

The Influence of Value, Social Support and Expectancy in Online Learning

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Abstract

Understanding the elements that influence engagement and success is crucial in the context of online education, since it poses distinct challenges and opportunities for inspiring learners. This study examines the influence of value, anticipation, and social support on motivation in online education settings. The research seeks to clarify the relationship between these characteristics and how they collectively influence learner motivation, using a quantitative survey technique. The study was administered to 108 participants from engineering backgrounds of different educational institutions in Malaysia. It included questions about demographics, values, expectations, and social support. The results highlight the importance of internal motivation driven by curiosity and interest, as well as the crucial roles of self-efficacy and perceived control in influencing learners' motivation. Furthermore, the presence of social support from both peers and teachers is identified as a crucial factor in determining motivation, since it fosters a sense of community and assistance. Significant relationships were seen between value and social support ($r = .685^{**}$), social support and expectancy ($r = .552^{**}$), and expectancy and value ($r = .741^{**}$). The study highlights the need of creating online learning environments that are helpful and engaging. It emphasises the necessity of fostering internal motivation, strengthening self-confidence, and offering strong social support to enhance learner engagement and academic success. Subsequent studies should investigate the long-term impacts of these characteristics and examine particular learning environments to provide customised knowledge for educational implementation and policy-making.

Keywords: Online Education, Learner Motivation, Value, Expectancy, Social Support

Introduction*Background of Study*

The field of online education in Malaysia has experienced substantial expansion and development, especially in recent times. The rise of online learning can be attributed to various factors, such as technological improvements, shifts in educational regulations, and the imperative to broaden educational accessibility. Higher education institutions have progressively integrated online components into their curricula, providing blended learning programmes or entirely online courses. Moreover, both public and private organizations have developed e-learning platforms to provide educational resources and courses to learners across different disciplines and levels.

Various terms are utilized to delineate the utilization of digital technology in the realm of online learning, including e-learning, distance learning, flexible learning, open learning, blended learning, mixed learning, and MOOCs (Massive Open Online Courses). Although 'online learning' and 'e-learning' are often used interchangeably, Hartnett (2016) suggested that online learning specifically denotes a form of distance education facilitated by technological tools. These tools enable students, who are physically separated from instructors and educational institutions, to continue their education. In contrast to traditional face-to-face classroom learning, online learning harnesses information and communications technology (ICT) for delivering teaching materials, facilitating learner-instructor interaction, fostering collaboration, and promoting student engagement (Widjaja & Chen, 2017). The rapid evolution of the Internet, coupled with advancements in big data and artificial intelligence, has significantly transformed the learning environment. These emerging technologies have given rise to new learning-teaching paradigms in the virtual realm.

Feedback from learners and educators regarding online learning in Malaysia has been mixed. While many students appreciate the flexibility and accessibility offered by online learning platforms, challenges related to connectivity and access to digital devices persist, particularly in certain regions of the country. The presence of technological challenges has been identified as a major hindrance to motivation (Al-Kumaim et al., 2021). Obstacles such as restricted device availability, inadequate internet connection, and lack of experience with digital tools might impede students' involvement and excitement in online education. Moreover, a research conducted by Raghunathan et al (2022) has revealed that the quality of the teacher-student interaction has a significant influence on motivation. Both learners and educators stress the significance of interactive elements in online learning platforms to boost engagement and improve learning results, highlighting the necessity for continuous enhancement and adjustment in the online education domain.

Self-regulated learning is an important factor in online education (Tajudin et al., 2022). Students with proficient self-regulation skills, such as the ability to create goals, manage time, and assess their own progress, are more adept at maintaining motivation and concentration in online learning settings. Moreover, the implementation of suitable learning methodologies might have a beneficial impact on motivation (Anthonysamy & Singh, 2023). Students who employ efficient study strategies customised for online learning generally experience increased confidence and engagement. Nevertheless, obstacles such as experiences of seclusion Ismail & Razak (2021) and anxiety and tension Ahmad et al (2022) might have an adverse effect on motivation. Insufficient social connection and support, combined with the uncertainties, especially while surrounding the pandemic, can discourage students and hinder their academic advancement.

Notwithstanding these difficulties, the drive to acquire knowledge remains crucial for students to adjust to the novel approach to education. In the realm of online education, where students are expected to assume more responsibility for their own learning, motivation plays a critical role in promoting student engagement and interaction, both of which are essential for achieving the best possible learning results. Hence, it is crucial to make concerted efforts to bolster and augment students' motivation to engage in online learning, since this is vital for their academic achievement and overall welfare in the digital learning setting.

Statement of Problem

Research conducted on online learning motivation in the Malaysian context has made substantial progress, providing insight into the several aspects that impact learners' involvement and perseverance in virtual learning settings. Nevertheless, despite the advancements achieved, there are significant holes in the existing literature that require additional research. Although previous research has provided insights into the impact of various factors, such as technological difficulties, teacher-student interactions, and self-regulated learning on motivation in online learning Al-Kumaim et al (2021); Raghunathan et al (2022); Tajudin et al (2022), further investigation is required to understand the complex relationship between these factors and their combined influence on students' motivation.

