Using The Social Cognitive Theory To Explore Online Learning Motivation

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Abstract
Online learning has been a primary support for distance learning. In addition, various issues such as limitation of resources are able to be solved by online learning. Due to its many advantages, motivation of learners to learn online is the main focus of many studies. Thus, this study aims to find factors that might influence motivation in learning online to better understand this motivation from the learners' perspectives. Factors studied are personal, behavioural and environmental factors. This study is a correlational research that uses quantitative surveys. The instrument is designed with four sections where 38 questions are used to measure personal, behavioural and environmental factors. There were 152 respondents who participated in the survey. The respondents are students from one of the public local universities in Malaysia. The result shows significant associations between all the studied factors. These positive relationships suggest a more rigorous approach to better understand these relationships.
Keywords: Motivation, Online Learning, Social Cognitive Theory

Introduction
Background of Study

The movement from traditional face-to-face learning to online learning is inevitable. Even though covid-19 pandemic that hit us has already passed, online learning is going to be our present and the future. It will definitely be refined and getting more sophisticated even more with the rapid development of artificial intelligence. Online learning by definition involves technology, the internet and includes distance learning (Yusop et al., 2022). Due to the significant advancement and needs of online learning, motivation of learners in an online

environment is an important study to understand the learners' point of view in order to have an effective learning environment.

Social cognitive theory (Bandura, 1986) has comprehensively theorized human motivation and action based on social cognitive perspectives. Based on the theory, three factors are identified and chosen namely personal factor, behavioural factor and environmental factor. Personal factors are measured by expectancy that is looking at the learners self-efficacy and control of learning beliefs. It is about the learners' expectations and beliefs of themselves. Behavioural factors on the other hand is looking at how the learners value the importance of the course and the learners goal in learning the course. It is measured by learners' goal orientation and task value. The third factor is the environmental factor that is looking at the learners' social engagement and instructors' support.

In the case of Malaysia, prior to the covid-19 pandemic, online learning only exists mainly by the choice of the instructor. Things have drastically changed once the movement control order (MCO) is enforced and online learning has become the only alternative to conduct teaching and learning. Meanwhile, a post-pandemic shows that some institutions introduce a blended learning policy that requires online learning to become part of teaching and learning and supports traditional face to face teaching and learning (Chung et al., 2020).

This study therefore is trying to gauge the gap of learners' motivation in an online learning environment and is beneficial in helping educational institutions to provide a better online learning environment for their students.

Statement of Problem

After 2 years of Covid-19 pandemic, people love to continue using the internet on daily tasks including study. Students are likely chosen to learn online due to some factors. Study from Chang & Tsai (2022) wrote that online learning has an impact on their academic achievement. This was agreed by Bain et al. (2010) that this is because a student's motivation has a direct effect on their learning effectiveness. They also said that learning motivation influences their academic achievement and performance. Meanwhile Jenkins and Demaray (2015) says that motivation is a deep mental phenomenon which is generally identified as the strength of dominating individuals' behavior, that leads them to be connected in goal-directed behaviour that had been agreed by Chang & Tsai.

Luis M. Dos Santos in 2021 stated that students revealed their interest in online courses is because of the increased flexibility and freedom of studying. Another perspective from Huang & Li (2021) found that motivation concentrates deeply on cognitive needs, such as information search, cognitive deconstruction, speaking aloud, good habit, and resource sharing. Different perceptions from AlAzzam et al., 2021 where they stated that greater accessibility may be able to compensate for some students' inability to attend lectures, such as mental health issues like despair and anxiety. These statements had been agreed by Lo in 2023.

Objective of the Study and Research Questions

This study is done to explore perception of learners on their use of learning strategies. Specifically, this study is done to answer the following questions;

- How do learners' personal factors influence their online motivation?
- How do learners' behaviour factors influence their online motivation?
- How do environmental factors influence their online motivation?
- Is there a relationship between all three factors in online motivation?

Literature Review

Demotivation Factors to Learn Online

Dörnyei (2001) explains that learners who are demotivated once had significant learning motivation but lost it for other reasons. He then added that behavioural demotivation is a negative process that affects a person's motivation for intention or ongoing behaviours. Instead focusing on demotivation's external sources, this definition describes demotivation as a negative process that people go through (Dörnyei and Ushioda, 2021). According to a study by Kim and Kim (2013), learners' perception of how and whether internal and external factors of demotivation are interrelated calls for reconceptualisation of demotivators affecting the learning processes. In accordance with Elmas and Öztüfekçi (2021), a learner was substantially more motivated before the pandemic, he lost that motivation and interest once new regulations were implemented in the context of educational environments. In particular, it was noted that an external element contributing to demotivation was evident and had an impact on how he had to turn to a variety of motives

Motivation Factors to Learn Online

Chiu et al. (2021) suggest that collaborative and self-directed learning are essential skills for online training. Hence, it's crucial to consider students' psychological needs when developing online instruction. In addition, Yusop et al., (2022) summarize that the elements of social support, expectancy, and value all have a significant impact on students' motivation, and they are positively correlated with one another to increase students' desire to learn online. The analysis results from Raime et al. (2020) indicate that there is a significant relationship between students' self-motivation and online learning students' satisfaction, they also conclude that students' self-motivation is a predictor to online learning students' satisfaction.

