

Student's Achievement Emotions in Online Learning

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Article History: Received 15 August 2023; Revised 1 October 2023;
Accepted 25 November 2023

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Abstract

Politeknik Tuanku Sultanah Bahiyah has been actively using online learning since the start of the academic year 2020 due to the pandemic Covid 19, and it has continued to the present day. The aim of this study is to understand student's emotions in online learning. A questionnaire was administered to 189 first semester students in the Commerce Department, Politeknik Tuanku Sultanah Bahiyah, and the Achievement Emotions Questionnaire (AEQ) was used to assess students' emotions. The questionnaire focused on five emotional experiences of students for online learning, including enjoyment, hope, pride, anxiety, and boredom. The finding shows a significant relationship between online learning and emotion. In online learning, there is a positive correlation between students' emotions of enjoyment, hope and pride and a negative correlation between student's emotions of boredom and anxiety. The findings indicate that students had fun and were less bored when learning online. It means that students may find online learning interesting and that students may be more motivated and less prone to losing interest or becoming bored as a result. However, if the student's emotion is boredom, it may increase their anxiety. It discovered, in particular, that emotions play an important role in online learning and may significantly impact a learner's experience and outcomes.

Keywords: Emotion; Online Learning; AEQ

1.0 Introduction

Due to the significant growth in the number of infected cases and fatalities caused by the 2019 novel coronavirus diseases (COVID-19), all academic institutions, including higher learning institutions, have been closed in the hope of slowing the virus's spread among the population. What's more, all students have been advised to remain at home quarantined for their own safety. Simultaneously, the pandemic has drastically altered the instructional context, forcing the majority of students worldwide to attend lessons via e-learning (Raccanello et al., 2022, Tzafilkou et al., 2021). This situation has compelled academic institutions to dramatically accelerate the implementation of e-learning around the world, providing an exceptional opportunity to study how a large number of students feel while learning in online contexts (Syaiful et al., 2021).

Online classes create various emotions among the students during the learning and teaching process. The emotion is different between the students regarding their readiness towards online class. Happiness, anxiety, nervousness, shame, pride and enjoyment are possible emotions which

students go through during online classes. The emotion may influence student understanding and may affect their academic performance (Riegel & Evans, 2021). Online class refers to teaching and learning process without physical in classroom but via internet. The extremely changing mode of teaching and learning may affect the student's emotions. Without effectively managing the student emotion, the possibility of the online class becoming less interesting is higher. This shows that the student who has a negative emotion may achieve lower performance (Pekrun et al., 2011). Understanding how emotions influence students' attitudes toward various learning environments is becoming increasingly important today, as educational institutions place a greater emphasis on student enjoyment and engagement in their learning activities (Tzafilkou et al., 2021). Politeknik Tuanku Sultanah Bahiyah has been actively using online learning since the start of the academic year 2020 due to the pandemic Covid 19 and it has continued until nowadays. This research was carried out with the aim to better understand students' emotions in online learning and the Achievement Emotions Questionnaire (AEQ) was used to assess students' achievement emotions.

Pandemics alter people's lives not only by affecting their physical health, but also by influencing their feelings of vulnerability, loss, fear, and stress (Horesh & Brown, 2020). Furthermore, in a complicated, fragile, and emotionally affluent educational era, students are challenged to attend online courses and work collaboratively with their peers and professors (Syaiful et al., 2021). Recent studies show that mental health issues such as severe or moderate stress, depression, and decreased emotional self-efficacy are on the rise among university students (Tzafilkou et al., 2021). Absence from the academic and educational environment can have an impact on students' behaviour and emotions toward education and class attendance. As a result, it can be stated that students' emotions are influenced by outbreaks of infectious diseases, which require adequate devotion and support from authorities (Mirahmadizadeh et al., 2020).

Pekrun (2006) defined emotions as multi-component, coordinated processes of psychological subsystems including affective, cognitive, motivational, expressive, and peripheral physiological processes. Emotion can be divided into two ways which are positive and negative. Students who have positive emotions may encourage them to attend online classes and increase understanding. According to Pekrun et al. (2011) positive emotions such as enjoyment, hope, and pride were found to be positively associated with student effort, self-regulation, and more elaborated learning strategies. Furthermore, the negative emotion can make students less interested which affects the understanding. Therefore, negative emotions such as anger, shame, anxiety, and boredom were found to be negatively associated with lower performance and more external regulation (Pekrun et al., 2011).