This study seeks to investigate several components of motivation, with a specific emphasis on internal and extrinsic goal orientations, task value, self-efficacy, control of learning beliefs, social engagement, and instructor support. Although previous studies have acknowledged the significance of these aspects in influencing students' motivation, there is still a lack of comprehension regarding the interplay of these factors in the realm of online education, specifically among university students. This study is significant because it provides a comprehensive analysis of the factors influencing student motivation in online learning within the Malaysian context. The theoretical and practical contributions of this research will help shape the future of online education, promoting effective learning experiences, informing policy decisions, and ensuring equitable access to quality education for all students.

For students, it facilitates the development of more captivating and efficient learning environments customised to their individual requirements, resulting in improved academic outcomes and personal development by promoting self-control and enhanced study practices. Educators can utilise these insights to create instructional plans that are aligned with students' goals, thereby enhancing their level of involvement and offering assistance through professional development initiatives. Policymakers can utilise well-informed data to formulate policies that improve the infrastructure, accessibility, and quality of online education. Similarly, educational institutions can leverage these findings to design curricula that integrate motivational components, enhance their programmes, and bolster their reputation by implementing strategies that enhance student motivation and achievement. Researchers enhance their knowledge of online learning and motivation across different cultures, thereby establishing a solid basis for future studies and gaining valuable worldwide insights.

The wider societal impacts include promoting fair and equal access to high-quality online education, facilitating the reduction of the digital gap, and contributing to the cultivation of a driven educated workforce, so enhancing national progress. In addition, the study encourages the development of a nurturing educational community that encourages cooperation among students, educators, and institutions. Hence, this research aims to

address this deficiency by investigating the correlation between intrinsic and extrinsic goal orientations, task value, self-efficacy, control of learning beliefs, social engagement, and instructor support, and their combined influence on students' motivation in the online learning setting.

By addressing these dimensions comprehensively in identifying what drives students to engage and succeed in online learning settings, the study provides valuable insights that can lead to the development of more engaging and effective educational practices. The findings will not only contribute to theoretical advancements in the field of motivation but also inform practical strategies for educators and policymakers to enhance students' engagement and learning outcomes in virtual learning environments.

Objective of the Study and Research Questions

This study aims to explore into learners' perceptions regarding their utilization of learning strategies. Specifically, it seeks to address several key questions:

- How does value influence learners' motivation?
- How does expectancy influence learners' motivation?
- How does social support influence learners' motivation?
- Is there a relationship between value, expectancy and social support in learners' motivation?

Literature Review

Motivation to Learn Online

Motivation plays a pivotal role in shaping not only the content and methods of our learning but also dictates when we engage in learning experiences (Hartnett et al., 2011). Research has consistently highlighted motivation's influence on various aspects of learning, including active participation, enjoyment, adoption of deep learning approaches, and the enhancement of performance, persistence, and creativity (Schunk & Zimmerman, 2012). However, despite the recognized importance of motivation, studies focusing specifically on motivation in online learning contexts remain relatively scarce (Artino, 2007; Bekele, 2010).

Existing research often oversimplifies motivation as a stable personal trait, neglecting its multifaceted nature and the contextual factors that influence it (Hartnett et al., 2011). While intrinsic motivation is commonly observed among successful online learners, segregating intrinsic and extrinsic motivation fails to capture the nuanced interplay between these motivational factors (Hartnett et al., 2011). Understanding motivation as a dynamic interaction between individuals and their learning environments is essential for grasping its complexities in online learning (Turner & Patrick, 2008).

Glynn and his team highlighted various motivational factors influencing learning (Glynn et al., 2011). These include intrinsic and extrinsic motivation, self-efficacy and others. Intrinsic motivation involves finding learning inherently gratifying due to its interest and enjoyment (Duda & Nicholls, 1992; Glynn et al., 2011). In other words, intrinsically driven behaviour is not contingent on any external outcome but rather derives satisfaction from the behaviour itself. Conversely, extrinsic motivation stems from external incentives, like rewards or avoidance of punishment (Black & Deci, 2000; Glynn et al., 2011). Extrinsic motivation involves behaviour driven by the pursuit of goals unrelated to the activity itself, making it inherently instrumental.

The expectancy-value theory, as outlined by Eccles & Wigfield (2002), posits that individuals' expectations of success and the perceived value of tasks are crucial in predicting their future

decisions, engagement, persistence, and achievements. Expectancy components encompass self-efficacy and control beliefs, as noted by Pintrich (2003). Academic self-efficacy refers to a learner's confidence in their ability to successfully complete a learning task at the required level (Bandura, 2012; Schunk, 2012). This self-belief significantly influences motivational processes in learning, shaping how learners approach goals, overcome challenges, and fulfil responsibilities. The disparity between strong and weak expectancy components among learners lies in their perceptions of competence and perseverance in task completion (Hayat et al., 2020; Kurbanoglu & Akin, 2010).

