Exploring the Relationship Between Self-Efficacy and Satisfaction During Open and Distance Learning among Sports Students

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Abstract
Student satisfaction with online education has been extensively studied and is significantly linked with students' performance. Examining student satisfaction in online settings is sensible, as new technologies have altered how students interact with the learning environment. Aim: This study investigates the relationship between self-efficacy and student satisfaction during open and distance learning (ODL) contexts among sports students. Methods: The study participants comprised 97 students from the Faculty of Sports Science and Recreation (FSR) at UiTM Seremban. The self-efficacy and satisfaction of the sports students were assessed in this study using the adapted questionnaire of self-efficacy and satisfaction (Shen et al., 2013; (Artino, 2007); Alqurashi, 2019). Results: It was reported that the respondents' self-efficacy was within the range of moderate confidence can do to highly confident can do (mean=3.77, SD=0.55). The results also indicate that the students agree with satisfaction perceived online learning (mean=3.63, SD=0.74). It was also found that there is a significant relationship between self-efficacy and students' satisfaction. The self-efficacy towards student satisfaction among sports students was moderately correlated (r (97) = 0.490, p<0.001). Conclusion: The present study ascertains the relationship between self-efficacy and students' satisfaction with open and distance learning (ODL) among sports students at UiTM.

BACKGROUND OF THE STUDY
Universities and colleges offer various options for online courses and degree completion. It's to accommodate the continuous growth of online education enrolments. As the number of students enrolled in higher education online courses continues to grow (Allen & Seaman, 2015), by analysing student satisfaction, educational institutions can identify opportunities

for online learning development and enhancement (Kuo et al., 2014). Examining student satisfaction in online settings is worthwhile, as new technologies have altered how students interact with classmates and instructors (Kaminski et al., 2009). The quality of interaction in online environments can significantly impact the technological tools used during the learning process (Lewis & Parsad, 2009). Inadequate trust in Information communication technology use may reduce students' satisfaction with online education, resulting in lower performance. Compared to traditional education, online education emphasises student accountability more (Kuo et al., 2013).

Student satisfaction reflects students' attitudes toward their education. The quality of online learning, its effectiveness, faculty satisfaction, scalability, and accessibility are five of the Online Learning Consortium's proposed criteria (Moore & Moore, 2005). These components may be used to assess and improve the quality of educators and courses offered by various educational institutions. Student satisfaction with online education has been extensively studied and has been found to be significantly associated with declines in online graduation rates, resilience, motivation, and perseverance (Ali et al., 2011). Instructors must examine their perspectives on learning to improve the overall quality of online courses, including course design, delivery, and assessment. Students who believe they understand the course material are more likely to participate actively in online lectures (Fredericksen et al., 2000). Assists instructors in optimising online courses by optimising course design, delivery, and evaluation, thereby optimising the entire student learning experience (Alavi et al., 2002). Students' satisfaction with their online training experience and perceptions of learning should be researched and analysed to increase attraction and retention and provide future students with an up-to-date and well-designed learning experience (Kuo et al., 2014).

Student satisfaction is critical for assessing the quality of the educational experience's quality (Erman & Zahide, 2008). It is worthwhile to examine student satisfaction in online environments, as advanced techniques have altered how students interact with classmates and instructors (Kaminski et al., 2009). The quality of interaction in online environments may depend highly on the technological tools used throughout the learning process (Lewis & Parsad, 2009). Inadequate confidence in communication and information technologies may reduce students' satisfaction with online classes, resulting in lower performance. In comparison to traditional classroom teaching, the nature of online education necessitates a higher level of student accountability (Moore & Kearsley, 2011). Students who are unable to successfully self-regulate their learning are unlikely to be satisfied (Puzziferro, 2008). Hence, self-efficacy appears to be particularly important in an online learning environment where students are unable to communicate with one another (Shen et al., 2013).

