating in a blended learning environment, in which face-to-face classes are supplemented with online classes. They also emphasize the significance of communication and interaction for successful learning in online education.

From another perspective, Rovai & Jordan (2004), blended-learning theorists, have emphasized that courses designed for a blended-learning environment provide a flexible approach. Blended learning provides some of the convenience of fully online courses, without the loss of face-to-face contact. Thus, the benefits of face-to-face interaction are undeniable, and its presence can enhance the quality of purely online or traditional classes.

According to Hameed et al. (2008), the benefits of this approach can be seen in a business case study. Although the managers were able to benefit from online material about the principles of hiring, they needed classroom instruction with role-playing to learn those skills. When personnel visits a company's training center to take courses in a face-to-face classroom, they learn a great deal from other people who do the same job at a different location. These kinds of skills cannot be packaged in an online course. Mullich (2004) argues that blended learning enables employees and students to learn five times as much material at one-third the cost of a classroom-only approach by the study conducted at Harvard Business School. The same study also showed that students and employees overwhelmingly preferred the blended approach.

There are other advantages of the blended-learning approach. Studies have pointed out that, in parallel with the growing use of ICT in educational settings, the blended-learning approach can provide face-to-face experiences. Oh & Park (2009) have explored how universities support faculty members in their current blended-instruction practices and the challenges they face in supporting faculty. The target population of the study included coordinators and faculty members at 151 doctoral-research universities. Most respondents had a positive view of blended instruction, believing that it played a role in improving the quality of their instruction. Furthermore, blended instruction offered an active learning environment, in which student resources could be used flexibly and teachers had more time to spend with learners in small groups or individually.

Yuen (2010) also suggests that online-learning engagement can provide an interactive setting for communication among teachers and students in the classroom, facilitating cooperative activities even beyond the classroom. Although the opportunity for interactive learning through face-to-face instruction is highly valued, learners can interact among themselves on daily basis and also with their teachers, even if they cannot meet them. Yuen focuses on the experiences of teachers and students and his findings, drawn from four case studies, suggest that there are four teaching approaches: (1) online discussion; (2) online resources for teaching and learning; (3) enhanced course management and delivery; and (4) the support of specific pedagogies. The results reveal that student experiences are generally positive and the four approaches are well-received by students, as they stimulate meaningful learning. However, the students' overall attitude toward learning online without face-to-face lectures was rather negative. They considered online learning to be similar to studying alone, which put considerable strain on their self-control and time-management skills. Many students felt that traditional lectures were a more effective and efficient way of grasping and understanding concepts and principles. Yuen (2010) points out one of the roles of online learning:

> Meanwhile, the web-based platform was acknowledged as flexible and convenient resource when downloading course notes and submitting assignments. It was concluded that ICT might be better as the supplement to face-to-face class rather than a replacement (p. 628)

Even blended instructions have problems. According to Oh & Park (2009), faculty workload (70.6%) and lack of faculty motivation and enthusiasm (61.8%) are the biggest challenges in pursuing institutional goals through blended instruction. For teachers, managing face-to-face classes and

e-learning tasks requires a greater time commitment.

In addition, although blended learning can help learners by providing encouragement to keep learning through interactions, Klein & Ware (2003) have argued that the e-learning component is best suited to learners with strong independent learning and motivation skills. There is no doubt that the success or failure of any type of learning depends on the learner's motivation.

7．E-learning and motivation

Much of the research on e-learning and learner motivation, conducted around the world, indicates that motivation is one of the most important factors in effective learning online. Nehme (2010) argues that, although an e-learner may be seen as independent and self-motivated, with a positive attitude toward learning and the ability to collaborate and cooperate with fellow learners, not all e-learners have these characteristics. As much attention has been drawn to high attrition rates on online learning in recent years, amotivation, decreasing self-motivation, and difficulties in sustaining a positive attitude toward e-learning have been critical issues.

One of the most influential and established theories in the field of learners' motivation is self-determination theory (SDT) (Deci & Ryan, 1985; Ryan & Deci, 2000). It is a macro-level theory of human motivation in general, explaining the dynamics of human need, motivation, and well-being within a social context. In the theory, they distinguish between intrinsic motivation and extrinsic motivation. The former refers to doing something because it is inherently interesting or enjoyable, and the latter refers to doing something because it leads to a separable outcome. Ryan & Deci (2000) state that since many of the educational activities in schools are not designed to be intrinsically interesting, the main concerns are how

to motivate students to value and self-regulate activities without external pressure such as sanctions. In SDT, they describe the problem in terms of fostering the internalization and integration of values and behavioral regulations, explaining as "with increasing internalization (and its associated sense of personal commitment) come greater persistence, more positive self-perceptions, and better quality of commitment "(Ryan & Deci, 2000, pp. 60-61). Developing extrinsic motivation toward intrinsic motivation helps promote learning. Furthermore, it is suggested that this motivational development is accompanied by three psychological needs; (1) autonomy (feeling self-governed and self-endorsed), (2) competence (feeling competent and effective), (3) relatedness (feeling connected, loved, and interacted). Much research supports the satisfaction of these three needs contributes to enhancing learners' motivation in classrooms. Therefore, this theory can explain the need-based support effect on learners' motivation, engagement, and learning. Ryan & Deci (2020) suggest that future research on learners' motivation requires investigating how technologies in learning motivate learners' engagement.

