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Navigating between anger and enjoyment: A control-value theory perspective of collaborative learning in a business school

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ABSTRACT

Collaborative learning may present particular cognitive and social challenges to individuals. The issue of how students learn collectively has generated much research, and its attendant emotional context is recognised through the literature on control-value theory. However, there is a gap in the published research on students enrolled on Foundation Programmes (FPs), which are designed to prepare students for undergraduate study. This paper reports on students' experiences of collaborative learning and academic emotions on an FP in business and management at a business school in the north of England. This paper was underpinned by two research questions: What do students tell us about how they control their social-emotional reactions in group work? And, how do the findings contribute to the further theorisation of collaborative learning with reference to gender and academic ability? This research exercise adopted a mixed methods approach that involved the analysis of two highly-structured questionnaires and discussions with focus groups. The findings were categorised according to gender and ability and suggest that although there is a high degree of consensus about group work, this is not a socially-shared process. In addition, in some respects less-well qualified female students express concerns about how they perceive student-student interaction.

Keywords: academic emotions, social-emotional climate, control-value theory of academic emotions, co-regulation of learning, socially-shared regulated learning, foundation programme

Introduction

As educators, we are interested in those factors that affect students' progress. The problem that we face is how to better understand those conditioning factors that influence students' behaviours and how to construct more effective learning environments. In focusing on academic emotions, this paper recognises that students' development extends beyond cognitive issues to include emotional intelligence and interpersonal skills. Foundation Programmes (FPs) are designed to provide a bridge to undergraduate study for those learners who have not reached the required level of attainment and are therefore a crucial stage in the transition for learners from school to university. One aspect of this transition is the development of students' ability to manage their own emotions in group-based environments. This paper reports on the emotional context of students enrolled on to an FP at a business school and reports on the possible relevance of gender and academic ability. A number of researchers have explored the affective and cognitive contexts to those new to university study; Beard et al. (2014) have highlighted how emotions impact on the transformation of learners at a critical juncture in their transition to undergraduate study, with Respondek et al. (2017) exploring how emotions are linked to drop-out and achievement. This paper moves the discourse on emotions and learning beyond the well-rehearsed 'problem perspective' (Palmer et al., 2010) that focuses on negative emotions and their inhibition of learning to a broader view of how

emotions impact on group dynamics and interpersonal relations. Furthermore, as there is no substantive research published on the ways in which FP students in business schools respond to the emotional challenges of group-work, this paper aims to make an original contribution to the literature. The research for this paper is informed by two research questions: What do students tell us about how they control their social-emotional reactions in group work? And, how do the findings contribute to the further theorisation of collaborative learning with reference to gender and academic ability?

The context to the research

This paper was based on research undertaken at a nationally recognised business school in the north of England. The FP in Business and Management typically recruits around 150 students from across the United Kingdom with the overwhelming majority having studied GCE A Level or BTEC Business; a few had taken qualifications outside of England or were admitted with a non-standard qualification, but only seven mature students were enrolled between 2020-2024. The overwhelming majority of these students were school-leavers and were sufficiently qualified to have enrolled at other universities on degree-level study but chose to study on this FP because of the large number of degree programmes that were available upon successful completion, and the reputation of the business school for graduate employment. The FP is designed to provide a broad introduction to the principles of business and management practice and involves six modules that include Business Environment and Functions, Entrepreneurship and Innovation, and a Leadership and Management Professional Project. In addition, the programme aims to develop students' emotional intelligence (EI) and social skills as they prepare students for their future career as socially aware and responsible managers. Albeit not formally assessed, the scope of emotions at work is an implicit aspect of the hidden curriculum and the wider maturation of students. The importance of EI, social skills and team working is recognised as key to future employability (Thornhill-Miller et al., 2023), and as such is part of the broader educational agenda for programmes across the business school, and indeed the higher education sector more generally. As such, the issue of how students manage their emotions in collaborative learning is an important area for business school educators to research.

Literature review

The manner in which problems are solved within groups has generated much research into the nature of social interaction and the role of emotion in inducing conducive behaviours (Bakhtiar et al., 2018; Moradi et al., 2018; Pekrun, 2014; Pekrun & Stephens, 2010; Rientes & Alden Rivers, 2014; Volet et al., 2009). The importance of establishing, developing and refining positive social relationships within close working groups is a common theme reported in the literature, and an understanding of those complex processes involved is central to the discourse on group dynamics (Schutz et al., 2006). The literature may simplify students' attributes into cognitive skills, such as task regulation and the building of knowledge, and social skills that explore the nature of participation and social regulation (Camacho-Morles et al., 2019). For some students the challenges presented in working in groups are largely social and emotional in origin, whereas for others it can be academic. A central theme in the literature is how students respond to differing forms of peer-based feedback. This issue is explored in the literature as the search for more effective forms of feedback literacy progresses (Little et al., 2023; Panadero & Alqassab, 2019; Su & Huang, 2021). Although some research has been undertaken into peer-based feedback and collaborative group work in relation to

business programmes (Sridharan & Boud, 2019), there appears to be no substantive work related to FPs. This paper aims to address this gap in the literature.