Educational institutions can identify online learning development and improvement areas by assessing student self-efficacy and satisfaction. It is worthwhile to examine student satisfaction in online environments, as new technologies have transformed how students interact with instructors and classmates (Kaminski et al., 2009).

The relationship between self-efficacy and learning outcomes, such as performance and satisfaction, is inconclusive. According to some studies, self-efficacy correlates positively with or predicts students' performance in web-based learning environments (Abrami et al., 2011). For example, students with a higher sense of self-efficacy demonstrated superior information-searching abilities and learning abilities compared to those with a lower sense of self-efficacy (Shen et al., 2013). However, the effect of self-efficacy on student satisfaction in distance education is poorly understood. Only a few studies examined the relationship between self-efficacy and satisfaction in web-based learning environments. They discovered

that self-efficacy is not significantly correlated with or predictive of satisfaction (Puzziferro, 2008). Additional research is needed to examine the role of self-efficacy in online synchronous learning student satisfaction.

Despite significant research in other countries, Malaysia lags significantly behind in findings on this topic. A limited study has been shown to determine the factors contributing to students' satisfaction with e-learning programs conducted by Malaysian universities and colleges (Al-Rahmi et al., 2015). Consequently, this study investigates the relationship between self-efficacy and students' satisfaction during open and distance learning (ODL) at FSR, Universiti Teknologi MARA Seremban 3.

METHODOLOGY
Research design:
Correlational research was used in this study to investigate the relationship between self-efficacy and satisfaction in online and distance learning (ODL) contexts. This research design was chosen to be consistent with the present research's main objective, which is to examine the relationship between self-efficacy and students' satisfaction in the context of ODL among FSR students at UiTM Seremban 3.

Ethical considerations:
Before data collection began, this study was registered and approved by the university's institutional ethical review board (REC/178/2021). In the online survey, all respondents were asked to grant informed consent before completing the survey. The information and responses were treated as confidential and kept anonymous.

Participants:
The participants of this study were 97 students from the Faculty of Sports Science and Recreation (FSR) who were enrolled in an online course when the study was conducted. ODL, in the present study, is a teaching and learning activity that takes place through a module combination of online courses using university Ufuture, Google Meet, Zoom and Microsoft Teams. The instructors distributed the online questionnaire link to their students using several methods such as Microsoft Teams, email, WhatsApp, and Telegram. A total of 323 individuals were sampled, and since it was carried out online, the data analysis was only based on 29% of the samples (Nigel, 2021). Lower response rates (nearly 20%) had more accurate measurements than surveys with higher response rates (Nigel, 2021).

Instrumentations:
The survey consisted of questionnaires requested for demographic information, a self-efficacy questionnaire, and a satisfaction questionnaire. The survey's design was adapted from studies by Shen et al., 2013 on self-efficacy (Artino, 2007b) and satisfaction (Alqurashi, 2019).

The self-efficacy questionnaire developed by Shen et al., 2013 (Alqurashi, 2019) is an

8-item instrument to assess the constructs related to self-efficacy. The scale items were ranked from 0 to 5, consisting of strongly disagree to strongly agree.

Student satisfaction was measured using a three-item scale to assess student satisfaction with their online learning experience, online course content, and online course function. Participants responded on a five-point scale ranging from 1 (complete disagreement) to 5 (complete agreement).

The Cronbach's coefficient alphas for all subscales were larger than 0.7; this indicates good reliability (Alqurashi, 2019).

Statistical Analysis
All data analyses were conducted using SPSS 25.0 for the Windows software package. Descriptive analysis was used for deriving mean scores for self-efficacy and students' satisfaction toward ODL. Pearson correlation analysis is used to analyse the relationship between self-efficacy and satisfaction in open and distance learning (ODL) among FSR students at UiTM Seremban 3.

RESULT FINDINGS
Descriptive results:
A total of 97 students voluntarily consented to complete the survey. Table 1 indicates the descriptive results of the demographic profile of the respondents. It showed that both genders have an equal number of the sample [(Female; n=49, 50.5%), (Male; n=48, 49.5%)]. Most of the respondents were at the age of 20 years old (n=51, 52.6%), followed by 24.7% (n=24) at the age of 22 years old and 22.7% (n=22) at the age of 21 years old.