Chiu (2022) examined whether digital support can enhance the three perceived needs on 1,201 students of 13 - 16 years old in Hong Kong. The research tested three strategies for digital support, autonomy, structure, and involvement. The results revealed these strategies have possibilities to satisfy students' basic needs in the SDT framework, although further and more in-depth studies are needed to confirm that. He explains, "In online learning, when teachers successfully satisfy these three needs, students feel a stronger sense of autonomy to choose their preferred technologies to learn with, a stronger sense of competence to access online learning (login, materials, platforms), and a stronger sense of relatedness to connect with teachers for communication." He also implies teachers' role in online learning is one of the critical factors, especially for young students.

In the research conducted by Fryer & Bovee (2016) on 975 Japanese

university students, teachers' support perceived by students was found to have a broad range of direct and mediated effects on students' motivation in online learning. Besides, it was exposed that the completion of the e-learning tasks is chiefly predicted by their beliefs in competence.

From these previous studies, need-based support is found to make a difference in learners' motivation effectively.

8．Roles of teachers to motivate learners

Nehme (2010) illustrates the importance of appropriate e-learning instruction with the following example of first-year law students in Australia. These students were not used to e-learning. As most of them were trying to transition successfully from secondary school to university, they needed help and guidance to adapt to using IT in their studies. She insists that, while students at many secondary schools receive "spoon-fed" instructions, such as memorizing and repeating material provided by teachers, at universities, they are required to critically analyze and evaluate material. The learning process is therefore different. In such cases, students need sufficient educational scaffolding to get used to the university learning process, including online learning.

According to Doo et al. (2020), the scaffolding (educational support) provided by computers in online-learning environments is expected to improve the quality of online learning. However, a lack of interaction with learners and difficulty providing feedback in a timely manner can cause frustrations with the computer scaffolding. Although AI-based scaffolding opportunities are likely to be implemented in the near future, human instructors can currently provide more social interaction and scaffolding, leading to appropriate learning outcomes.

Alhabeeb & Rowley (2018) have examined the factors that lead to

successful e-learning among university faculty and students in Saudi Arabia. Their study shows that faculty and student perspectives differ, with faculty members viewing student characteristics as the most important factor for effective online learning. By contrast, students place more emphasis on instructors' characteristics for successful e-learning. This finding indicates that academic staff and teachers must know their students well enough to understand their needs and set up online learning programs. Nehme (2010) suggests two important aspects: "knowledge of the audience (the learners) to be able to detect the students' needs" and "awareness of students' anxiousness because such anxiety may have a negative impact on their accessibility and motivation" (p. 227).

In terms of the roles played by teachers in e-learning, researchers have made some suggestions. The roles that teachers play in education change with the needs and constraints of the learning environment. However, their fundamental role—to teach and support students—remains the same across different contexts. El-Seoud et al. (2014) suggest nine key ways for teachers to stimulate and motivate students:

> 1. to keep in mind that motivation must be nurtured in students;
> 2. to explain to their students how the online environment may be used;
> 3. to encourage interaction and collaboration among their students;
> 4. to build study groups so that students will no longer be studying in isolation;
> 5. to help students make friends by meeting fellow students in the online environment;
> 6. to interact with their students by monitoring their online presence and supplying them with continuous feedback;
> 7. to construct their learning materials and environment to target

their students;

8．to facilitate students' interaction with the online material by explaining the goal behind designated tasks;

9．to be aware of students' fear, worries, and nervousness because anxiety can have a negative effect on their accessibility and motivation.

As previously shown, peer interactions can boost student motivation. Fandino & Velandia (2020) have explained the roles of teachers (as tutors) in detail, noting that social presence must be promoted to boost social relations, group cohesion, emotional expression, and student identity. To reduce the physical and psychological distance between students and teachers, they should seek to achieve immediacy and intimacy in a more empathetic environment.

Laurillard (2002) argues that teachers should provide detailed explanations of why each task is important or how the task may be useful in the students' lives. She also advises teachers to define the learning objective of each task and the performance standards the students need to meet to reach the desired goal, advising them on the time required to complete the activity.

To ensure the success of the blended-learning approach, Fryer & Bovee (2016) show how crucial the teachers' role is:

> Teachers need to regularly take the time to clearly emphasize the relevance and meaningfulness of learning done both during class and online. This may sound simple, but there is a hitch: teachers often do not have much control over what they teach in situations where national, institutional, and departmental demands regularly guide course content. (p. 28)

Teachers must be aware of the importance of blended learning and the material they are dealing with. They must also be persuasive enough to convince students that they are learning meaningful and useful material. Both bottom-up and top-down processes are needed to support effective blended learning.

9．Conclusions

In successful blended-learning programs, teachers play a significant role in boosting learners' motivation, as the discussion above demonstrates. They have to provide appropriate scaffolding, an interactive learning environment, and correct directions to persuade learners that these learning materials and approaches are meaningful. Although e-learning is considered one of the most effective learning methods, with rapidly developing technology, it cannot replace conventional learning. Instead, it should complement it. E-learning, which includes blended learning, is expected to develop culturally, contextually, and individually optimized learning approaches, which can be adapted to diverse groups of learners.

As this study demonstrates, significant (mainly quantitative) research on e-learning has revealed its outcomes around the world. However, learner motivation depends on a number of factors, including learner characteristics, teacher characteristics, peer interactions, online environments, and levels of material and content. Learner motivation is changeable, rather than consistent. Therefore, to explore the factors that motivate learners to engage with e-learning and to make blended learning more effective, qualitative research, including ethnographic research based on in-depth interviews and observations, is needed to investigate individual factors in detail in the future.

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