Enjoyment, hope, and pride are examples of positive emotions, while anger, anxiety, hopelessness, shame, and boredom are examples of negative emotions. Positive emotions are thought to have positive consequences, while negative emotions are thought to have negative consequences; however, each

of these two categories of emotions has its own benefits [6]. As educational institutions place a larger emphasis on students' satisfaction and engagement in their learning activities, it is becoming more and more crucial to understand how emotions affect students' attitudes towards diverse learning settings (Tzafilkou et al., 2021).

Pekrun et al. (2002) defined "emotions of progress" as emotions that are directly related to either emotion during activities or its consequences, which include a variety of situations. Their research discovered that academic emotions were significantly related to students' enthusiasm, academic achievement, self-regulation, cognitive resources, and learning strategies, as well as class experiences and character (Pekrun et al., 2002). Emotions have been defined as a subjective state that is accompanied by a physiological reaction and an evaluative response to certain actions, situations, and events (Cocoradă, Elena, 2016, Baumeister et. al., 2007) as shown in Figure 1.

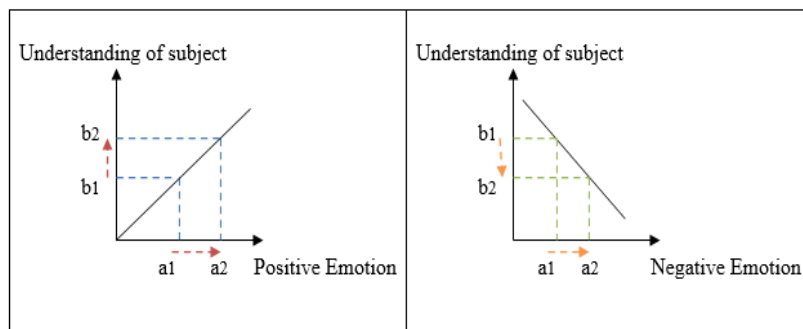


Figure 1: Understanding of subject and emotion

Emotions have a significant impact on students' well-being and performance. Achievement emotions are emotions felt by students in relation to achievement activities and outcomes (Pekrun, 2006, Stephan et al., 2019, Riegel & Evans, 2021). When there is a balance between challenges and students' abilities, and when the learning material is not perceived as difficult, positive emotions emerge. Negative emotions, such as boredom, appear when the task's challenges appear light, and anxiety appears when they appear too high (Deanne Gute & Gary Gute, 2008). Students may have positive emotions such as happiness and enjoy when teaching and learning is interesting. Furthermore, the student interested in attending the online class can increase their understanding on the subject. The students become active and participating during the class (Stephan et al., 2019, D'Errico et. al. 2016). This shows that positive emotion is essential to encourage the class. It is essential to identify elements of effective teaching and learning which are associated with positive emotions.

The capability to utilise the knowledge especially in technology can create interesting online classes. Material preparation is very interesting when using technology (Syaiful et. al., 2021). This is able to attract students' attention to follow the online class because they are happy and enjoy it. The positive emotion is associated with the preparation of materials during teaching and learning. However, the student may be bored, anger and anxiety if they cannot

understand the subject teaching (Stephan et al., 2019). This negative emotion can affect student understanding which is influencing the performance. Online class is a teaching and learning process without physical attendance in the classroom. Students cannot meet their friends and lecturers (Baltà-Salvador et al., 2021).

The student may become stressed since there is less discussion and explanation from the lecturer physically. Negative emotions may occur among the students such as anger and anxiety. For example, Stephan et al. (Stephan et al., 2019) discovered that students who took an online course expressed more boredom, anxiety, and anger, as well as less enjoyment, than those who took a traditional (face-to-face) course. Thus, it is obvious that social interaction and communication are crucial in online learning and must be carefully implemented to avoid having a negative impact on students' emotions and deteriorating their educational experience.

2.0 Methodology

In this study, the researcher has used descriptive quantitative research. A questionnaire based on earlier studies was utilised as a research instrument by the researcher in a survey method to gather data. The target population in this study is to involve all semester 1 students in the fields of DAT, DPM and DPR at the Commerce Department, Politeknik Tuanku Sultanah Bahiyah.