Online learning differs from face-to-face instruction in that students lack direct interaction with their friends and teachers. This absence of personal connection can lead some students to feel isolated during their learning journey, potentially dampening their motivation to continue their studies. Addressing this issue requires prioritizing social support within online learning environments. Platforms facilitating communication between students and between students and teachers are essential. In this regard, teachers play a central role in fostering such communication (Lagat & Concepcion, 2022). Effective communication goes beyond the mere provision of tools; it encompasses the delivery of instructions and feedback to students (Baber, 2022). Therefore, establishing robust channels for interaction and ensuring the quality of communication are vital aspects of successful online learning experiences.

Past Studies on Online Motivation

Numerous studies have explored the realm of online learning, particularly focusing on the motivations driving students' engagement amidst challenging circumstances in Malaysia. This research conducted by Mun & Sam (2022) investigates the impact of online learning motivation on undergraduate students in Malaysia amidst the COVID-19 pandemic, by employing a mixed methods approach. The study encompasses undergraduates from both public and private higher education institutions (HEIs) in Malaysia, totalling 39,907 students. To accommodate potential low response rates, the targeted sample size was increased to 1,500, yielding 535 responses, representing a 35.6% response rate. The research instrument comprised three sections: demographic variables, 5-point Likert scale statements covering constructs like learning environment, ability self-efficacy, learner-instructor interaction, and study motivation, along with an interpretive comments section. Analytical methods included descriptive and inferential statistics, structural equation modelling, and confirmatory factor analysis. Key findings indicate that a low distraction learning environment enhances cognitive processing, while self-efficacy is no longer a significant motivator during abrupt lockdowns; parental support and conducive home learning environments are crucial for stress reduction. The study suggests that students should aim for greater cognitive independence and self-determination, HEIs should offer technical support to mitigate disruptions, and instructors should demonstrate empathy and patience towards students facing online learning challenges. Additionally, the researchers recommend longitudinal studies to assess the prolonged effects on students' academic performance and growth.

Meanwhile, Yusop et al (2022) focuses on the motivation of students to learn online in public universities in Malaysia, particularly students enrolled for the Mathematics or Statistics courses and the Introduction to Technology or Computer Science courses. The study explores the influence of social support, expectancy, and value on students' motivation to learn online, as well as the relationship between these factors. The study included a sample of 102 students from a public institution in Malaysia. The survey utilised in the study was a modified version of a prior study conducted by (Fowler, 2018). It included various sections designed to assess

self-efficacy, control of learning beliefs, intrinsic and extrinsic goal orientation, task value, social engagement, and instructor support. The study's findings indicate that social support, expectation, and value have a favourable impact on students' motivation to learn online. The study specifically emphasised the significance of social engagement, teacher support, self-efficacy, and control of learning beliefs in augmenting students' desire for online learning. The findings of this study indicate that in order to sustain motivation in online learning, students should possess sufficient social support, optimistic self-perceptions of their capabilities, and recognise the significance of the learning materials and activities. Moreover, the study highlights the importance of instructor assistance and effective communication in promoting students' motivation in the context of online education.

Adopting study conducted by Pintrich & De Groot (1990); Saleh et al (2023) investigated the influence of value and expectancy components on learning motivation among students at a public university in Malaysia. The study utilized quantitative methods, administering online questionnaires consisting of two sections and 19 items to 151 respondents. Through descriptive and inferential statistical analysis, findings show positive responses to both sets of components, with extrinsic goal orientation scoring highest among value components and control beliefs for learning receiving the highest score among expectancy components. Despite differences from previous research, all components were deemed important, with value components scoring higher overall but maintaining a strong positive relationship with expectancy components. These results underscore the multifaceted nature of learning motivation during crises like the pandemic, emphasizing the significance of intrinsic and extrinsic goal orientations, task value beliefs, self-efficacy perception, and control beliefs for learning in shaping student engagement and achievement.

Conceptual Framework

Figure 1 shows the conceptual framework of the study. This study explores learners' motivation for online learning. One important motivator for any type of learning is the environment (Rahmat et al., 2021). In online learning environment, learners need motivation to maintain their interest. According to Fowler (2018), three important factors for online motivation are value, social support and expectancy.

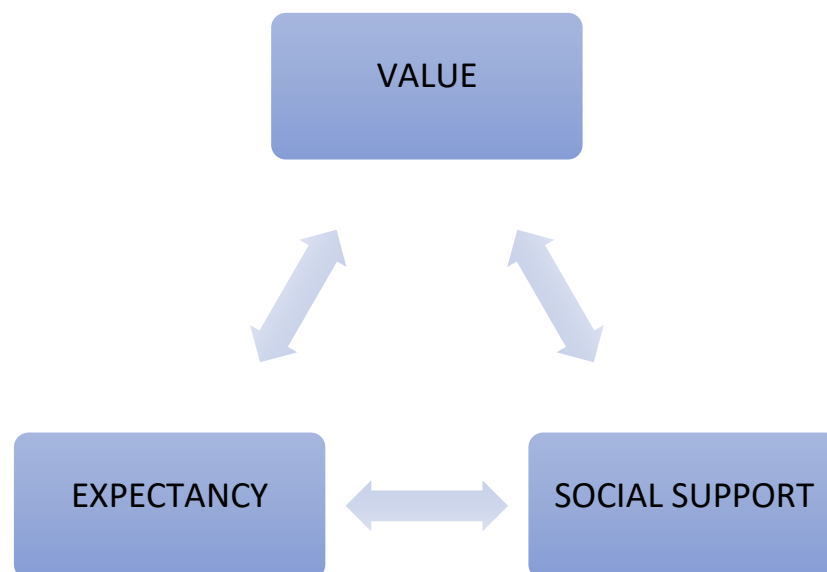


Figure 1- Conceptual Framework of the Study

The Influence of Value, Social Support and Expectancy in Online Learning (Fowler, 2018).