Table 1
Descriptive results of demographic profile

Variables		Frequency (n)	Percentage (%)
Gender	Female	49	50.5
	Male	48	49.5
Age in groups	20 years old	51	52.6
	21 years old	22	22.7
	22 years old	24	24.7

Students were asked to report their self-efficacy level. Table 2 below reported that the respondents' self-efficacy was within the range of moderate confidence can do to high confidence can do (mean=3.77, SD=0.55). The results also indicate that the students agree with satisfaction perceived online learning (mean=3.63, SD=0.74).

Table 2
Descriptive results of self-efficacy and satisfaction

Variables	Mean	SD
Self-efficacy	3.77	0.55
Student's satisfaction	3.63	0.74

Relationship between self-efficacy and students' satisfaction during open and distance learning (ODL) among FSR students in UiTM Seremban 3
This study aims to determine the relationship between self-efficacy and students' satisfaction in the context of open and distance learning (ODL) among FSR students at UiTM Seremban.

Pearson Correlation analysis was used to investigate the relationship between self-efficacy and students' satisfaction during open and distance learning (ODL) among FSR students at UiTM Seremban 3. The following Table 3 indicates the relationship between self-efficacy and students' satisfaction. It is reported a significant correlation between self-efficacy and satisfaction of the students during ODL (r (97) = 0.490, p<0.001).

Table 3:
Correlation between Self-efficacy and students' satisfaction

	Student Satisfaction
Self-efficacy	.490**

*Note: ** = p < 0.001. N = 97*

DISCUSSION
The present study investigated students' self-efficacy and its relationship to students' satisfaction in ODL. It was found that the respondents' self-efficacy was within the range of moderate to high confidence can do. The results also indicate that the students agree with satisfaction perceived online learning. It was also found that there is a significant relationship between self-efficacy and students' satisfaction. These findings revealed promising results that students' satisfaction tended to be influenced by self-efficacy in the context of ODL. It's further suggesting high self-efficacy may enhance students' satisfaction with the ODL environment. Hence, embracing self-efficacy in promoting students' satisfaction is vital, leading to an effective online learning experience.

The findings of this study shed light on the significant association between self-efficacy and student satisfaction. The present study findings were consistent with a few previous studies that showed higher self-efficacy as an essential factor and among the strongest predictors of student satisfaction in e-learning (Gunawardena et al., 2010; Lee & Hwang, 2007). Furthermore, a study by Aldhahi et al. (2022) reported that self-efficacy was associated with online learning satisfaction during the emergency transition to remote learning. Moreover, Prifti (2022), in a study among university students, found a significant impact of self-efficacy on student satisfaction in the context of blended learning courses.

Several factors could have explained the findings of the present study. First, the knowledge and capability of the students in handling information communication technology may influence their self-efficacy and increase students' satisfaction with online education. Online education has emphasised student knowledge, skills, and capability in handling information communication technology more than traditional education. Hence, adequate trust and accountability with this communication technology placed on students by their instructors during the ODL may have increased their self-efficacy and influenced their satisfaction. Moreover, most respondents have been immersed in online learning for quite some time during the movement control order (MCO). They have become confident and accustomed to the situation, which may affect their satisfaction. The absence of face-to-face communication and body language interaction are just some of the limitations that may not significantly influence the e-learning environment of this population.

Other factors that may explain the study's findings are the communication and interactions during the medium of ODL, which may significantly impact the present results.