Past Studies on Motivation to learn online

Online learning is a common way to deliver teaching and learning nowadays, especially after the Covid-19 pandemic. Although this approach helps educators deliver the course syllabus and allows flexible time for students to learn the course, learning online is considered a failure if students have low motivation in online learning activities. Students' motivation is crucial for successful learning outcomes in online courses (Randi & Corno, 2022). Moreover, learning online requires students to independently learn, and it is influenced by motivation (Randi & Corno, 2022; Sumbawati, Munoto, Basuki, Ismayati, & Rijanto, 2020).

A study from Zaitun, Hadi, and Harjudanti (2021) indicates that factors contributing to decreased learning motivation include reduced direct interaction with teachers, monotonous implementation of online learning, lack of direction and supervision, pressure to study from home, and low teacher innovation. Besides that, the students' factors also affect their motivation to learn online. For example, a study by Nelson, Oden, and Williams (2019) among students of nursing courses shows that employment status influenced students to have high motivation to learn online. They know they must be involved actively in learning online to complete the syllabus and ensure they pass the course because the course result will determine their employment status.

So, it is importance the preparedness from various parties such as educators, parents, students, education institutions and policy maker, to mitigate the negative effects of online learning on student motivation (Randi & Corno, 2022; Sumbawati et al., 2020; Zaitun et al., 2021). Educators should focus on promoting independent learning and meaningful

interaction in online learning environments to enhance student motivation (Zaitun et al., 2021). Clear objectives of course syllabus, education games and good two-ways communication among students and educators are examples of initiatives that educators can consider increasing student motivation to learn online. Education institutions and policy makers can work together to solve infrastructure problems such as internet connection issues (Sumbawati et al., 2020; Zaitun et al., 2021). Parents also play a crucial role in enhancing student motivation. For example, they can create a conducive learning environment at home.

Conceptual Framework

In order for learning to take place it needs to be an active process . The learner needs to take an active role (Rahmat, 2022) in the learning task. In addition to that teachers impart social interactions through classroom activities. This type of learning is in line with the social cognitive theory presented by Bandura (1986). The theory states that learning occurs in a social context and it needs to contain a combination of the reciprocal interaction of the person, environment and behaviour. Figure 1 shows the conceptual framework of the study. This study is rooted from Bandura's (1986) social cognitive theory. The three factors in social cognitive theory, personal factors, behaviour and environmental factors are scaffolded onto Fowler's (2018) online motivation to reveal the framework in figure 1. In the context of this study, personal factors are measured by expectancy. Next behaviour is measured by values in motivation while environmental factors are measured by social support in motivation.
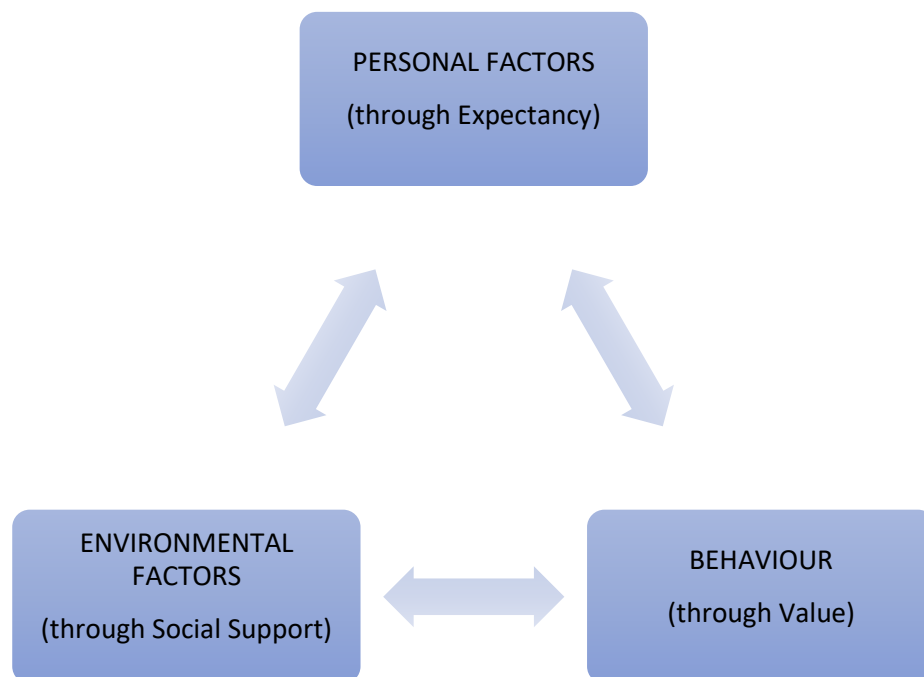

Figure 1- Conceptual Framework of the Study-
Using the Social Cognitive Theory to Explore Online Learning Motivation

Methodology

This quantitative study is done to explore online motivation factors for learning among undergraduates. A purposive sample of 152 participants responded to the survey. The instrument used is a 5 Likert-scale survey and is rooted from Bandura's (1986) social cognitive theory and Fowler's (2018) motivation to reveal the variables in table 1 below. The survey

has 4 sections. Section A has items on demographic profile. Section B has 12 items on personal factors Section C has 14 items on behaviour. Section D has 12 items on environmental factors.

