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Exploring university students' engagement and motivation: critical factors

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ABSTRACT

This study investigates the factors critical for success regarding students' motivation and engagement in learning at Jordanian universities. A questionnaire was employed as the quantitative research method to measure students' evaluation of factors. Simple sampling was used to obtain a group of 265 university students in Jordan, to whom the questionnaire was distributed. Data analysis was performed using descriptive analysis, Pearson correlation, and regression analysis. The results of the study indicated that assessments, students' attitudes, learning styles and teaching styles positively related to university students' motivation and evidenced that assessment, teaching/learning strategy, and student attitudes significantly influence students' learning motivation. These results offer practical insights for educators and students and contribute to the theoretical understanding of the online learning setting by review and discover proper methods for investing in the necessary tools to enhance the quality of students learning in higher education institutions. Moreover, the findings will help policymakers and university administrators identifying the major predictors of university students' successful motivation and engagement in online learning, which have largely remained underexamined in the literature.

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1. INTRODUCTION

Online learning has evolved over the years, aided by technological advancements and societal changes, and is expected to continue to evolve in the future [1]. Higher education institutions must thus enhance their evidence-based policies, offer reasonably priced psychological and mental healthcare, and adapt to ongoing dynamic changes [2]. Previous studies in this area have focused on the variables that contribute to the successful academic endeavors of learners and the identification of how various input predictors of learners' responses to online courses.

However, past studies have yielded mixed results; therefore, despite the high demand for online learning, relevant professionals in the field require novel methods in the online environment to facilitate optimum learning, while considering students preferences, in terms of the mixed results of several past studies [3]–[6]. Moreover, prior literature has generally evidenced a significant positive relationship between online learning and student knowledge, academic success, engagement and group satisfaction [7], [8], but in

the context of developing nations, the widespread feasibility and popularity of this learning method have been curbed by numerous challenges [9]. Other studies are hence needed to examine critical factors (e.g., environmental, health, political, and academic) in the education field to enhance online learning [10]–[14].

As such, this paper investigates the impact of various input variables namely, assessment course difficulty, teaching/learning strategy, and teachers support on students learning outcomes, and the differences in such impacts between online and traditional classes. The scope of the paper covers the various input predictors of learners' responses to online courses. Studies on this topic in other countries have linked online learning experiences to instructional methods, more instructor-student support and interaction, materials accessibility, course content, and assessment conditions [15], [16]. This is exemplified in some studies demonstrating the effectiveness of online instructional methods for learning [15], [16], and the effects of course content and assessment conditions, teachers' technology competency, learning style, and student attitudes on e-learning success.

In universities, shifts in the learning system towards providing of students with the required online learning materials via a longer-term technology-based learning, process raise the question as to how the sudden transition to e-learning can facilitate student learning, digital self-efficacy, interaction with content materials, and assessment. A universal method is urgently needed to guarantee success among students worldwide. Although higher education in Jordan has started realizing the benefits of incorporating e-learning in the academic activities beside face-to-face teaching, Jordanian universities have very limited access to e-learning systems, and they continue using the traditional techniques of instruction such as instructors-students interactions [17], [18]. Al-Jedaiah [19] also identified several issues of e-learning in Jordanian higher education such as difficulties in employing -learning techniques and administrative and financial issues. However, there are not many studies focusing on higher education students' engagement and motivation levels in the global and Jordan context in online learning settings. Additionally, for several reasons, including factors influencing students' success have not much attention in Jordan to solve the learning issues in online environment. Therefore, there is a need to conduct this research.

Previous studies have called for additional research to fully explain the top online success predictors of course assessment, including course difficulty, teaching/learning strategy, and teachers support [3]–[16]. This study attempts to fill the gap in existing research and literature on the online learning process and education more broadly, particularly in terms of university education. According to many studies and theories (e.g., social cognitive theory), a relationship exists between various internal and external factors (e.g., behavioral, social, personal, environmental) on the one hand and learning and e-learning success on the other [20], [21]. In a given situation, higher outcome expectations and self-efficacy are considered to be determinants of an individual's decisions, behavior, invested effort level, and strategy employed [22].