The potential variables, which are the few types of interaction, such as the learner-instructor interaction, and learner-learner interaction, may have significantly explained the present study's findings. This result may be explained by the point that the communication and interaction between instructor and students and between students have been sensibly conducted and thus facilitated the e-learning process leading to significant findings of the present study. For instance, the instructor's positive behaviour may have shaped the student's self-efficacy and led to satisfaction. It is consistent with the previous research that has clearly stated that there is a significant relationship between the behaviour of educators in the classroom and students' self-efficacy and satisfaction (Kim et al., 2018; Akyol, 2012). Moreover, the university supports system may have facilitated the ecosystem of learners that promotes remote and distance education. The university instructional support unit may have helped the instructors and learners by offering technology, digital facilities, and the necessary online skills and proficiency to manage their online learning environment.

CONCLUSION AND RECOMMENDATIONS
In conclusion, this study demonstrated that self-efficacy was vital to students' satisfaction during the open and distance learning context. Students' self-efficacy is critical in leading to student satisfaction in the context of e-learning. These empirical findings add to the fundamental knowledge in understanding the association between self-efficacy and satisfaction in the context of e-learning of the university student population. It is recommended that the education sector and all relevant providers offer vigorous strategies to enhance students' self-efficacy, leading to satisfaction in embracing e-learning. Future research should include a diverse sample of respondents from various universities, faculties, or courses, as this will enable us to see more results. Also, future research may investigate and compare the outcomes of fully online, hybrid, and blended courses to determine if they differ. These initiatives may significantly contribute to the preparation and needs of future online learning contexts.

REFERENCES
Abrami, P. C., Bernard, R. M., Bures, E. M., Borokhovski, E., & Tamim, R. M. (2011). Interaction in distance education and online learning: Using evidence and theory to improve practice. *Journal of Computing in Higher Education*, *23*(2–3), 82–103. https://doi.org/10.1007/s12528-011-9043-x

Akyol, Z. (2012). *Educational communities of inquiry: theoretical framework, research and practice:Theoretical framework, research and practice*. IGI Global. https:// doi. org/ 10. 4018/978-1- 4666- 2110-7

Al-Rahmi, W. M., Othman, M. S., & Yusuf, L. M. (2015). Exploring the factors that affect student satisfaction through using E-learning in Malaysian higher education institutions. *Mediterranean Journal of Social Sciences*, *6*(4S1), 299– 310. https://doi.org/10.5901/mjss.2015.v6n4s1p299

Alavi, M., Marakas, G. M., & Yoo, Y. (2002). A comparative study of distributed learning environments on learning outcomes. *Information Systems Research*, *13*(4), 404–415. https://doi.org/10.1287/isre.13.4.404.72

Aldhahi, M. I., Alqahtani, A. S., Baattaiah, B. A., & Al-Mohammed, H. I. (2022). Exploring the relationship between students' learning satisfaction and self-efficacy during the emergency transition to remote learning amid the coronavirus pandemic: A cross-sectional study. *Education and Information Technologies*, *27*(1), 1323-1340.

Ali, A., Ramay, M. I., & Shahzad, M. (2011). Key factors for determining student satisfaction in distance learning courses: A study of Allama Iqbal Open University (AIOU) Islamabad, Pakistan. *Turkish Online Journal of Distance Education*, *12*(2), 114–127. https://doi.org/10.17718/tojde.10766

Allen, I. E., & Seaman, J. (2015). Distance education enrollment report 2017 infographics. *Medical Teacher*, *2011*(June), 2013. https://onlinelearningsurvey.com/reports/digtiallearningcompassenrollment2017. pdf%0Ahttp://www.ncbi.nlm.nih.gov/pubmed/24989616%0Ahttp://www.scopus. com/inward/record.url?eid=2-s2.0 84861555349&partnerID=40&md5=090eefe34b565d78d45cf0d83c19751a

Alqurashi, E. (2016). Self-efficacy in online learning environments: A literature review. *Contemporary Issues in Education Research (CIER)*, *9*(1), 45–52.

Alqurashi, E. (2019). Predicting student satisfaction and perceived learning within online learning environments. *Distance Education*, *40*(1), 133–148. https://doi.org/10.1080/01587919.2018.1553562

Artino Jr, A. R. (2007). Online military training: Using a social cognitive view of motivation and self-regulation to understand students' satisfaction, perceived learning, and choice. *Quarterly Review of Distance Education*, *8*(3), 191.