Methodology

This quantitative study is done to explore motivation factors for learning among engineering university students in Malaysia. A purposive sample of 108 participants responded to the survey. The instrument used is a 5 Likert-scale survey and is rooted from Fowler (2018) to reveal the variables in Table 1 below. The table provides an overview of the survey's structure, reflecting the distribution of 38 items across different constructs related to learning, such as motivation, self-efficacy, goal orientation, task value, and social support. The survey has 4 sections. Section A has items on the demographic profile. Section B has 12 items on Expectancy. Section C has 14 items on Value and Section D comprises 12 items on Social Support.

Table 1

Distribution of Items in the Survey.

SECTION	MOTIVATION (KEYWORD)	SUB-SCALES	NO OF ITEMS	RELIABILITY
B	EXPECTANCY	Self-Efficacy	8	.919
		Control of Learning Beliefs	4	
C	VALUE	Intrinsic Goal Orientation	4	.894
		Extrinsic Goal Orientation	4	
		Task Value	6	
D	SOCIAL SUPPORT	Social Engagement	5	.899
		Instructor Support	7	
			38	.953

Table 1 also shows the reliability of each variable in the survey. The analysis shows a Cronbach alpha of 0.919 for Expectancy, a Cronbach alpha of 0.894 for Value and a Cronbach alpha of 0.899 for Social Support. In addition, the overall Cronbach alpha for all items is 0.953. Sekaran & Bougie (2016) state that Cronbach's alpha coefficient values below 0.6 are considered poor, while values above 0.70 are considered good, values of 0.8 are considered very good, and values of 0.9 and above are considered excellent. Therefore, this indicates that the questionnaires' internal dependability can be deemed acceptable and satisfactory. This reveals a good reliability of the instrument used. Further analysis using SPSS is done to present findings to answer the research questions for this study.

Findings

Findings for Demographic Profile

This section aims to elucidate insightful demographic findings regarding the influence of social support and expectancy values on online learning among university students in Malaysia.

Table 2

Percentage for Gender

Gender	Percentage (%)
Male	53%
Female	47%

Table 2 presents the gender distribution among the respondents, with 53% identifying as male and 47% as female. Notably, all respondents are full-time students, comprising 100% of the sample as depicted in Table 3.

Table 3

Percentage for Mode of Study

Study Mode	Percentage (%)
Full-time	100%
Part time	0%

Table 4

Percentage for Location (region)

Location	Percentage (%)
Northern Region	7%
Central Region	36%
Southern Region	42%
East Coast	12%
Sabah & Sarawak	3%

Table 4 displays the percentage distribution of respondents by location (region). The data reveals that the highest proportion of respondents is from the Southern Region, constituting 42% of the sample, followed by the Central Region with 36%. The East Coast and Northern Region account for 12% and 7% of respondents, respectively. Notably, respondents from Sabah & Sarawak represent the smallest proportion, comprising only 3% of the total sample. These regional percentages provide valuable insight into the geographic distribution of respondents, which is essential for understanding potential regional variations in experiences and perceptions of online learning among undergraduate students in Malaysia.

Table 5

Percentage for Level of Study

Level of study	Percentage (%)
Diploma	40%
Degree	59%
Post-Graduate	1%

Table 5 showcases the percentage distribution of respondents according to their level of study. The data indicates that the majority of respondents are pursuing a degree, constituting 59% of the sample. Following closely, 40% of respondents are enrolled in diploma programs. Post-graduate students represent a smaller proportion, comprising only 1% of the total sample. This breakdown provides valuable insight into the educational background of the respondents, facilitating a nuanced understanding of how different levels of study may influence perceptions and experiences related to online learning among undergraduate students in Malaysia.

Table 6

Percentage for Field of Study

Field of study	Percentage (%)
Civil Engineering	57%
Electrical Engineering	12%
Mechanical Engineering	20%
Chemical Engineering	11%

Table 6 delineates the percentage distribution of respondents by field of study. The data indicates that the majority of respondents are enrolled in Civil Engineering programs, constituting 57% of the sample. Following this, Mechanical Engineering accounts for 20% of respondents, while Electrical Engineering and Chemical Engineering represent 12% and 11% of the total sample, respectively.

Findings for Value

In this section, the findings pertaining to the influence of value on learners' motivation are presented. Addressing research question 1, the data sheds light on the extent to which value affects learners' motivation to engage in academic activities. These mean values provide insights into the average level of agreement or confidence among learners regarding their intrinsic goal orientation, extrinsic goal orientation and task value of the course.

Table 7

Mean for Intrinsic Goal Orientation (VI).

