

Instructors' emotional intelligence and learning engagement of online students

Research Article

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Abstract: This study explored how online students perceived their instructors' emotional intelligence (EI) and its impact on their learning engagement. Using eight EI behaviours of online instructors and a learning engagement instrument, 100 online university students were surveyed regarding their observation of those EI behaviours and their learning engagement. Regression analysis indicated that 27.2% of the variance in learning engagement could be attributed to four dimensions of EI behaviours ($R^2 = 0.272$, $F(4, 95) = 8.873$, $p < 0.001$). Instructors providing individual support, demonstrating concern for the students' situations, adapting their resources to online delivery, and being honest about their situation and challenges were associated with higher student learning engagement.

Keywords: *Emotional intelligence; Online learning; Learning engagement; Student engagement*

Introduction

Over the past decade, the higher education industry has witnessed online learning as its most popular growth sector, and universities opened online learning courses at an even faster pace with the onset of the COVID-19 pandemic (Magda et al., 2020). This growth, however, is not matched by research regarding effective and supportive online teaching methods which enhance student learning and engagement. While faculty members are committed to ensuring positive learning experiences for their online students, Regan et al. (2012) found many online instructors with feelings of frustration, stress and isolation. Given the significant growth and importance of online education, instructors must know how best to engage online students. Understanding how these students perceive their instructors' behaviours and emotional intelligence (EI), as well as the relationship of these perceptions with students' level of learning engagement should provide helpful insights for effective online teaching. The hypothesis of this study is that there will be a significant relationship between students' perceptions of their instructors' EI behaviours and their own learning engagement while in online courses.

Online learning – the changing definition

The term 'online learning' was first used in 1995, and since then many distinct and comparable definitions

have evolved. The systematic review of definitions of online learning by Singh and Thurman (2019) found 46 definitions of online learning in the literature. The multiple definitions and terms make it difficult to compare the research results and understand the learning implications. Moore et al. (2011) suggest that most researchers define online learning as 'access to learning experiences via the use of some technology'. Alternatively, Conrad (2002) described online learning as a modern version of 'distance learning', due to the use of more advanced technology and the availability of more online resources to assist in the learning process. 'Virtual learning' is another occasionally used term and defined as 'computer-based environments that are relatively open systems, allowing interactions and encounters with other participants' (Wilson, 1996). Although this definition was introduced in 1996, it is still applied today with our vast advancements in technology (Chou & Liu, 2005; Piccoli et al., 2001). Both virtual learning and online learning definitions highlight the importance of interaction in modern, online environments and are consistent with recent research (Buelow et al., 2018; Fung, 2004; Sit et al., 2005). Using our review of the research, we define online learning as education which involves the full capabilities of current technologies to provide an experience of immersed learning, as well as meaningful communication among students and between students and instructors.

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Emotional intelligence

Psychologists Salovey and Mayer (1990) published the seminal article, 'Emotional Intelligence', which defined EI as *social intelligence that involves monitoring one's own and others' feelings and emotions to use this information to guide one's thinking and action*. Later, EI became more broadly accepted through Goleman's published work (Goleman, 1995). Six years later, Cherniss and Goleman (2001) developed an organised model of EI with four dimensions: (1) Self-Awareness, the potential to recognise and understand one's emotions and how they impact/influence others; (2) Self-Management, the potential to practice self-control and adaptability, without losing control of emotions; (3) Social Awareness, the potential to empathise and understand others, in the correct social context; (4) Relationship Management, the potential to interact and understand others while communicating effectively.

Numerous studies have explored the application of EI and concluded that it is vital to modern organisations due to its utility in predicting the desired outcomes (Chehrizi et al., 2014; Law et al., 2004; Scott-Ladd & Chan, 2004). Educational institutions too have found consistent findings of their administrators and leaders with high EI significantly contributing to their goals and success (Mendelson & Stabile, 2019; Turnipseed & VandeWaa, 2012). Unfortunately, there are limited studies of EI in the context of educators and students, most especially with online education. This study may be among the first to explore this relationship.