Fredericksen, E., Pickett, A., Shea, P., Pelz, W., & Swan, K. (2000). Student satisfaction and perceived learning with online courses: Principles and examples from the SUNY learning network. *Journal of Asynchronous Learning Network*, *4*(2), 7–41. https://doi.org/10.24059/olj.v4i2.1899

Gunawardena, C. N., et al. (2010). Predictors of learner satisfaction and transfer of learning in a corporate online education program. *The American Journal of Distance Education, 24*(4), 207–226. https://doi. org/ 10. 1080/ 08923 647. 2010. 522919

Kaminski, K., Switzer, J., & Gloeckner, G. (2009). Workforce readiness: A study of
university students' fluency with information technology. *Computers and Education*, *53*(2), 228–233. https://doi.org/10.1016/j.compedu.2009.01.017

Kim, L. E., Dar-Nimrod, I., & MacCann, C. (2018). Teacher personality and teacher effectiveness in secondary school: Personality predicts teacher support and student self-efficacy but not academic achievement. *Journal of Educational Psychology, 110*(3), 309. https:// doi. org/ 10. 1037/ edu00 00217

Kuo, Y. C., Walker, A. E., Schroder, K. E. E., & Belland, B. R. (2014). Interaction, Internet self-efficacy, and self-regulated learning as predictors of student satisfaction in online education courses. *Internet and Higher Education*, *20*, 35– 50. https://doi.org/10.1016/j.iheduc.2013.10.001

Kuo, Y., Walker, A. E., Belland, B. R., & Schroder, K. E. E. (2013). A predictive study of student satisfaction in online education programs | Kuo | The International Review of Research in Open and Distributed Learning. *The International Review of Research in Open and Distance Learning*, *14*(1), 15–39. http://www.irrodl.org/index.php/irrodl/article/view/1338/2416

Lee, J.-K., & Hwang, C.-Y. (2007) The effects of computer self-efficacy and learning management system quality on e-learner's satisfaction. In *Proceedings of the 2007 European LAMS Conference: Designing the Future of Learning* (pp. 73–79).

Lewis, L., & Parsad, B. (2009). Distance Education at Degree-Granting Postsecondary Distance Education at Degree-Granting Postsecondary Institutions : 2006 – 07.

Moore, B. J. C., & Moore, J. C. (2005). *Mework and the Five Pillars*.

Moore, M. G., & Kearsley, G. (2011). *Distance education: A systems view of online learning*. Cengage Learning.

Nigel Lindemann. (2021). *What's The Average Survey Response Rate? [2021 Benchmark]*. Survey Any Place Blog. https://surveyanyplace.com/blog/average- survey-response-rate/

Puzziferro, M. (2008). Online Technologies Self-Efficacy and Self-Regulated Learning as Predictors of Final Grade and Satisfaction in College-Level Online Courses. *American Journal of Distance Education*, *22*(2), 72–89. https://doi.org/10.1080/08923640802039024

Prifti, R. (2022). Self–efficacy and student satisfaction in the context of blended learning courses. *Open Learning: The Journal of Open, Distance and e-Learning*, *37*(2), 111-125.

Shen, D., Cho, M. H., Tsai, C. L., & Marra, R. (2013). Unpacking online learning experiences: Online learning self-efficacy and learning satisfaction. *Internet and Higher Education*, *19*, 10–17. https://doi.org/10.1016/j.iheduc.2013.04.001

Erman Yukselturk, & Zahide Yildirim. (2008). Investigation of Interaction, Online Support,

urse Structure and Flexibility as the Contributing Factors to Students' Satisfaction in an Online Certificate Program. *Journal of Educational Technology & Society*, *11*(4), 51–65. http://www.jstor.org/stable/jeductechsoci.11.4.