The Achievement Emotion Questionnaire (AEQ) by Pekrun et al. (2011) was modified into a 42-item questionnaire that asked participants about their emotions. The AEQ integrates five emotional experiences of students for online learning, including enjoyment, hope, pride, anxiety, and boredom. This questionnaire instrument uses a Likert scale which is strongly disagree, disagree, neutral, agree and strongly agree. The study respondents consisted of 189 semester 1 students for the DAT, DPM and DPR programs at the Commerce Department. The demographics and sample size are shown in Table 1.

Table 1: Distribution of respondents by program

Programmes	Number	Percent (%)
DAT	63	33.33
DPM	66	34.92
DPR	60	31.75
Total	189	100.00

3.0 Result and Discussion

This study mainly concentrates on understanding students' emotions in online learning by using Achievement Emotions Questionnaire (AEQ) to assess students' achievement emotions. Based on the test results and the responses provided by the respondents to the questionnaire, the conclusions of the study are reported in this part. The Statistical Package for Social

Science (SPSS) system, version 12.0, was used to analyse this study. The study findings discussed in this chapter provide an explanation of the response to the research question, which was to identify the feelings that students have for their online coursework. The researcher has utilised descriptive statistics to explain the background of the respondents and the questionnaire on the students' feelings in their online learning in order to react to the research question. The frequency distribution method is used to demonstrate frequency and percentage in the data analysis from the survey.

3.1 Analysis of the Respondents' Demographic Profile

This study included 189 semester 1 Commerce Department students and the table below shows the demographic profile of respondents by frequency and percentage.

Table 2: Demographic profile of respondents

	Profile	Frequency	Percent (%)
Programmes	Diploma in Accountancy (DAT)	64	33.86
	Diploma in Business Studies (DPM)	69	36.51
	Diploma in Marketing (DPR)	56	29.63
Gender	Male	48	25.4
	Female	141	74.6
Age	18 - 20 years	187	98.9
	21 - 23 years	2	1.1
Race	Malay	162	85.71
	Chinese	8	4.23
	Indian	15	7.94
	Others	4	2.12

Referring to Table 2, the percentage of responders from the DPM programme was 36.51%, followed by those from the DAT at 33.86% and the DPR programme at 29.63%. In terms of gender, there are more female respondents in this survey (74.6%), whereas there are only 25.4% male. From these statistics, we can make a general impression that the number of female respondents is more than male. 98.9% of respondents who are first-semester students are between the ages of 18 and 20; only 1.1% are between the ages of 21 and 23. Malays made up the majority of respondents in terms of race (85.7%), with Indians coming in second (7.94%), followed by Chinese (4.23%), and other ethnic groups coming in third (2.12%).

Table 3: Distribution of respondents according to program, gender and race

	Gender				Race							
	L	%	P	%	M	%	C	%	I	%	L	%
DAT	12	6.35	51	26.98	51	26.98	4	2.12	5	2.65	4	2.12
DPM	20	10.58	46	24.34	60	31.75	2	1.06	7	3.70	0	0.00
DPR	16	8.47	44	23.28	51	26.98	2	1.06	3	1.59	0	0.00
Total	48	25.40	141	74.60	162	85.71	8	4.23	15	7.94	4	2.12

Table 3 shows the distribution of respondents according to program, gender, and race. Out of a total of 189 respondents, a total of 48 were male students, namely 12 (6.35%) DAT students, 20 (10.58%) DPM students and 16 (8.47%) DPR students. The largest number of respondents were female students, 141 people. Of that number, 51 (26.98%) DAT students, 46 (24.34%) DPM students and 44 (23.28%) DPR students. Meanwhile, in terms of race, the highest number of respondents was from the Malay race, 162 people (85.71%), followed by 15 Indian students (7.94%), 8 Chinese students (4.23%) and from other groups -other races are only 4 people (2.12%). For Malay, Indian, and Chinese students there are three programs DAT, DPM and DPR. But other races only involve students from the DAT program only.

3.2 Analysis of Students' Emotional Experiences in Online Learning

In this section, the researcher has made a statement to respondents describing their emotional experience when studying online through 5 categories of emotions: enjoyment, hope, pride, anxiety, and boredom. In this section, descriptive analysis is explained using data from a questionnaire that was sent out to the research population's population. The mean score interpretation by Moidunny (2009) serves as a guide for classifying the levels employed. According to Table 4, the average mean score is used to classify levels as very low, low, medium, high, and very high.