Statement	Mean
VIQ1: I prefer material that really challenges me, so I can learn new things.	3.3
VIQ2: I prefer material that arouses my curiosity, even if it's difficult to learn.	3.4
VIQ3: The most satisfying thing for me is trying to understand the content as thoroughly as possible.	3.7
VIQ4: I choose assignments that I can learn from even if they don't guarantee a good grade.	3.4

Table 7 presents the mean values for four (4) statements related to intrinsic goal orientation which were discovered in this study. From the analysis, the highest mean of 3.7 indicates that respondents find the most satisfaction in thoroughly understanding content (VIQ3). Meanwhile, respondents show moderate agreement with a mean score of 3.4 to two statements which are VIQ2 and VIQ4. This shows that respondents reflect the same weightage of agreement for the preference for material that piques curiosity, despite potential difficulty and choosing assignments based on learning opportunities rather than grade guarantees. Furthermore, respondents also moderately agree that they prefer challenging material that enables new learning experiences. This is indicated by the score of mean value of 3.3 for item VIQ1. Overall, the data suggests that respondents tend to prioritize intrinsic incentive variables, such as difficulty and curiosity, over external rewards like grades when expressing their learning preferences. The moderate mean values indicate that there is a tendency towards intrinsic aims, but it is not excessively strong. This suggests a well-rounded approach to education in which both internal and external motives are influential learner's motivation.

Table 8

Mean for Extrinsic Goal Orientation (VE).

Statement	Mean
VEQ1: Getting a good grade is the most satisfying thing for me.	4.6
VEQ2: The most important thing for me is to improve my overall grade point average, so my concern is getting a good grade.	4.5
VEQ3: I want to get better grades than most of the other students in my classes.	4.3
VEQ4: I want to do well in my classes because it's important to show my ability to my family, friends, employer, or others.	4.4

Table 8 presents the mean values for four (4) statements related to Extrinsic Goal Orientation towards academic achievement which were discovered in this study. With the highest mean score of 4.6 for VEQ1, respondents strongly agree that getting a good grade is the most satisfying aspect for them. Besides, the mean of 4.5 for VEQ2 indicates a strong agreement with the importance of improving overall grade point average, emphasizing the focus on good grades. The mean of 4.4 for VEQ4 suggests that respondents highly value doing well in classes to show their ability to family, friends, employers, or others. Meanwhile, a mean score of 4.3 for VEQ3 reflects a strong desire among respondents to achieve better grades than their peers. Overall, all statements show the high mean scores above 4 which indicates a robust extrinsic motivator, where grades and external validation play significant roles in academic pleasure and achievement. The uniformity of elevated averages across all statements indicates that these attitudes are widespread within the examined group and influence the motivation of learners.

Table 9

Mean for Task Value (VT)

Statement	Mean
VTQ1: I think I will be able to use what I learn in this course in other courses.	3.9
VTQ2: It is important for me to learn the course material in this class.	4.1
VTQ3: I am very interested in the content area of this course.	4.0
VTQ4: I think the course material in this class is useful for me to learn.	4.0
VTQ5: I like the subject matter of this course.	4.0
VTV6: Understanding the subject matter of this course is very important to me.	4.1

Table 9 presents the mean values for four (6) statements related to Task Value which were discovered in this study. From the analysis, the highest mean of 4.1 for VTQ2 indicates that the respondents have a strong agreement on the importance of learning the course material. Respondents also show a strong belief in the importance of understanding the subject matter (VTV6) by referring to the mean score of 4.1. A mean of 4.0 for three statements; VTQ3, VTQ4 and VTQ5 shows that respondents agree that a good level of interest on the subject matter and usefulness of the course material influence the learners' motivation in online learning. However, with a mean of 3.9 for VTQ1, students moderately agree that the knowledge gained will be applicable in other courses. Overall, the means ranging from 3.9 to 4.1 suggest that students have a positive perception of the course material, finding it applicable, important, interesting, and useful.

Findings for Expectancy

In this section, the findings focus on answering research question 2, which explores on how expectancy influences learners' motivation. These mean values serve as indicators of the extent to which learners perceive themselves capable of achieving academic success and their beliefs about their control over their learning outcomes.

Table 10

Mean for Self-Efficacy (ESE)

Statement	Mean
ESEQ1: I believe I'll receive excellent grades in my classes.	3.4
ESEQ2: I'm certain I can understand the most difficult material presented in the readings.	3.0
ESEQ3: I'm confident I can learn the basic concepts that are being taught.	3.7
ESEQ4: I'm confident I can understand the most complex material presented by the instructor.	3.0
ESEQ5: I'm confident I can do an excellent job on assignments and tests.	3.7
ESEQ6: I expect to do well.	3.8
ESEQ7: I'm certain I can master the skills being taught.	3.2
ESEQ8: Considering the difficulty of the classes, the teachers, and my skills, I think I can do well.	3.4