Learning engagement

Research into learning engagement can be found using several related terms such as student involvement and student engagement (Axelson & Flick, 2010). Astin (2014) introduced the term 'student involvement', which is described as the quantity and quality of energy that students invest in their college experience. A common and consistent definition for 'student engagement' is 'the student's psychological investment and efforts directed toward learning and mastering knowledge or skills' (Newmann, 1992, p. 12). As a result of the increase of online learning, the study of learning engagement in such environments has also increased (Dixson, 2010, 2015; Meyer, 2014; Robinson & Hullinger, 2008). Sinatra et al. (2015) suggested three separate student engagement elements: 'cognitive engagement', 'behavioural engagement', and 'emotional engagement'. Buelow et al. (2018) suggested the need to include a social aspect of learning and used three subscales of learning engagement from the Online Student Engagement Scale and the National Survey of Student Engagement

to encompass cognitive, reflective, and behavioural or social engagement. Course activities with statistical significance for students' reported learning engagement consist of those that changed their knowledge of a topic or concept, linked their lessons to societal problems, connected their learning to former experiences and knowledge, and were illustrated as fun.

Methods

The hypothesis of this study is that there will be a significant relationship between students' perceptions of their instructor's EI and their own learning engagement while in online courses. This research is structured into two stages – first, determining how students perceive an instructor's EI and, second, surveying students' perceptions of their instructors and their own learning engagement. For the first stage, qualitative interviews of student perceptions and observations were conducted and then translated into key behaviours that indicated an instructor's EI. The second stage involved surveying over 100 university students (undergraduates and graduates) to measure instructors' EI behaviours and students' own learning engagement levels. All values, the instructor's EI behaviours and student learning engagement levels, were then studied with correlation and regression analysis to identify significant relationships.

Stage 1: How online students perceive instructors' EI

To start this study, 10 university students taking at least one online course were extensively interviewed. Using semi-structured interviews and the four dimensions of EI, students were asked 16 open-ended questions with four questions for each dimension and how they witnessed this with their online instructors. All interviews were recorded and transcribed. A total of 717 quotes were analysed with theme analysis to identify the key behaviours associated with each dimension of EI (Braun and Clarke, 2006). Then both cluster analysis and word frequency were used by the authors (AP and CA) to identify the most prevalent items for each EI dimension (self-awareness; self-management; social awareness; and relationship management). Two specific items for each EI dimension were identified to be used for Stage 2 of this study.

From the codes created in the thematic analysis process, eight behaviours or skills were identified with two specific instructor behaviours for each EI dimension. For the relationship management dimension, the two behaviours are one-to-one video calls with students

and openness regarding a personal situation. For the dimension of self-awareness, the behaviours are warmth when communicating and confidence in online interactions. For the self-awareness dimension, the behaviours are emotional control regarding using technology and skills in using online technology. The social awareness dimension includes the behaviours of demonstrated concern regarding students and adaptiveness regarding online learning. All eight of these behaviours or skills created the overall perceived EI of the instructor.

Stage 2: How do instructors' EI behaviours impact online students' learning engagement?

Having identified the items to measure instructors' EI dimensions, the next stage of this research was to determine students' learning engagement and then statistically analyse their relationship. This started with the creation of an instrument which measured learning engagement. The learning engagement scales of Buelow et al. (2018) were selected as they were previously used with online students and included three areas of learning engagement: higher-order learning engagement, reflective & integrative engagement, and participation engagement. Each scale had between four and seven items and together there were 17 items using a 4-point Likert scale of Never, Occasionally, A Moderate Amount and A Great Deal. The 8-items describing each dimension of EI were added to the instrument, so there was a total of 25 items, all utilising a 4-point Likert scale (see Buelow et al. (2018) for all items in the instrument). UK university students were recruited using the snowball method as a letter with a Qualtrics link provided. Students were requested to fill out the questionnaire and circulate it among other

online students. A total of 174 responses were received, however, 74 surveys were not completed. This left the study with 100 responses to analyse. The surveys were anonymous, so limited information is known. All participants were UK university students from 56 different universities and had recent experience with online courses. There were 58 postgraduate students, 18 undergraduate students and 24 students who did not disclose their academic status.

Analysis and Results

Variable scores were calculated by summing the responses for items in each scale and subscale. For the EI scale there were four subscales: self-awareness, self-management, social awareness and relationship management.

The learning engagement scale had three subscales: higher-order learning engagement, reflective and integrative engagement, and participation engagement. The total scores for each scale and subscale were calculated by totalling the associated item responses. To confirm the scale reliability, a Cronbach alpha was calculated for each scale. Table 1 displays the descriptive values for each scale and the subscales within. The mean scores were then used for correlation and regression analysis to identify the relationships among these variables.