Table 1-
Distribution of Items in the Survey

SECTION	SOCIAL COGNITIVE THEORY (Bandura, 1986)	MOTIVATION (Fowler, 2018)	SUB-SCALES	NO OF ITEMS
B	PERSONAL FACTORS	EXPECTANCY	Self-Efficacy	8
			Control of Learning Beliefs	4
C	BEHAVIOUR	VALUE	Intrinsic Goal Orientation	4
			Extrinsic Goal Orientation	4
			Task Value	6
D	ENVIRONMENTAL FACTORS	SOCIAL SUPPORT	Social Engagement	5
			Instructor Support	7
				38

Table 2-
Reliability of Survey

Reliability Statistics

Cronbach's Alpha	N of Items
.945	38

Table 2 shows the reliability of the survey. The analysis shows a Cronbach alpha of 0.945, thus, revealing a good reliability of the instrument chosen/used. Further analysis using SPSS is done to present findings to answer the research questions for this study.

Findings
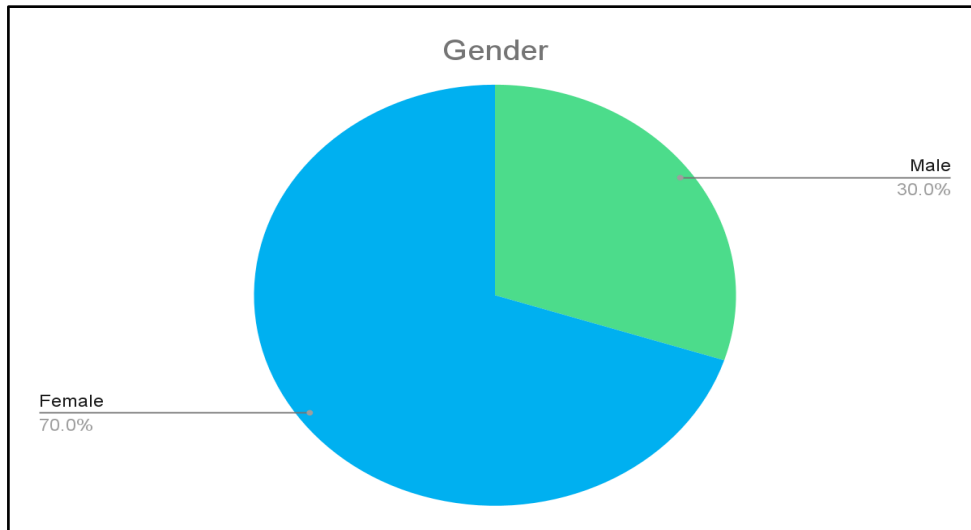Findings for Demographic Profile
Q1.Gender

Figure 2- Percentage for Gender

Based on Figure 2, it shows that out of 152 respondents of the survey, 70% are female and the other 30% are male. It represents the actual figure of 107 are female and 45 are male.
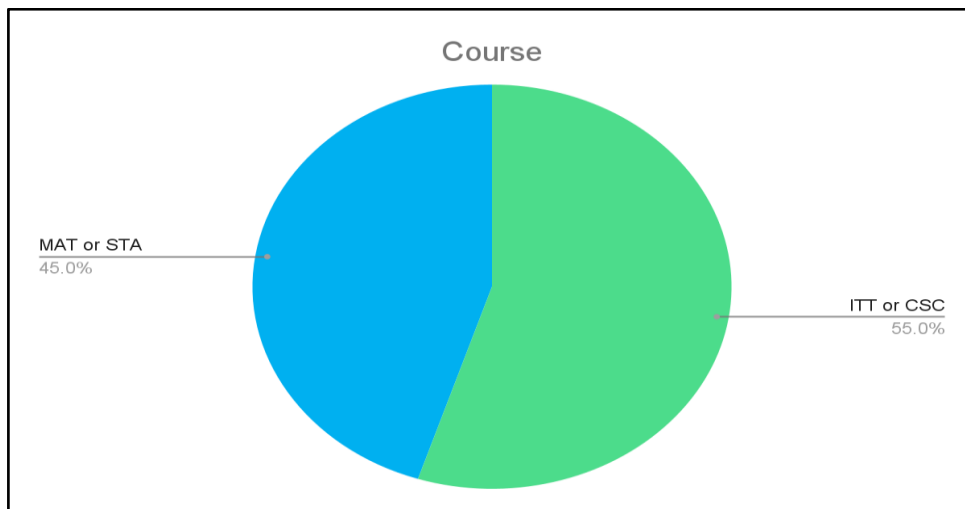
Q2. Course

Figure 3- Percentage for Course

Figure 3 presents the percentage of respondents based on their course and 45% of them are MAT or STA courses (mathematics and statistics) and the remaining 55% are ITT or CSC courses (computer-related).
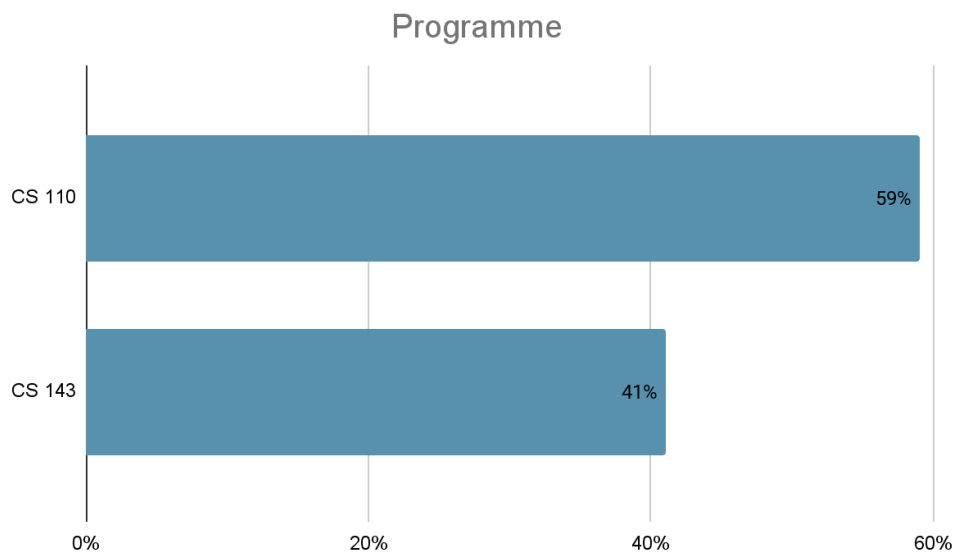
Q3.Programme