The findings regarding learners' self-efficacy beliefs, as presented in Table 10, shed light on their perceptions of their academic capabilities and expectations. The data encompasses a series of statements reflecting different dimensions of self-efficacy, ranging from confidence in understanding course material to expectations for achieving excellent grades. Notably, learners express a moderate to high level of confidence in their abilities across various domains. For instance, they exhibit strong confidence in their capacity to learn basic concepts (ESEQ3) and perform well on assignments and tests (ESEQ5 and ESEQ6), as evidenced by mean scores of 3.7 and 3.8, respectively. However, there appears to be a slightly lower level of confidence when it comes to understanding the most difficult (ESEQ2) and complex material (ESEQ4), as indicated by mean scores of 3.0 for both statements. Nevertheless, learners still maintain a positive outlook, expressing certainty in their ability to master skills (ESEQ7) and overcome challenges inherent in their academic pursuits (ESEQ8), as reflected in mean scores ranging from 3.0 to 3.4. With a mean value of 3.4, ESEQ1 suggests that, on average, learners express a moderate level of confidence in their ability to achieve excellent grades in their classes. Overall, these findings suggest that learners possess a generally optimistic view of their academic capabilities and anticipate success despite potential obstacles, underscoring the importance of self-efficacy in shaping motivation and academic performance.

Table 11

Mean for Control of Learning Beliefs (ECB).

Statement	Mean
ECBQ1: If I study in appropriate ways, then I'll be able to learn the material.	3.8
ECBQ2: It's my own fault if I don't learn the material taught.	4.1
ECBQ3: If I try hard enough, then I'll understand the material presented.	3.9
ECBQ4: If I don't understand the material presented, it's because I didn't try hard enough.	3.6

The data presented in Table 11 provides insights into learners' control of learning beliefs through mean scores for four (4) distinct statements. These statements illuminate learners' perceptions regarding their ability to influence their learning outcomes and the attribution of responsibility for their academic success or failure. Beginning with ECBQ1, which posits that effective study methods lead to successful learning outcomes, the mean score of 3.8 indicates a notable belief among learners in their capability to comprehend the material through appropriate study strategies. Transitioning to ECBQ2, learners express a strong sense of personal accountability, as evidenced by the high mean score of 4.1, suggesting a predominant attribution of learning outcomes to their own efforts. ECBQ3 digs into learners' beliefs concerning the relationship between effort and understanding, with the mean score of 3.9 reflecting a prevalent conviction in the efficacy of exertion in comprehending course material. Lastly, ECBQ4 suggests a weaker but still significant belief in the association between lack of comprehension and insufficient effort, as evidenced by the mean score of 3.6. Overall, these findings underscore learners' strong beliefs in their capacity to influence learning outcomes through effort and effective study strategies, highlighting the importance of perceived control in shaping their learning approach and academic achievements.

Findings for Social Support

Addressing research question 3, this section interrogates the influence of social support on learners' motivation. By analysing survey responses, particularly focusing on variables related to perceived social support and motivation, key insights can be gleaned regarding the impact of interpersonal connections, encouragement, and assistance from peers, instructors, and support networks on students' motivation levels in the context of learning.

Table 12

Mean for Social Engagement (SSE)

Statement	Mean
SSEQ1: I feel "disconnected" from my teacher and fellow students in classes.	2.7
SSEQ2: I pay attention in classes.	3.8
SSEQ3: I enjoy class discussions.	3.9
SSEQ4: I feel like I can freely communicate with other students in classes.	3.8
SSEQ5: I have strong relationships with fellow students in this course.	3.8

In Table 12, the mean scores for Social Engagement (SSE) provide insights into learners' perceptions of their interactions within the classroom environment. Across five (5) statements, learners express varying degrees of engagement with different aspects of social interaction. Notably, learners report the highest levels of enjoyment in participating in class

discussions (SSEQ3) with a mean score of 3.9, indicating a positive attitude towards collaborative learning and active participation in exchanging ideas and perspectives. Following closely, learners also demonstrate a strong sense of attentiveness during classes (SSEQ2) with a mean score of 3.8, suggesting a high level of focus and engagement with the course material. Additionally, learners perceive themselves as being able to freely communicate with other students in classes (SSEQ4) with a mean score of 3.8, indicating an open and supportive communication climate conducive to collaboration and peer interaction. Moreover, learners report having strong relationships with fellow students in the course (SSEQ5) with a mean score of 3.8, reflecting a sense of camaraderie and mutual support within the learning community. However, learners indicate a somewhat lower perception of feeling "disconnected" from their teacher and fellow students in classes (SSEQ1) with a mean score of 2.7, suggesting a need for strengthening connections and fostering a sense of belonging within the classroom environment. Overall, these findings underscore the importance of social engagement in enhancing the learning experience and fostering a supportive and inclusive classroom environment where students feel motivated, connected, and actively engaged in their academic pursuits.

Table 13

Mean for Instructor Support (SIS).