Regarding self-determination theory (SDT), which is the top inclusive and empirically validated motivation theory in the field of education [23], socio-contextual factors either support or hinder an individual's motivation to fulfil fundamental psychological needs [24]. The theory posits those certain major psychological elements form student learning experiences in virtual environments [25]–[27]. It further explores the factors influencing student motivation extending the implementation of SDT in the university sector. According to SDT, human beings seek to fulfil three psychological needs autonomy, competence, and relatedness [24]. The context for this study is student experiences in online learning environments in higher education universities in Jordan, and the study contributes to identifying learning practices that can be more effective for all factors in the academic environment. The objective of this study is to determine the predictors of academic motivation and success in online and traditional learning among college students, with a specific focus on course assessment, teaching/learning strategies, and teacher support.

As a result, the current study aims to analyze the factors influencing students' learning motivation in the context of online learning. Accordingly, the study tasks are the following: i) to determine the top significant online success predictors of students' learning motivation; ii) to examine the significant online success predictors, namely attitudes, courses assessment, teaching/learning strategies on the success of students. Figure 1 conceptual framework shows the correlation between the variables considered in determining the critical factors effects students' motivation at higher education institution in Jordan. Particularly, this framework specifically highlighted the independent and dependent variables used in this research.

2. METHOD

The study employed a cross-sectional study to investigate the factors influencing the learning motivation process of students in Jordanian universities. The main strength of the cross-sectional study is relatively quick and inexpensive to conduct as well as valuable to use in technology and information systems research [28]. A quantitative method was employed with a questionnaire as the main instrument for data collection, to determine the respondents' characteristics, attitudes, views, abilities, beliefs, expectations, and thoughts, as suggested by several past literatures [5], [29], [30].

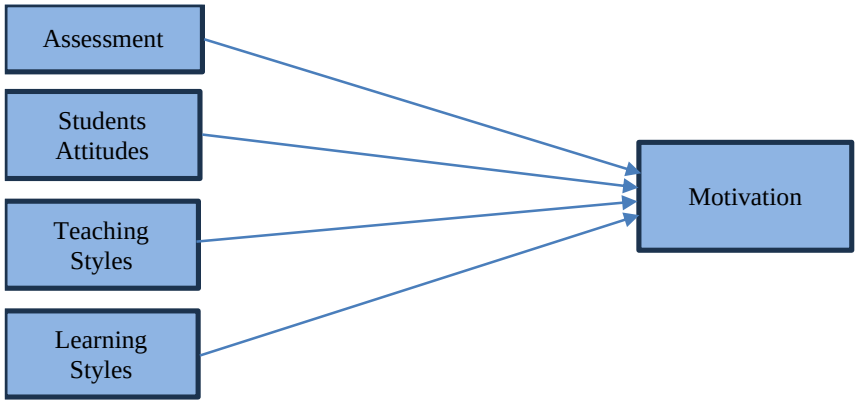

Figure 1. Conceptual framework

2.1. Study and sampling procedure

The study's population sample comprised university students in Jordan, chosen based on their familiarity and experience with current technology use and their involvement with use-based activities. Participants were also selected from universities that house the majority of students enrolled in online courses. Respondents comprised 265 students aged 18–22 from various faculties at the Irbid National University in Jordan. The university was chosen as was available for the researcher as well as due to its huge development in terms of online resources and digital transformation in comparison to other universities. To determine the sample size of this study [31], guidelines were followed, who suggested five to 10 responses per item for the construct. However, the total number of items was 26, therefore, the researchers decided to collect a maximum of 10 responses per item. A total of 265 university students were enrolled in this study. They were chosen using random sampling from the group of students who attended traditional learning sessions for the 2022–23 academic year.

Before commencing with the main study, the researcher applied for approval from the ethics committee of the university regarding the distribution of the survey questionnaire to communication centers with recruitment material presented in a hyperlink. Data was gathered via an online Google Form questionnaire, which departmental staff administered to students. Respondents constituted 104 male (43.3%) and 136 female (46.7%) students ranging in age from 18–22 years (50.8% from 18–20 and 49.2% from 20–22).