Programme

Figure 4- Percentage for Programme

Figure 4 above shows the percentage of programmes. There are two programmes that are involved in the study, 59% are from Diploma in Computer Science students (CS 110) and the other 41% are from Diploma in Mathematics (CS 143) .
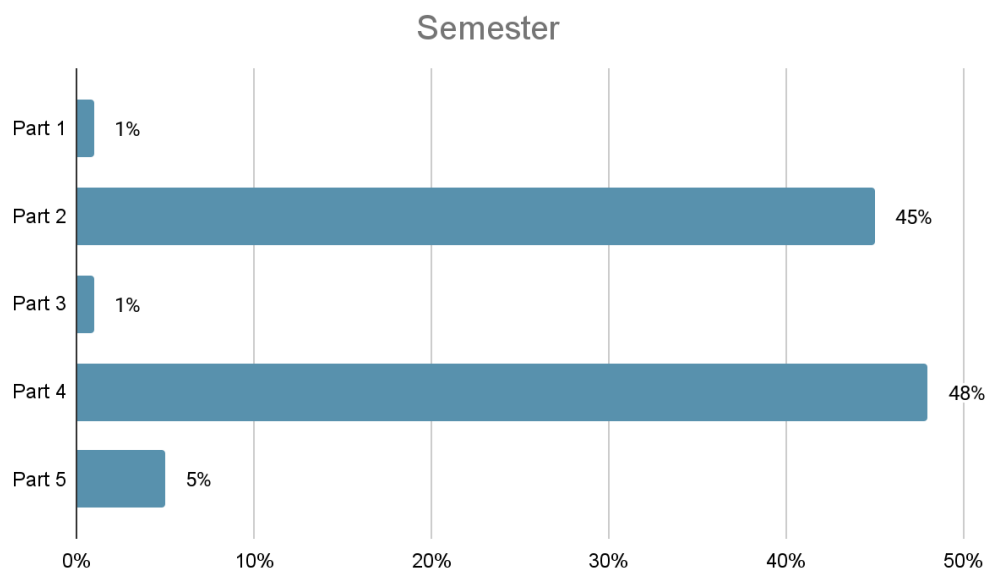
Q4. Semester

Semester

Figure 5- Percentage for Semester

Figure 5 indicates the percentage of semester of the respondents which ranges from part 1 to part 5. Most of the respondents are from Part 4 students which contributes 48%, followed by Part 2, 45% and part 5, 5%. Meanwhile, for Part 1 and Part3 students, the contributions are minor which is 1%.

Findings for Personal Factors

This section presents data to answer research question 1: How do learners' personal factors influence their online motivation? In the context of this study, personal factors are measured by expectancy.
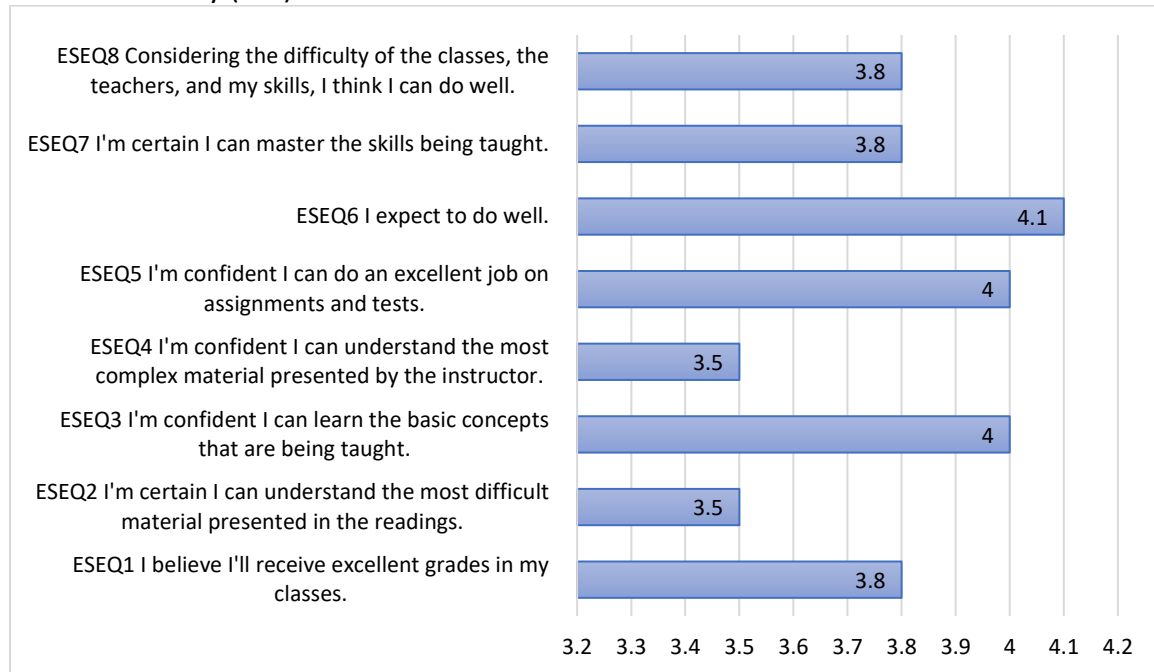
EXPECTANCY(E)