Table 4: Interpretation of Mean Score

Level	Average Mean
Very Low	1.00 - 1.80
Low	1.81 - 2.60
Medium	2.61 - 3.20
High	3.21 - 4.20
Very High	4.21 - 5.00

Table 5: The overall emotional level of the student

Types of Emotions	Mean	SD	Level
Enjoyment	3.58	0.684	High
Hope	3.54	0.702	High
Pride	3.66	0.692	High
Anxiety	3.06	0.799	Medium
Boredom	2.54	0.787	Low
Overall Mean	3.28		High

Table 5 shows that on average, respondents think that students' emotions from an enjoyment point of view when learning online is at a high level with a mean value of 3.58. Students also think that the emotions of hope, pride and anxiety when learning online are also at a high level with mean values of 3.54, 3.66 and 3.06 respectively. Meanwhile, students' emotions in terms of boredom are at the weakest level at 2.54 compared to other emotions. This shows that students find online learning not boring and enjoyable as it gives them many advantages as well as benefits.

Table 5 also shows that the overall emotional level based on the standard means result shows students' emotions in terms of enjoyment, hope and pride are at a high level showing that these students' feelings generally experience high levels of enjoyment, hope, and pride in their academic pursuits in online learning. The emotion of anxiety among the students also shows a moderate level as they feel that online learning may cause them to be in a state of uneasiness or worry. This could be due to the student's readiness in the preparation of the lesson where the students feel worried when they were asked by the lecturer any question, or they were asked to give their opinion during the online class. As for students' boredom, it is at a low level showing that students feel that online learning is not boring because there are also interesting things that can be gained with this kind of learning. Moreover, the variety of multimedia tools and interactive platforms used in online learning keeps students engaged and entertained.

Table 6: Pearson Correlation on Students' emotion in online class

	Enjoy	Boredom	Hope	Pride	Anxiety
Enjoy	1	-.428**	.774**	.673**	-.068
Boredom		1	-.370**	-.306**	.369**
Hope			1	.687**	-.092
Pride				1	-.007
Anxiety					1

Note: * and ** denote significance at the 5% and 1% level respectively.

Table 6 shows the correlations between types of emotions. The results of Pearson Correlation Test show that there is a significant relationship between online learning and emotion. According to the correlation analysis, this study discovered that among five emotions, the emotion of enjoy was negatively and significantly related to emotion boredom ($t = -0.428$ $p = 0.01$). In contrast the correlation between enjoy emotion and hope emotion was positive and significant ($t=0.774$; $p=0.01$). Similarly, enjoy emotion was correlated with pride emotion positively and significantly ($t=0.673$; $p= 0.01$). However, the results show that the boredom emotion was negatively and significantly correlated with hope and pride emotions ($t= - 0.370$, $p=0.01$ and $t= -0.306$, $p=0.01$). On the other hand, the correlation between boredom and anxiety was positive and significant ($t=0.369$, $p=0.01$). Furthermore, hope emotion was positive and significantly correlated with pride emotion ($t=0.687$, $p=0.01$).

The finding indicates that students experienced enjoyment and fun during their online learning and feel less bored. It implies that students may find online learning to be interesting and entertaining and it also implies that students might be more motivated and less prone to lose interest or become bored. When students gained a great deal of the flexibility of online learning, they experienced positive emotions such as joy and relief (Chang & Tsai, 2022, Zembylas et al., 2008) and it had a positive impact on their emotional well-being. Students who experienced positive achievement emotions were more likely to be satisfied with their online learning experiences (Chang & Tsai, 2022, Wu et al., 2021). The feelings of hope and pride increase as a result. When students find enjoyment in their online learning experience, it fosters a sense of hope in their abilities and future prospects. They become more optimistic about their educational journey and feel inspired to explore their potential further. This hope fuels their motivation and perseverance, pushing them to work harder and overcome challenges. Similarly, when students like learning online, their sense of accomplishment is increased. When they grasp a challenging topic or complete a difficult activity, they feel a sense of accomplishment. A boost in self-esteem and pride strengthens their belief in themselves, enhancing confidence and inspiring them to strive for even greater accomplishments.

Overall, when students appreciate and enjoy studying online, their feelings of hope and pride increase. This positive emotional state improves their learning experience, resulting in more engagement, success, and personal growth. Also, Tan et al. (2021) discovered that positive emotions outperformed negative ones in terms of boosting learning outcomes.