2.2. Study measurements

The reviewed past literature provided five variable scales: The assessment scale was adopted from Umar [32], the student attitude scale [33], and the teaching style scale [34]. Moreover, scales for learning styles, the visual, aural, read, kinesthetic (VARK) online questionnaire, and learning motivations were adopted from Keller [35]. Following the development of the survey items, experts reviewed the scales for validity, feedback, and suggestions. Each scale consisted of several items measured on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

The instrument comprised several sections; the first one focused on the respondents' demographics (i.e., age, gender, and computer experience) and the second on scaled-response items to determine students' perceptions of the influence factors on their inclination to use online learning. The questionnaires of the initial version of the study tool were validated for face and content validity by a panel of four experts working in universities with expertise and experience in education, information technology, psychological measurement and evaluation. They verified the extent to which the items belonged to the tool as a whole and ensured the accuracy of the linguistic formulation and the suitability of the tool to achieve the objectives of the study. The experts approved the tools to achieve the study objectives. Based on the experts' suggestions, modifications were made to the items to suit the educational context and to ensure proper wording for the respondents. The correlation coefficients of each item with the total score of the tools were also extracted from the study sample. The results of the correlation coefficients of the items with the tools ranged between 0.30–0.65, and all correlation coefficients were of acceptable and statistically significant degrees. Therefore, the results confirm the validity of the tool to measure what is intended to be measured. Cronbach's alpha coefficient was employed to establish internal reliability, validated for assessment (0.75), student attitudes (0.77), teaching styles (0.88), learning styles (0.79), and motivation (0.73). Questionnaire data was then encoded and entered into SPSS for data analysis and the calculation of mean and standard deviation values.

3. RESULTS

Table 1 presents the results of the descriptive data analysis. The study examined learning motivation and engagement as dependent variables and assessment, student attitudes, teaching styles, and learning styles as independent variables. The normality of the data distribution was established with skewness and kurtosis; linear regression analysis assumptions were satisfied, with values between 3 and 10.

Table 2 presents the results of the variable relationships using the bivariate Pearson principal method. Based on the results, the relationships between assessment, student attitude, and teaching and learning styles (independent variables), and learning motivation (dependent variable) on the other are of a medium level, with r values ranging from 0.263–0.370. Moreover, the relationships between assessment, student attitude, and teaching and learning styles (independent variables), and learning motivation (dependent variable) on the other are of a medium-strong level, with r values ranging from 0.252–0.538.

The direct effects of the independent variables on their dependent counterparts were tested using linear regression analysis. For model 1, the linear regression analysis results supported a significant level of variance in motivation (R=.647, R-square=.419, F=3.748, p=.000). Meanwhile, assessment, student attitudes, learning styles, and teaching styles were found to have significant effects on learning motivation (B=.281, t=3.885, p=0.000; B=.248, t=3.393, p=0.001; B=.199, t=2.972, p=0.003; and B=.188, t= 2.882, p=0.004), respectively.

Table 1. Descriptive data analysis

Variables	Skewness	SD	Kurtosis	SD
Assessment	0.035	.157	.017	.313
Student attitudes	.001	.157	-.362	.313
Teaching styles	.491	.157	.024	.313
Learning styles	.196	.157	.499	.313
Learning motivation	.100	.157	.028	.313

Table 2. Bivariate correlation between variables

Variable	Assessment	Student attitudes	Teaching styles	Learning styles	Learning motivation
Assessment	--	.547	.598	.570	.594
		.00	.000	.000	.000
Student attitudes	.547	--	.506	.577	.465
	.000		.000	.000	.000
Teaching styles	.598	.506	--	.553	.553
	.000	.000		.000	.000
Learning styles	.570	.557	.533	--	.546
	.000	.000	.000		.000
Learning motivation	.594	.465	.533	.546	
	.000	.000	.000	.000	--

4. DISCUSSION

The main objective of this study was to determine the success factors of online learning among university students in Jordan. The results revealed that assessment, student attitudes, and teaching and learning styles had significant effects on student learning motivation, supporting the hypotheses. Most of the study hypotheses were supported. Based on the results, a strong positive relationship exists between assessment and learning motivation, which means that learning motivation is influenced by the assessment of courses. High-performing students have a higher likelihood of being more motivated to learn, which aligns with Babincáková *et al.* [36], who report the same result and suggest promoting student engagement through the application of concepts to actual contexts. Incorporating online assessment tools into learning environments has great potential to form an effective structure and organization for ongoing instructor–student interactions and promote the development and expansion of effective learning communities to facilitate learning and appraisal [27], [37]. Such a positive effect may also be attributed to the positive feelings enhanced by student competencies through instructors' regular feedback.