Self- Efficacy (Ese)

Figure 6- Mean for Self-Efficacy

Based on Figure 6, the highest mean for Self- Efficacy with value of 4 are from item "*I'm confident I can learn the basic concepts that are being taught*." and "*I'm confident I can do an excellent job on assignments and tests*." While second highest is from item "*I expect to do well*." with the value of 4.1.
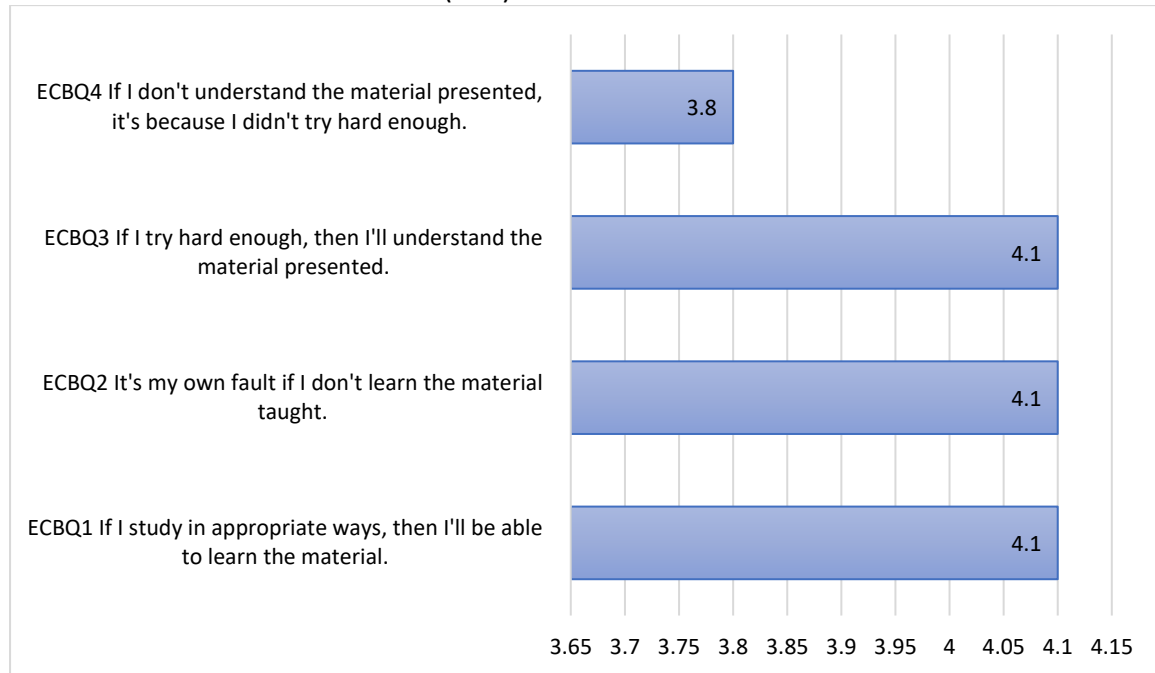
CONTROL OF LEARNING BELIEFS (ECB)

Figure 7- Mean for Control of Learning Beliefs

While Figure 7 shows the mean for Control of Learning Beliefs. The highest mean is 4.1 which comes from the item "*If I study in appropriate ways, then I'll be able to learn the material.*", "*It's my own fault if I don't learn the material taught.*" and "*If I try hard enough, then I'll understand the material presented.*" While the second highest item is "*If I don't understand the material presented, it's because I didn't try hard enough.*" with a value of 3.8.

Findings for Behaviour

This section presents data to answer research question 2: How do learners' behaviour factors influence their online motivation? In the context of this study, behaviour is measured by values in motivation.

Value (V)
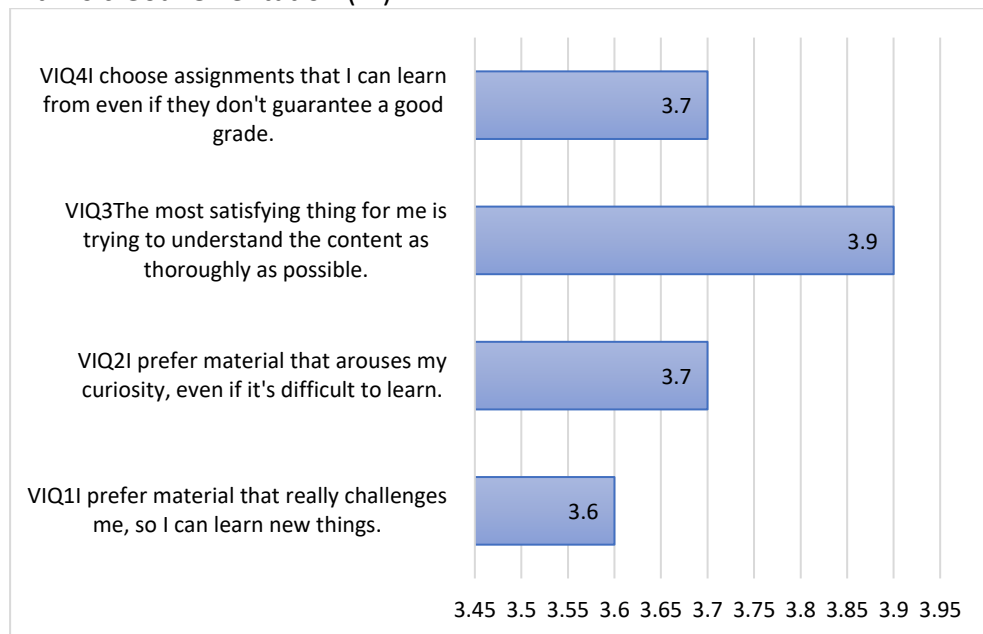   (i)   Intrinsic Goal Orientation (VI)