Statement	Mean
SISQ1: I feel like I can freely communicate with the instructor in this class.	3.8
SISQ2: The instructor responds to questions, clearly, completely, and in a timely manner.	3.9
SISQ3: The instructor's expectations for me in this class are clear.	3.8
SISQ4: The instructor provides the guidance I need to be successful in this class.	4.0
SISQ5: The instructor presents the material in a way that makes it relevant to me.	4.0
SISQ6: In this course, I have the freedom to guide my own learning	3.9
SISQ7: The instructor provides regular feedback that helps me gauge my performance in this class.	3.9

Table 13 presents the mean scores for Instructor Support (SIS), offering valuable insights into learners' perceptions of the support and guidance provided by their instructor within the class environment. Across seven (7) statements, learners express varying degrees of satisfaction with different aspects of instructor support. Notably, learners indicate the highest levels of agreement with statements reflecting the instructor's provision of guidance and relevance in the course material. Specifically, learners strongly agree that the instructor provides the necessary guidance for success in the class (SISQ4) and presents the material in a way that is relevant to them (SISQ5), both receiving mean scores of 4.0. Moreover, learners report high satisfaction with the instructor's responsiveness to questions (SISQ2) and provision of regular feedback (SISQ7), with mean scores of 3.9. Additionally, learners perceive clarity in the instructor's expectations for the class (SISQ3) and feel they have the freedom to guide their own learning (SISQ6), both garnering mean scores of 3.8 and 3.9, respectively. Overall, these findings underscore the importance of instructor support in facilitating learners' engagement, understanding, and success in the course. A supportive and responsive instructor who

provides clear guidance, relevant instruction, and constructive feedback plays a crucial role in enhancing the learning experience and fostering positive student outcomes.

Findings for Relationship between Value, Social Support and Expectancy

This section aims to address research question 4, which explores the relationship between value, expectancy, and social support in learners' motivation. To ascertain whether a significant association exists in the mean scores across these variables, data is analysed using SPSS for correlations. The findings are then presented separately in Tables 14, 15, and 16 below, allowing for a comprehensive examination of the relationships between value, expectancy, and social support in influencing learners' motivation.

Table 14
Correlation between Value and Social Support.

		Value	Social Support
Value	Pearson Correlation	1	.685**
	Sig. (2-tailed)		.000
	N		108
Social Support	Pearson Correlation	.685**	1
	Sig. (2-tailed)	.000	
	N	108	108

** . Correlation is significant at the 0.01 level (2-tailed).

Table 14 shows there is an association between value and social support. Correlation analysis shows that there is a high significant association between value and social support ($r=.685^{**}$) and ($p=.000$). According to Jackson (2015), the coefficient is significant at the .05 level, and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship between value and social support.

Table 15
Correlation between Social Support and Expectancy.

		Social Support	Expectancy
Social Support	Pearson Correlation	1	.552**
	Sig. (2-tailed)		.000
	N		108
Expectancy	Pearson Correlation	.552**	1
	Sig. (2-tailed)	.000	
	N	108	108

** . Correlation is significant at the 0.01 level (2-tailed).

Table 15 shows there is an association between social support and expectancy. Correlation analysis shows that there is a moderate significant association between social support and expectancy ($r=.552^{**}$) and ($p=.000$). Based on Jackson (2015), this finding means that there is also a moderate positive relationship between social support and expectancy.

Table 16

Correlation between Expectancy and Value.

		Expectancy	Value
Expectancy	Pearson Correlation	1	.741**
	Sig. (2-tailed)		.000
	N		108
Value	Pearson Correlation	.741**	1
	Sig. (2-tailed)	.000	
	N	108	108

** . Correlation is significant at the 0.01 level (2-tailed).

Table 16 shows there is an association between expectancy and value. Correlation analysis shows that there is a high significant association between expectancy and value ($r=.741^{**}$) and ($p=.000$). This indicates that there is a strong positive relationship between expectancy and value.

Conclusion

Summary of Findings and Discussions

The influence of value, expectancy, and social support on learners' motivation in online education represents a complex and multifaceted interplay that significantly impacts their engagement, persistence, and ultimately, their academic success. Beginning with addressing the first research question on value, learners' motivation is intricately linked to the perceived worth or value they assign to their educational pursuits. Intrinsic motivation, driven by internal factors such as curiosity, interest, and the satisfaction of learning itself, is evident in learners' preferences for challenging material that stimulates intellectual growth and understanding. The data underscores a moderate inclination towards intrinsic motivators, suggesting that learners derive satisfaction from mastering course content and engaging in intellectually stimulating activities. With a similar finding to the previous study done by Saleh et al (2023), the highest mean score recorded in this study is the extrinsic goal orientation item while the lowest is in the intrinsic goal orientation item.

Another finding by Shroff et al (2008) indicated that online learners exhibited higher levels of intrinsic motivation compared to their counterparts attending traditional classes on campus. Similarly, Cho & Heron (2015) established a positive correlation between the intrinsic motivation of online learners and their academic achievement, highlighting the significance of cultivating intrinsic motivation in online education to augment learners' engagement and academic performance. Conversely, extrinsic motivation, fuelled by external rewards such as grades and recognition, also plays a significant role, as learners prioritize academic achievement and seek validation from peers and instructors. However, while external rewards are valued, they do not overshadow the importance of intrinsic satisfaction, emphasizing a balanced approach to motivation in online learning.