However, if the student's emotion is boredom, it may heighten anxiety's feeling to them. Although the results based on the mean level were mediocre, according to the correlation analysis there is a significant relationship between online learning and emotion. This suggests that when students are bored when participating in online learning activities, they are more likely to suffer anxiety as well. When there is a balance between obstacles and students' abilities, and when the learning material is not seen as tough, positive emotions emerge. When compared to face-to-face learning, students were more likely to be frustrated with online learning due to technological issues (Chang & Tsai, 2022, Hamilton et al., 2021, Syaiful, 2021). Negative emotions, such as boredom, develop when the task's challenges appear minor, and anxiety appears when they appear excessively great (Cocoradă, Elena, 2016, Deanne Gute & Gary Gute, 2008).

The relationship between boredom and anxiety in online learning shows that the more bored students are during online learning activities, the higher their anxiety levels will be. This link could be due to a number of things. To begin with, online learning does not often have the participatory and engaging quality of traditional in-person classrooms. Some students may become bored due to a lack of face-to-face contacts, group discussions, and hands-on activities as well as interactive activities (Tzafilkou et al., 2021). Boredom can then lead to anxiety, as students worry about losing out on crucial knowledge or failing to understand the material. Furthermore, the self-paced aspect of online learning might lead to boredom. Students may feel unmotivated and disengaged without a fixed routine and external structure, leading to greater boredom. This lack of motivation can worsen anxiety by leading students to doubt their capacity to perform in an online learning environment. In the lack of peer support and immediate feedback from lecturers, students may feel detached and apprehensive about their progress and performance. Online learning, in comparison to traditional face-to-face learning, has provided learners with new options and challenges, such as flexibility, isolation, and technical issues. Essentially, this study found that there is a significant relationship between online learning and emotions.

4.0 Conclusion

The pandemic COVID 19 drove the conversion of many traditional higher education courses into online learning across the globe. As a result, since online learning has developed with technology and is a more inclusive experience, it will continue to be preferred by young people over traditional methods. Emotions play a significant role in determining student motivation and success, and it has a significant impact on students' well-

being and performance. Through the use of the Achievement Emotions Questionnaire (AEQ), this study primarily focuses on understanding students' emotions throughout online learning. Achievement emotions are emotions felt by students in relation to achievement activities and outcomes (Pekrun, 2006, Stephan et al., 2019, Riegel & Evans, 2021).

The findings in this study demonstrate that students significantly enjoyed online learning and they also exhibited other positive emotions which are hope and pride in their achievement emotion. Evidence shows there is a positive correlation between students' emotions of enjoyment, hope and pride and negative correlation between student's emotion of boredom and anxiety. This indicates that even though the students enjoyed the online learning, they also hope that learning in an online setting will be extremely beneficial to them. The online learning environment is easy for students to use, and they are quite proud of what they have accomplished. Since students enjoyed the online class, they also experienced less boredom.

However, if the student is feeling bored, this could make them feel more anxious. It is crucial that educators and institutions address the correlation between boredom and anxiety in online learning. They can use techniques such as multimedia, interactive platforms, and virtual group discussions to make online learning more interactive and engaging. Furthermore, providing students with clear routines, regular check-ins, and opportunities for social interaction can assist decrease boredom and anxiety. Nevertheless, it is critical to recognise and address the correlation between boredom and anxiety in online learning. Educators can assist students avoid anxiety and improve their learning experience by creating a more exciting and friendly online learning environment. Thus, it is important for the facilitator or lecturer to prepare their online class to be more engaging, exciting, and effective for the students.

Acknowledgements

The authors would like to extend their sincere gratitude to Politeknik Tuanku Sultanah Bahiyah and Jabatan Pendidikan Politeknik dan Kolej Komuniti that have made significant contributions to various parts of this research endeavor.

Author Contributions

N.H. Ismail: Conceptualization, Abstract, Introduction, Discussion, Conclusion; **N.F. Fathil:** Data collection, Methodology, Result and Editing; **S.B. Jaafar:** Result, Discussion and Writing-Reviewing.

Conflicts of Interest

The manuscript has not been published anywhere else and is not being considered by any other journals. All authors have authorized the review, agree with the submission, and state that they have no conflicts of interest in the work.

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