Figure 8- Mean for Intrinsic Goal Orientation

        Figure 8 shows that the highest mean for Intrinsic Goal Orientation is 3.9 from the item *"The most satisfying thing for me is trying to understand the content as thoroughly as possible."* This result shows that trying to fully understand the content is more vital than anything else. While, the lowest mean is 3.6 from the item *"I prefer material that really challenges me, so I can learn new things."*

    (ii)   Extrinsic Goal Orientation(VE)

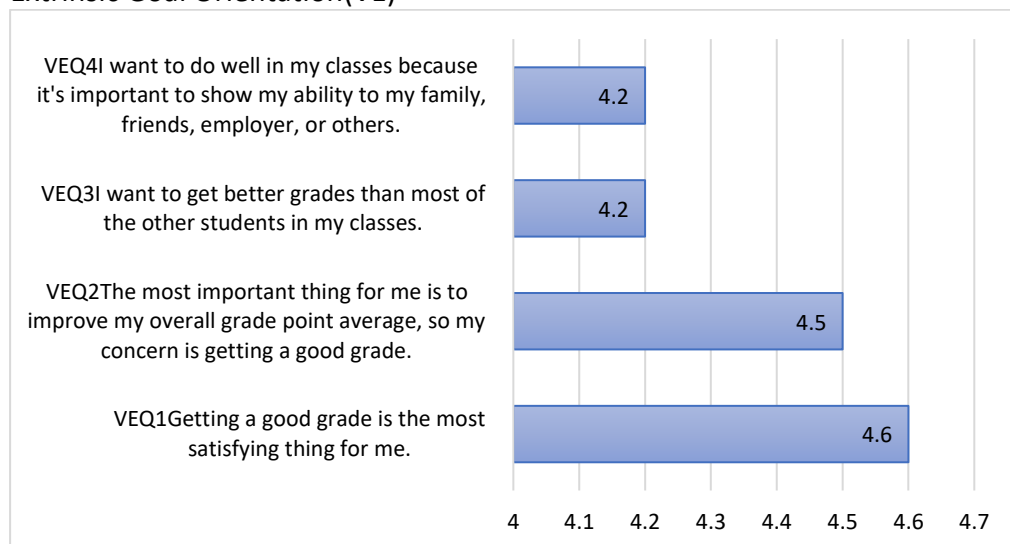

Figure 9- Mean for Extrinsic Goal Orientation

        Based on the result in figure 9, the highest mean for Extrinsic Goal Orientation is 4.6 from the item *"I Getting a good grade is the most satisfying thing for me."* While the item *"The most important thing for me is to improve my overall grade point average, so my concern is getting a good grade."* is at the second highest (M=4.5). This means that students need to be motivated to learn online to reward themselves a good grade.

(iii) Task Value (VT)

Figure 10 shows the mean for task value. The result shows the mean of all items between 4 and 4.2. The highest mean for task value is from items *"It is important for me to learn the course material in this class."* and *"Understanding the subject matter of this course is very important to me."* (M=4.5). While the lowest mean is from item *"I think I will be able to use what I learn in this course in other courses."* (M=4). The mean ranges from 4 to 4.2 for the task value, showing that most students believe that interest in the course is important to ensure students are motivated to learn online.
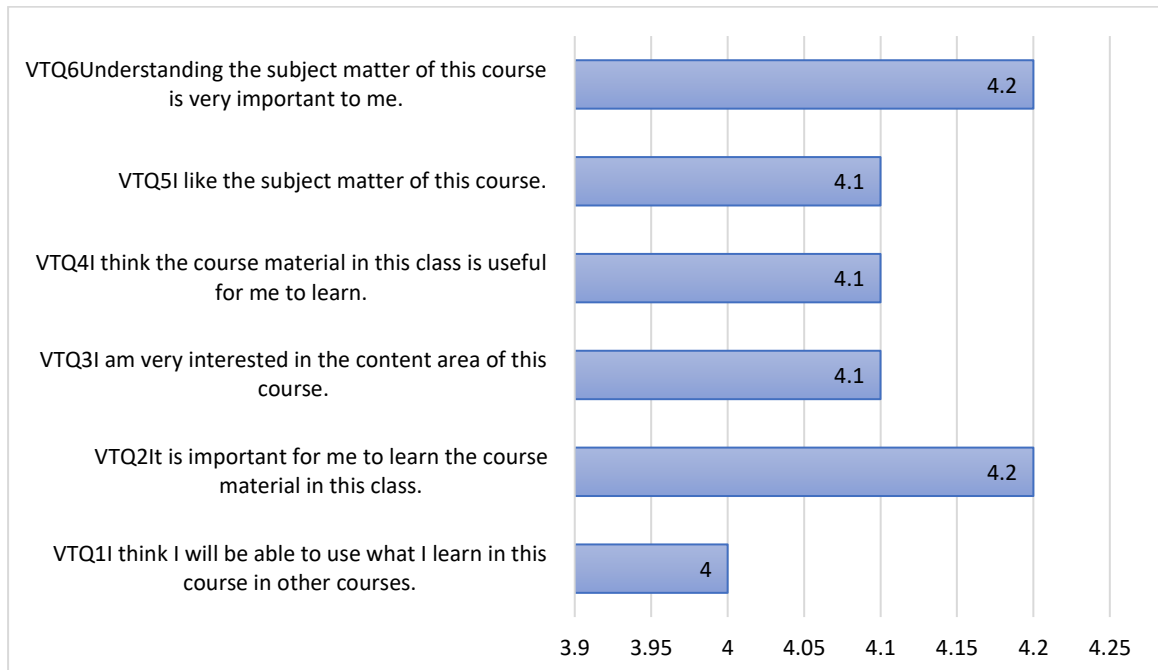