We do note, however, that while the overall EI measure and all the Learning Engagement measures had strong Cronbach alpha values, the four dimensions of EI were <0.60 and the self-management dimension had a negative value. These low and negative values indicate that the subscale measures do not have good

Table 1. Descriptive statistics for EI and Learning Engagement Scales & Subscales

Scale	Max possible	Mean	SD	Cronbach alpha
OVERALL EI	32	20.80	4.40	0.75
Relationship management	8	5.37	1.67	0.54
Social awareness	8	5.30	1.61	0.51
Self-awareness	8	5.98	1.41	0.50
Self-management	8	4.15	1.06	-0.27
OVERALL LEARNING ENGAGEMENT	74	47.77	9.41	0.86
Higher-order learning	16	11.02	2.96	0.86
Reflective & integrative	28	19.48	4.11	0.78
Participation engagement	30	17.27	4.93	0.80

EI, emotional intelligence.

reliability and perhaps the subscales overlap in their dimensions. In future studies, more items for each EI dimension are needed. However, with a 0.75 value for overall EI, we proceeded with our analysis.

The hypothesis is there will be a significant relationship between students' perceptions of their instructors' EI and their own learning engagement in online courses. To test this hypothesis, first, Pearson Correlation analysis was performed to evaluate the relationship between overall EI and learning engagement. A moderately strong positive relationship was found at $r = 0.49$ $p < 0.001$. The more emotionally intelligent behaviours that were observed, the greater the learning engagement. Multiple regression was then conducted to determine the ability of EI to predict levels of learning engagement. First, analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity. The total variance of learning engagement explained by overall EI was 23.6%, $R^2 = 0.236$, $F(1, 98) = 30.327$, $p < 0.001$. Therefore, the hypothesis was accepted.

Exploring this further, multiple regression was used to assess the ability of each of the four dimensions of EI to predict the levels of student learning engagement. Again, initial analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity. The total variance of learning engagement explained by this model was 27%, $R^2 = 0.272$, $F(4, 95) = 8.873$, $p < 0.001$. However, only the relationship management dimension significantly contributed to overall learning engagement (see Figure 1).

One final analysis was conducted to determine the ability of EI to predict each learning engagement category (higher order learning, reflective & integrative, and participation.) Again, preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity. For Higher Order Learning

Engagement, 13.8% of the total variance was explained by overall EI, $R^2 = 0.138$, $F(4, 95) = 3.789$, $p < 0.007$. No single dimension of EI contributed significantly to this variable. For Reflective and Integrative Learning Engagement, the total variance explained by the model was 10.4%, $R^2 = 0.104$, $F(4, 95) = 2.743$, $p < 0.033$. The separate dimensions of EI did not significantly contribute to this category of learning engagement. The Participation Engagement variable had the most variance (26.6%) explained by overall EI ($R^2 = 0.266$, $F(4, 95) = 8.615$, $p < 0.001$). Figure 1 illustrates these relationships between EI with learning engagement and with each of the subscales of Learning Engagement.

To summarise, there are three significant findings. First, students' perception of their instructors' overall EI appears to positively influence their online learning engagement. The total variance of learning engagement explained is nearly 24%. Second, each of the three dimensions of learning engagement seems to be influenced by students' perception of their instructor's EI, but the most influenced dimension is participation engagement.

The total variance of participation engagement explained by overall EI is 26.6%. Finally, the only significant dimension of overall EI that contributed to students learning engagement is relationship management. All these findings are displayed in Figure 1.

Discussion and Conclusion

This research sought to identify if instructors' EI behaviours impacted the learning engagement of online students. We did positively find that instructors' EI behaviours, as observed by students, were moderately associated with students' learning engagement, accounting for almost 24% of overall learning engagement and nearly 27% of participation engagement. Furthermore, one dimension

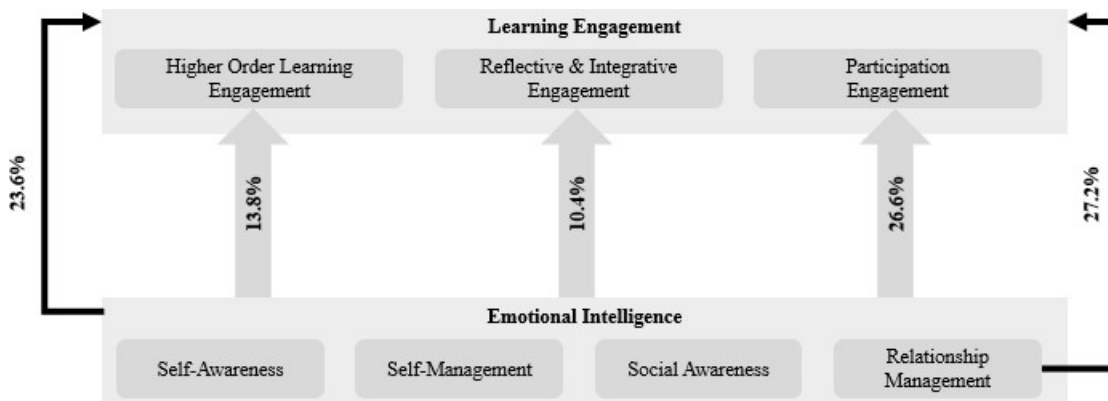


Figure 1: Regression R^2 values illustrating relationships of EI on learning engagement. EI, emotional intelligence.