Control-value theory of academic emotions

Schutz et al. (2006) acknowledged that there is a need for conceptual clarification in relation to the discourse on emotion and learning. In general, however, most scholars accept a distinction between short-term affective responses that we call an 'emotion' and that are tied to a specific activity or event, and moods that are of a more sustained duration. Pekrun (2014) differentiates between four types of academic emotion. This typology of emotions comprises: 'topic' emotions that are linked to a particular learning situation; 'social' emotions that relate to social interaction; 'epistemic' emotions that arise in reconciling new and challenging ideas; and, 'achievement' emotions that are concerned with success or failure. For Schutz et al. (2006, p. 344):

> Emotions are socially constructed, personally enacted ways of being that emerge from conscious and/or unconscious judgments regarding perceived successes at attaining goals or maintaining standards or beliefs during transactions as part of social-historical contexts.

This reference to the social construction of emotion and the socially situated location of these interactions highlights the peculiarity and unique nature of social encounters with their often unpredictable consequences. Moreover, emotions are linked to self-image, conceptions of personal identity and wider epistemological concerns that pertain to the 'individual in context' (Jarvenoja et al., 2013) and involve the practise of both 'emotional labour' and 'emotion regulation' (Schutz, et al. 2006) in maintaining some degree of adherence to established social norms. Such a perspective has developed from earlier work on socio-cognitivism and socio-cultural forms of learning and draws from constructivism in particular.

Importantly, not only are emotions triggered by the prevailing social system, but these processes form a feedback loop that impacts on individual and collective levels of motivation, approaches to study and subconscious forms of regulation. For Pekrun and Stephens (2010), achievement emotions are difficult to dissociate from social emotions because these often occur in the same setting and can overlap in the instance of empathy or contempt when there is an emotional response to another's level of attainment. In such complex situations, students may adopt coping strategies to manage their behaviour, especially if they wish to maintain social etiquette or self-image. MacCann et al. (2011) highlight the use of emotional intelligence (EI) in the form of problem-focused, emotion-focused and avoidance-focused coping strategies. In particular, MacCann et al. (2011, p. 2) identify the use of strategic forms of EI that "involves more complex, considered, and strategic use of the emotional information, as opposed to basic perceptual processing". Strategic EI may require more sophisticated social skills as it infers a deep understanding of the context of an event, and how best to manage it. Moreover, for Moradi et al. (2018, p. 3) "it is likely that a greater degree of understanding [of] one's and others' emotions will be associated with higher academic success as learning will be more effective with interaction". As such, the identification of those interpersonal skills associated with strategic EI is important in socio-emotional research and group learning.

The control-value theory of academic emotions is predicated on the premise that individuals adopt different positions on any given task depending on the situation and its perceived value (Pekrun, 2014; Pekrun et al., 2011; Pekrun & Stephens, 2010). The determination of an individual's focus may be influenced by the amount of control that they exercise over the task as well as its perceived value. In

situations where an individual feels that they are not able to exercise sufficient autonomy over their learning and the task is viewed as of little value, then this could lead to a lack of effort and under-performance. Individuals' analyses of group-based learning are therefore based on the evaluation of the perceived activity by others, as well as their own expectation of the possible outcome given different levels of effort. This is particularly apposite in collaborative group-based learning where individuals are expected to pool their individual control-value analyses for the benefit of the collective.

Pekrun and Stephens (2010) elaborate control-value theory through a three-dimensional taxonomy of achievement emotions that are aligned to learning activities, prospective outcomes and a retrospective view of the outcome that is described in Table 1. This table outlines the three dimensions as the activity itself, how it is viewed in terms of its possible outcome both as a learning experience and a form of summative assessment, and as a reflection on the outcome. As such, this typology of emotions draws from expectancy theory and acknowledges the potential for instrumentalist interpretation that may attend self-reflection and evaluation.