Figure 10- Mean for Task Value

Findings for Environmental Factors

This section presents data to answer research question 3: How do environmental factors influence their online motivation? In the context of this study, environmental factors are measured by social support in motivation.

Social Support (S)
(i) Social Engagement (SSE)

Figure 11 shows the mean for social engagement. The mean for all items of social engagement is between 3 and 4. This result shows that most students agree that positive social engagement, either with teachers or classmates, encourages them to be motivated to learn online.
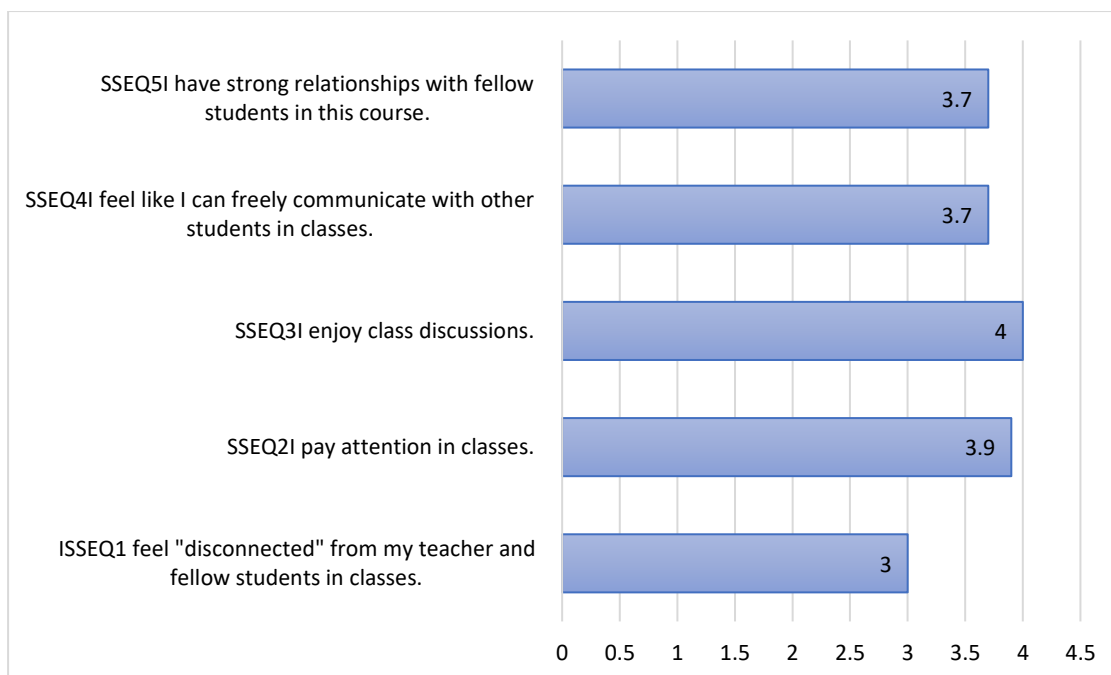
Figure 11- Mean for Social Engagement

(ii)   Instructor Support (SIS)
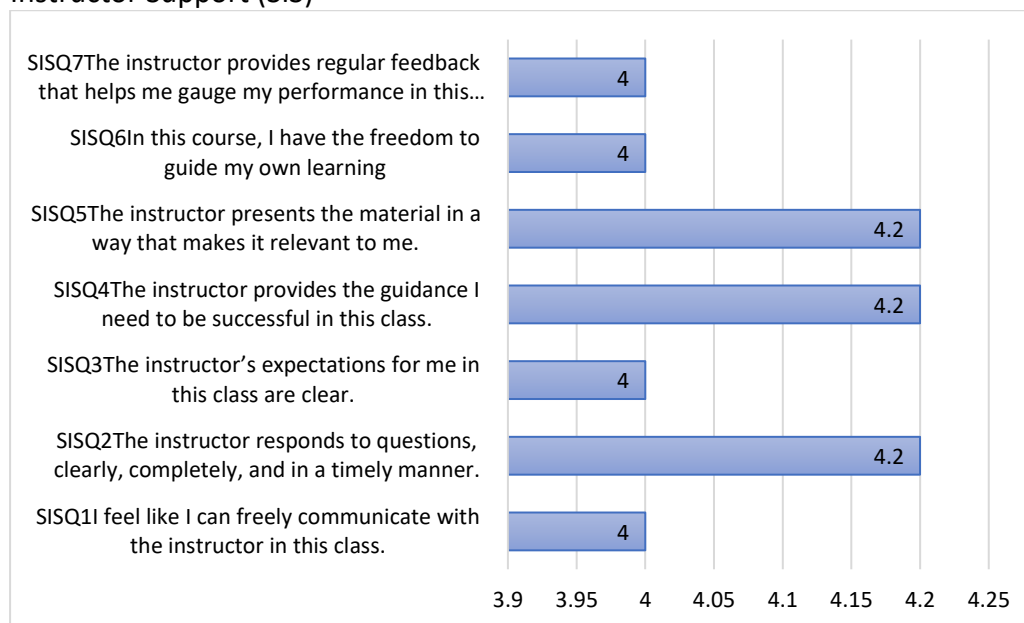
Figure 12- Mean for Instructor Support