of EI, relationship management, significantly contributed to overall student learning engagement.

These findings, of a modest contribution to online student learning engagement, provide a useful consideration for further research, as well as practical behaviours that instructors can try for the benefit of their students.

Achieving high levels of learning engagement is a difficult achievement, particularly in an online environment. Students have competing priorities and often look at their online courses as something to 'get over'. Instructors must step up their efforts and skills to not only have students put their time in but also truly look forward to and engage in their learning. Our findings indicate that students want instructors who demonstrate relationship management actions, such as offering individual video calls and being open about their situations. While it is not always comfortable for instructors to take this initiative, students appreciate knowing that their instructors have challenges themselves and yet are willing to reach out individually to them. Social-awareness behaviours such as showing concern for them and adapting their resources for the online environment also contribute to students' learning engagement.

Our findings are supported by the findings of Dixon (2010), who identified that communication between students and the instructor via 'multiple ways of interacting' was related to higher learning engagement. Also, Buelow et al. (2018) found an overarching thread that what online students seek is a connection – with course material, with classmates and with the instructor. Specifically, timely and in-depth feedback significantly contributed to student learning engagement.

While comprehensive learning engagement is the goal of instructors and universities, participation engagement is a step towards this aim. Participation engagement includes activities such as online chats or conversations, helping classmates, regular discussion forums and getting to know other students. None of these activities specifically calls on the instructor to interact one to one with students, although instructors can certainly contribute to discussions. Our findings are that an instructor's EI significantly contributed to this area of learning engagement. In other words, instructors who showed warmth and concern, as well as confidence with manipulating online technology, positively contributed to students' participation engagement.

This study found one dimension of EI which uniquely contributed to learning engagement: relationship management. Prior research with traditional teaching instructors identified similar findings. Hansen and Mendzheritskaya (2017) found that consistently strong

interpersonal behaviours demonstrated by instructors encouraged students to participate and engage throughout their courses. Fung (2004) found that with online instructors, social interactions were essential for student engagement.

In conclusion, this research underscores the importance of focusing on the social factors involved in online learning. Relationships with students seem very important in helping them engage with their learning.

Participants from the interview stage emphasised some tactics that helped: offering one-on-one video calls, providing time in class to build rapport and giving a private space for students to discuss any concerns or queries about their academic process. Also, asking students about their circumstances and showing empathy for their challenges all helped develop relationships between instructors and students. Also, instructors showing some vulnerability and being honest about their situation helped build trust with students. Student learning engagement in an online environment requires extra consideration and approaches from instructors, but does build a more personalised learning experience and contributes to learning engagement.

Limitations and Recommendations

The overall EI scale in our instrument showed a good level of consistency ($r = 0.75$); however, Cronbach alpha for the individual EI dimensions was below 0.6. This lower correlation may indicate an overlap in the EI dimensions. While the overall EI measurement is considered a reliable measure, caution should be taken when drawing conclusions related to the EI subscales. Future studies may consider adding standardised EI assessments.

The number of participants at the interview ($n = 10$) and questionnaire stages ($n = 100$) limits the potential conclusions. The ranging views of the millions of students worldwide taking online courses are unlikely to be entirely represented by this research. Future studies would benefit from increasing the number of students surveyed. It would also be beneficial to examine differences in gender, nationality and country of learning. Finally, the limitations of the self-report method of gathering data are acknowledged. Survey completion was voluntary and self-selection bias may be present. Other research data such as participation rates in various online activities could provide complementary objectivity.

The findings from this study suggest that EI is not a 'silver bullet' for maximising learning engagement but must be studied with more depth and comprehensiveness. We recommend more studies in this area, which not only focus on online students, but also online instructors and their expressed emotions and

concerns. Also, research is needed on how universities can effectively support instructors with their online teaching. Research studies of instructors' emotions and

experiences while teaching online and how institutions help alleviate feelings of stress and isolation are highly recommended.

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