Table 1 Three dimensions of achievement emotions, after Pekrun and Stephens (2010, p. 239)

	Positive-pleasant emotion	**Positive-pleasant emotion**	**Negative-unpleasant emotion**	**Negative-unpleasant emotion**
Object focus	**Activating**	**Deactivating**	**Activating**	**Deactivating**
Activity	Enjoyment	Relaxation	Anger / Frustration	Boredom
Outcome / Prospective	Hope / Joy	Relief	Anxiety	Hopelessness
Outcome / Retrospective	Joy / Pride / Gratitude	Contentment / Relief	Shame / Anger	Sadness / Disappointment

Pekrun and Stephens (2010) suggest that the emphasis on research should move from a focus on the reaction to success and failure toward emotions such as boredom, which may impact on learning. Control-value theory has informed much of the recent literature on academic emotions and learning, as well as how these may be measured (Leon-del- Barco et al., 2018; Pekrun et al., 2011; Respondek et al., 2017). Importantly, as Respondek et al. (2017) report, undergraduate students do recognise the relevance of academic emotions and possible management strategies. This paper follows on from this premise that academic emotions do influence students' approach to learning, and in particular group work.

The relevance of social-emotional climate to collaboration

An understanding of how learners interact with each other in groups can be approached through the concept of a socio-emotional climate. The idea of a socio-emotional climate is predicated on a recognition that micro-cultures emerge as a result of interactions within the group. Where a group is maintained over a period over time, such as a semester, it is important that a positive climate exists and that it facilitates supportive and productive learning through open discussion in a non-threatening atmosphere. Trust and mutual support are important indicators of a positive climate and promote heightened levels of interaction and cognitive development (Williams et al., 2018). Together with individual emotions and socio-emotional interactions, socio-emotional climate is viewed as being a key factor in the way groups regulate their learning (Bakhtiar et al., 2018; Isolatala et al., 2017). Consequently, the idea of a socio-emotional climate is

central to any useful research into academic emotions and group work. However, Lobczowski (2018, p. 1884) reports that "measuring socio-emotional climates remains a challenge […] [and that] short-term studies on socio-emotional may not accurately depict development of the social processes". As such, research into socio-emotional climates presents conceptual and methodological challenges.

Importantly, different stimuli produce differing responses within individuals and within groups. In a discussion of organismic subsystems, Scherer (2005) identified the relationship between expressive behaviours and affective responses, and their importance in relation to individual motivation and cognitive development. The literature highlights the importance of non-verbal expression as well as verbal communication in the social construction of a socio-emotional climate (Muller et al., 2018; Perry et al., 1995). For example, Muller et al. (2018) reported on the ways in which non-verbal communication such as facial expression, hand and head movements, staring at another person may affect the emotional state of others, and their behaviours. Altogether, the literature on social-emotional climate highlights the complexities involved in human interaction.

Are gender and academic ability relevant in conceptualising academic emotions?

The potential role of gender as a factor in group work behaviours and emotional reactions is explored in the literature. Control-value theory is predicated on the idea that there should be a direct correlation between students' subjective control and value appraisal and resultant emotions. For example, Frenzel et al. (2007, p. 509) research on female underperformance in mathematics found that:

> Gender differences in emotions […] were likely due to differences in competence and value beliefs […] rather than to gender differences in the relationships between beliefs and emotions […] If [both genders] had similar self-related beliefs in mathematics, they would probably experience similar levels of positive and negative emotions.

For Frenzel et al. (2007), differences in gendered self-efficacy can be traced to socio-genic rather than bio-genic factors. Pelch (2018) reported that female students were more likely to report negative emotions such as anxiety and this could be associated with a self-deprecating cycle that could affect their levels of motivation and confidence. Similarly, Pekrun et al. (2011) found that female university students were more likely to self-report anxiety related to their studies and tests in particular. However, Pelch (2018) explains these findings in terms of greater preparedness by females to discuss their emotions than males.

Control-value theory posits the discussion of academic emotions within the context of their educational environment. As such, there is recognition that learning is situated within defined socio-historical and temporal boundaries, and that group-based behaviours are conditioned by social norms. According to Goetz et al. (2007), there is a clear link between academic ability and certain academic emotions. So, for example, those students with a track record of high achievement are more likely to develop more positive academic emotions, a robust sense of self-efficacy and heightened self-esteem than those who achieve lower grades (Zeidner & Matthews, 2000). This idea of virtuous self-reinforcement can also feed forward into positive expectations of future performance and is long recognised in the literature (Heckhausen & Schutz, 1995). A student's life history also leads to the construction of an academic self-concept that encapsulates an evaluation of their academic ability, potential, and implicitly, future educational goals. Academic self-concept is an important conditioning factor in influencing the learning approaches adopted by students. For those students with a positive academic self-concept and high levels of motivation to

study, this may lead to deeper learning approaches. In contrast, those with a less well developed academic self-concept together with lower levels of motivation may decide upon shallow or instrumental approaches to learning (Rodriguez, 2009).