Figure 12 above shows the mean for instructor support. The result shows the mean value of all items is either 4 or 4.2. The highest mean (which is 4.2) for instructor support are from items *"The instructor responds to questions, clearly, completely, and in a timely manner.", "The instructor provides the guidance I need to be successful in this class."* and *"The instructor presents the material in a way that makes it relevant to me."*. While, the other four (4) items have a mean value of 4 which shows that instructor support plays an important role in motivating to learn online.

1.2   Findings for Relationship between

This section presents data to answer research question 4: Is there a relationship between all three factors in online motivation?

To determine if there is a significant association in the mean scores between metacognitive, effort regulation, cognitive, social and affective strategies data is analysed using SPSS for correlations. Results are presented separately in table 3, 4, and 5 below.

Table 3-
 Relationship between Personal factors and Behaviour

Correlations

		PERSONAL	BEHAVIOUR
PERSONAL	Pearson Correlation	1	.693**
	Sig. (2-tailed)		.000
	N	152	152
BEHAVIOUR	Pearson Correlation	.693**	1
	Sig. (2-tailed)	.000	
	N	152	152

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

Table 3 shows there is an association between personal and behaviour factors. Correlation analysis shows that there is a high significant association between personal and behaviour factors (r=.693**) and (p=.000). According to Jackson (2015), 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 personal and behaviour factors.

Table 4-
Relationship between Behaviour and Environmental factors
Correlations

		BEHAVIOUR	ENVIRONME NTAL
BEHAVIOUR	Pearson Correlation	1	.624**
	Sig. (2-tailed)		.000
	N	152	152
ENVIRONMENTAL	Pearson Correlation	.624**	1
	Sig. (2-tailed)	.000	
	N	152	152

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

Table 4 shows there is an association between behaviour and environmental factors. Correlation analysis shows that there is a high significant association between behaviour and environmental factors (r=.624**) and (p=.000). According to Jackson (2015), 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 behaviour and environmental factors.

Table 5-
Relationship between Environmental factors and Personal factors

Correlations

		ENVIRONMENTAL	PERSONAL
ENVIRONMENTAL	Pearson Correlation	1	.387**
	Sig. (2-tailed)		.000
	N	152	152
PERSONAL	Pearson Correlation	.387**	1
	Sig. (2-tailed)	.000	
	N	152	152

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

Table 5 shows there is an association between environmental and personal factors. Correlation analysis shows that there is a moderate significant association between environmental and personal factors (r=.387**) and (p=.000). According to Jackson (2015), 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 moderate positive relationship between environmental and personal factors.

Conclusion
Summary of Findings and Discussions
In answering the research question 1, the findings suggest that all the questions are able to measure students' self-efficacy and control of self-beliefs. Motivation in learning online is influenced by the materials presented and the students' beliefs that they can do well in the course despite the online environment. These result is in accordance with Yusop et al., (2022) and Raime et al. (2020).

Meanwhile, for research question 2, motivation in online learning is also influenced by students' intrinsic and extrinsic goal beside the task value. The goal that the materials are able to help them achieve their goal and satisfaction in getting good grades also boost the students' motivation learning in an online environment beside the content value of the course itself.

Findings also show that environmental factors in terms of social engagement and instructors also have an effect towards the students motivation in learning specifically in an online environment. It is clear that friends, classmates and most importantly the instructors play an important role in students' motivation in learning online. These finding support past studies by Randi & Corno (2022), Sumbawati et al., (2020) and Zaitun et al. (2021).

Based on the findings there exists association between personal and behavioural factor, behaviour and environmental, and association between personal and environmental

factors that supports the conceptual framework presented in section 2.4. The result supports the framework by Fowler's (2018) that came from Bandura's social cognitive theory (1986).

Pedagogical Implications and Suggestions for Future Research

This study that aims to measure students' learning motivation in an online environment is able to be achieved through the instrument constructed. The result also shows that students' motivation in an online learning environment is able to be explained and described using this questionnaire.

Future research in this field of study should be focusing on how motivation is able to be used in predicting students' performance and attitude in learning. This will contribute to expanding the conceptual framework that is based on the social cognitive theory developed by Fowler (2018).

In addition, this study contributes to the social cognitive theory with the new framework. Furthermore, this study also provides insights to educators namely teachers and lecturers by applying the theory to motivates students while learning in online platform. The outcome of this study will also help academic institutions in building a better policy that cater the needs of the learners and educators. This would largely benefit the students and change the academic world to move together with the advancement of technology.

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