The positive relationship between online learning attitude and learning motivation shows that students' online learning experiences are affected by their attitudes, students with positive attitudes are more likely to be motivated to learn than those with negative attitudes. This aligns with previous study [38], [39], which found that students' positive attitudes towards the benefits of online learning influence their satisfaction. Positive online attitudes also have a positive influence on students' online learning preferences [40], indicating that students with positive attitudes toward online learning will have more learning enjoyment. This study found that students with positive online learning attitudes are likely to experience more joy in their online experience, which increases their motivation and engagement in learning.

This study found learning styles and teaching styles to be significantly related to the learning motivation of university students, which may be attributed to the time and place of variables. The pre-pandemic learning process involved instant interaction between students and their instructors. This may also be attributed to the different abilities and learning styles of students. Notably, the students used learning materials presented in a read/write format, which shows that students are not fully aware of their preferred learning styles. This highlights the appropriate effective learning styles for students in online, compared to traditional, learning [41], [42]. Findings regarding students' online learning experiences and their relationship with their learning strategies have been mixed [43]. Students who adopt strong learning strategies increase their chances of having satisfied online learning experiences. Finally, teaching style was found to have a significant relationship with both the learning motivation and learning engagement of university students, supporting the idea that online learning and face-to-face learning facilitate a successful teaching and learning environment through class discussion, which engages teachers and students simultaneously.

4.1. Implications

The findings of this research contribute to explaining the differences in students' successes in online learning. Past literature has extended knowledge of student experiences and motivation in the learning process [44], [45], but gaps remain concerning e-learning outcomes. E-learning activities involve academics and learners, but effort must be exerted by the former in higher learning institutions to enhance not only learning outcomes and content, but also the process of evaluation and assessment of knowledge during online learning [46]. Although previous studies have focused on how each individual factor influences students' motivations towards the online learning process, few (and none in a Jordanian context) have examined the influence of learning style, teaching style, student attitudes, assessment, or teacher support on student motivation [47]–[50]. The present study thus aimed to address this gap by identifying the factors influencing student motivation in the online learning process.

Another interesting observation of this study is the adaptation to online learning during the COVID-19 pandemic and beyond. Instructors and course developers can use the results of this study for course design and revision and define new learning possibilities based on students' strengths and preferences. The study contributes to the literature in terms of effective online learning instruction, instruction using online and traditional learning techniques for university students, and major predictors of university students' successful motivation and engagement in online learning, which have largely remained underexamined in the literature. This calls for investigation into the most effective online learning predictors to bring about enhanced motivation, and eventually success, among students.

5. CONCLUSION

This study has shed light on the role of factors affecting student motivation in online learning. The results support the role of assessment, teaching and learning styles and student learning attitudes in student online learning motivation and engagement. The results support the role of teaching and learning styles in determine the online learning process and that students require training in technology and new device use during their learning process. In summary, the results provide insight into the academic success of students. Similarly to other research, the present study has its limitations. The first is oversight in examining the influence of student characteristics, future studies should include these in their investigations. Second, the study setting, which was one university in Jordan, therefore, future study should be extended to other universities for further validation of the findings. Finally, the study adopted a specific data collection method, which future studies should supplement with other methods for the further enrichment of findings.

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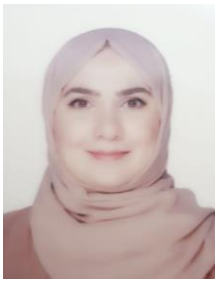

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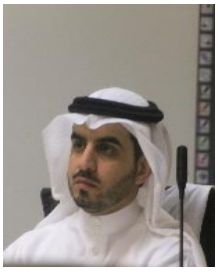

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