Addressing the second research question on expectancy component, encompassing learners' self-efficacy beliefs and control of learning beliefs, further shapes motivation by influencing learners' perceptions of their capabilities and control over learning outcomes. The responses recorded higher mean score in learners' control of learning beliefs compared to the self-efficacy. These findings reveal an optimistic outlook among learners, as they express confidence in their ability to understand course material, perform well on assignments and tests, and exert control over their learning process. The positive self-efficacy fosters a sense

of empowerment and agency, driving learners' motivation and persistence in the face of challenges and reflected the importance of self-efficacy in online learning as discovered by (Wei & Chou, 2020). Additionally, learners' beliefs in their ability to influence learning outcomes through effective study strategies and effort emphasize the importance of perceived control in shaping motivation and academic success in online education.

Highlighting the third research question, social support mechanisms, including interactions with peers and instructor support, play a crucial role in enhancing learners' motivation and engagement in online education. Learners' enjoyment of class discussions, perceived strong relationships with peers, and positive perceptions of instructor support highlight the significance of social connectedness in fostering a supportive and inclusive learning environment. According to Barak et al (2016), their study suggested that communication in small online groups has a contributing impact on participants' motivation. Nevertheless, issues related to interpersonal aspect may contribute to the feeling of disengagement in online learning. McConnell (2006) found that often the students felt alone, overshadowed by other members, or reluctant to publicly share their ideas. The data obtained from this study suggests opportunities for improvement in strengthening connections with instructors and peers to enhance learners' sense of belonging and engagement. Effective instructor support, characterized by clear communication, guidance, and responsiveness, further contributes to learners' motivation by providing the necessary resources and encouragement to succeed.

Based on these, the findings reveal intricate relationships between value, social support, and expectancy, collectively shaping learners' motivation in online education. Firstly, the analysis reveals a strong positive association between value and social support. This suggests that learners who perceive greater value in their educational experiences also tend to perceive higher levels of social support. Such a finding underscores the importance of a supportive learning environment in fostering a sense of belonging and community among learners, which, in turn, enhances their motivation to engage actively in their studies. The findings also indicate a moderate positive relationship between social support and expectancy. This suggests that learners who perceive higher levels of social support also tend to have greater confidence in their ability to succeed academically. This connection highlights the role of supportive relationships in bolstering learners' self-belief and contributing to a conducive environment for academic achievement. Lastly, the analysis reveals a strong positive association between expectancy and value. This indicates that learners who have greater confidence in their ability to succeed academically also tend to perceive higher value in their learning experiences. In essence, positive expectancy beliefs may lead to a heightened appreciation for the significance and relevance of educational pursuits, thereby enhancing learners' motivation and engagement in online learning.

Overall, these findings underscore the interplay between value, social support, and expectancy in shaping learners' motivation in online education. They emphasize the importance of fostering a supportive learning environment where learners feel valued, supported, and confident in their ability to succeed. By addressing these factors holistically, educators can create a conducive learning environment that fosters intrinsic satisfaction, cultivates positive self-efficacy beliefs, and nurtures supportive relationships, ultimately enhancing learners' motivation and academic success in online learning environments. By understanding and leveraging these connections, educators can design interventions and strategies aimed at enhancing learners' motivation and promoting academic success in online learning contexts.

Pedagogical Implications and Suggestions for Future Research

The results of this study have several pedagogical implications for online education. Initially, educators should acknowledge the significance of cultivating inherent motivation among online learners through the creation of courses that encourage curiosity, interest, and the fulfilment derived from learning. This can be accomplished by utilising engaging and demanding educational resources, fostering self-guided learning experiences, and promoting intellectual curiosity. Instructors should offer prompt and constructive feedback to enhance students' internal drive and feelings of achievement.

Furthermore, the study highlights the importance of social support in augmenting learners' motivation and involvement in online education. It is important for educators to give priority to creating a supportive learning environment in which learners feel connected, valued, and empowered to succeed. This can be achieved by implementing collaborative learning activities, utilising discussion boards, and encouraging peer relationships. Instructors should possess the quality of being readily available and receptive to the requirements of learners, offering direction, motivation, and guidance throughout the entire learning journey.

Moreover, the results emphasise the significance of cultivating learners' self-efficacy beliefs and their perception of having control over their learning outcomes. Teachers should employ tactics to bolster students' self-assurance in their skills, such as establishing attainable objectives, furnishing structured assistance, and presenting chances for introspection and self-evaluation. By granting learners the authority to assume responsibility for their own learning, educators can foster a sense of agency and independence, resulting in heightened motivation and academic achievement.

A great recommendation for future research endeavours is to narrow down questionnaires to focus solely on courses relating to laboratory work within engineering programmes. This focused approach enables a more profound comprehension of the dynamics and distinctive experiences found in hands-on learning environments within engineering education. Researchers can conduct a more extensive exploration of students' perspectives, problems, and motivations for laboratory-based learning by customising questionnaires specifically for these courses. This specific concentration allows for the analysis of aspects such as the efficacy of practical exercises, the effect of laboratory experiences on the improvement of skills, and the role of social support systems in the laboratory environment. By focusing on courses that include laboratory work, future research can gain useful insights into improving instructional tactics, increasing student engagement, and fostering success in engineering education.

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