

User Satisfaction in E-Learning: The Role of Self-Regulation Skills

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Abstract

This study aims to test the influence of self-regulation on user satisfaction in e-learning using the quantitative research method with 154 respondents. This research also uses a self-regulation scale and user satisfaction scale as a measuring tool. Based on the results of the multiple analysis technique that is being carried out, 13.1% of the resulting data shows that there is an influence of self-regulation on user satisfaction in e-learning while the rest of the results are influenced by other factors.

Keyword: self regulation; e-learning; user satisfaction, online learning

1. Introduction

E-learning has come a long way with the advancement of digital technology, changing the way education is delivered or learned. According to Rodrigues et al., (2019), e-learning is a web-based system that provides a personalized, interactive, and fun learning environment. These concepts include distance education, online learning, and web-based education, all of which leverage the internet to enable access to learning materials anytime and anywhere. With the increasing prevalence of online learning, educators need to understand the extent of students' readiness in this environment to achieve success (Yavuzalp & Bahcivan, 2021). These days, E-learning is considered the key to achieving flexible and affordable learning needs.

Successful adoption of e-learning depends on many factors, such as the right selection of technology, instructor characteristics, and organizational support. In addition, both students and lecturers need to change their learning and teaching methods so that the learning performance will be improved. Integrating information and communication technology (ICT) into teaching can transform the dynamic between lecturers and students. Lecturers who employ e-learning often embrace a constructivist approach, acting as active learning facilitators. This contrasts with the objectivist approach, where learners are viewed as passive recipients of information. As a result, the adoption of e-learning technology transforms students' learning styles and lecturers' teaching

methods, while also promoting directed learning through an e-learning environment. To ensure its effectiveness, student satisfaction levels must be considered during the implementation of online learning. In higher education, students' satisfaction with online learning is crucial for the effective use of e-learning (Zhu, 2012). High levels of satisfaction positively impact learning outcomes. Therefore, in online learning management, enhancing factors that contribute to student satisfaction should be considered a key indicator of e-learning success.

Student satisfaction with e-learning is a crucial indicator of the quality of the learning experience. Extensive research has focused on student satisfaction in online learning, particularly regarding interactions with instructors and peers. The quality of these interactions heavily depends on the technological tools used. A lack of trust in technology can diminish student satisfaction and negatively impact performance. Unlike face-to-face learning, online learning requires greater student responsibility. Students who struggle to manage their learning efficiently online are likely to be dissatisfied (Kuo et al., 2013). Conversely, when students have a positive e-learning experience, they feel satisfied with the learning process. This satisfaction is often achieved when students understand the importance of self-regulation, which helps them manage their time and efforts more effectively.

2. Method

This study employs quantitative research, with a sample of 154 active students who have used e-learning for at least one semester. Data was collected using a purposive sampling technique. The results showed that 28.6% of respondents were male and 71.4% were female. The respondents were from various majors: psychology (59.1%), English literature (15.5%), economics (14.8%), computing (9%), and pharmacy (1.6%).

The instruments used in this study include the self-regulation scale and the e-learning satisfaction scale. The student satisfaction scale, adapted from Xiao and Dasgupta (2002), is based on five components: content, accuracy, format, ease of use, and timeliness. This scale uses a 4-point rating system and consists of 22 items, with a high-reliability coefficient (Cronbach's Alpha) of 0.896.

The self-regulation scale that is being used is the modified Self Regulation Scale (SRS) by Schwarzer, Diehl, & Schmitz (1999). This scale employs a 4-point rating scale. The reliability of self regulation scale is measured using Alpha Cronbach resulting in 0,787 of 6 items in this scale being reliable.

Data analysis was conducted using multiple regression analysis to investigate the impact of self-regulation skills on student satisfaction in e-learning.

3. Result and Discussion

Based on the results of the hypothesis test using the multiple regression analysis technique, it was found that the F value was 11,429 with a significance level of $p < 0.01$ which can be seen in Table 1, this shows that the regression model is statistically significant, so it can be concluded that self-regulation has a significant influence on student satisfaction in e-learning so that the hypothesis is accepted. An R Square value of 0.131 indicates that around 13.1% of student satisfaction can be explained by self-regulation while 86.9% is influenced by other factors such as user experience, self-efficacy, and others (Sidhiq et al., 2023).

Table I.
Regression Test Results.

Model	R	R Square	F	Sig.
1	.363 ^a	.131	11.429	.000 ^b

According to Zimmerman (2000), self-regulation includes the ability to plan, monitor, and evaluate one's performance is very important in the context of self-learning such as e-learning. Good self-regulation allows learners to manage their time effectively, set realistic goals, and maintain motivation, all of which contribute to a more satisfying learning experience. In addition, research by Artino (2008) shows that students who have high self-regulation tend to be more satisfied with their e-learning experience because they can overcome learning challenges independently and adapt their learning strategies as needed.

Furthermore, Puzifferro (2006) stated that self-regulation has a significant correlation with learning satisfaction. This means that self-regulation in online learning is also very important to predict learning satisfaction in e-learning. Self-regulation refers to the ability to manage oneself and implement the learning process (Zimmerman, 1995a) when combined with motivation, allowing students to independently implement their self-confidence (Zimmerman, 1995b). Self-regulation and confidence applied in online learning get various results related to their ability to learn. It is known that students who succeed in online learning have better self-regulation skills compared to students who do not succeed in online learning (Lee et al., 2013). In addition, self-regulation is also positively correlated with academic outcomes (Broadbent & Poon, 2015), positive attitudes towards online learning, and perceptions of the usefulness of online collaborative learning activities (Su, Li, Liang, & Tsai, 2018).

4. Conclusion

Hypothesis testing using multiple regression analysis revealed that self-regulation significantly influences student satisfaction in e-learning, confirming the hypothesis. Self-regulation, which involves planning, monitoring, and evaluating one's performance, is crucial in self-directed learning environments like e-learning. Effective self-regulation enables students to manage their time, set realistic goals, and stay motivated, leading to a more satisfying learning experience. Research indicates that students with high self-regulation are more satisfied with e-learning because they can independently overcome challenges and adapt their learning strategies. Additionally, self-regulation is positively correlated with academic outcomes, positive attitudes toward online learning, and the perceived usefulness of online collaborative activities. Successful online learners typically exhibit better self-regulatory abilities compared to those who struggle.

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