Models of regulated learning: Self, Co-ordinated and Socially-shared

In a development of Self-Regulated Learning (SRL) socio-cognitive research, Hadwin et al. (2011) describe two models of collaborative learning that add to earlier work on SRL and are relevant to a discussion of collaborative learning: co-regulation of learning (CoRL) and socially shared regulated learning (SSRL). The model of co-regulation of learning (CoRL) draws from social constructivist thought and theorises how individuals may be influenced by the behaviours of others in a group. Alverez et al. (2010, p. 342) suggests that CoRL "implies gradual comprehension of shared problems and tasks with the help of some mechanisms that intervene in cooperative tasks: establishment of psychological relations, positive interdependence and joint construction of meaning". A central tenet of CoRL is that some members of a group assume a more active role and influence than others, and that some may feel excluded to some degree as a consequence. Although Saariaho et al. (2018, p. 539) describe CoRL as involving "a high level of social regulation in which individuals make decisions and share thoughts together in order to combine different kinds of expertise and the distributed control of the task". Therefore, CoRL does not presuppose an equitable distribution of roles and responsibilities within group-based learning. Importantly as Jarvenoja et al. (2013) recognise, CoRL can relate to individuals' attempts to affect others' motivational and emotional states for their own purpose. CoRL provides a potentially useful model of collaborative learning and interpersonal regulation, and one that experienced teachers may recognise. SSRL, however, presupposes a more equal distribution of responsibility, a shared view of the task as well as a highly developed group ethic within the group. As such, SSRL establishes an appreciably higher threshold for group cohesion and collaboration than is the case for CoRL. Importantly, however, Jarvenoja and Jarvela (2009, p. 464) suggest that "these different forms of regulatory processes are not mutually exclusive and do not represent set stages of regulation but can co-exist simultaneously". CoRL is therefore dependent, as are other forms of regulation, on context, perceptions and motivations.

The decision to adopt CoRL as a theoretical model for this research was taken because it was anticipated to elicit both positive and negative emotions generated from a broad range of social and cognitive challenges. This socio-cultural approach follows on from work that focused on social interaction within a classroom environment (McCaslin & Burross, 2011). McCaslin (2009) suggested that co-regulation is a process that enables individuals to bring their particular skills to group-based activity. In this respect, co-regulation can be viewed as an emergent form of mutually reinforcing scaffolding of behaviours that are performed by individuals as they adapt to their social and cognitive context. So how can we identify those factors that influence co-regulation of learning and behaviours? A number of scholars have offered ways of conceptualising CoRL. Alvarez et al. (2010, p. 347) provide a theoretical framework that captures those cognitive and social strategies practised within co-regulation, and that are thematised as: external regulation, shared regulation and self-regulation, and that focus on processes such as task clarification, the negotiation of meaning, monitoring of participation levels, and planning. Although similar models have been generated (Hadwin et al. 2011; Jarvela & Hadwin, 2013) these all tend to focus on the identification and exploration of key sub-processes within the regulation of social actions. The identification of the myriad

of cognitive, emotional and behavioural sub-processes within CoRL is a necessary precursor to a better understanding of the complexities of collaborative learning.

Research methodology

Research design

Hitherto, much of the published research on the regulation of academic emotions in group-based learning has adopted quantitative methods that have used large samples (Jarvenoja, et al., 2013; Leon-del- Barco, et al., 2018; MacCann, et al., 2011; Pekrun, et al., 2011; Rientes & Alden Rivers, 2014). This paper reports on data that were generated following formal ethical approval by the Faculty Ethics Committee at the author's institution. The research design deploys a mixed methods approach to collect quantitative and qualitative data (Mayoh & Onwuegbuzie, 2015). A number of scholars have described the benefits of a mixed method approach and how this may be conducted (Creswell, 2003; Mayoh & Onwuegbuzie, 2015; Ponto, 2006). This research adopted a 'sequential explanatory work' (Creswell et al., 2003) in which quantitative data were generated, followed by qualitative research using focus groups during which those emergent themes identified by the quantitative data are explored in depth.

Data collection

The first step in the research process took place in the induction to the programme. A pilot online JISC questionnaire that included 22 statements was used to elicit students' views on a range of issues including group work, being teacher-led, exercising independent control, how they approached planning and their expectations of success. Examples of these statements included: 'I enjoy group work', 'I manage my own emotions in group work', 'I try to manage others' emotions in group work'. Although a clear majority (72%) either agreed or strongly agreed that they enjoyed group work, a minority indicated that they did not (18%). Interestingly, although 92% indicated that they actively managed their own emotions in group work, only 20% thought that they sought to manage others' emotions. Given the literature on intra- and inter-personal emotions, this preliminary finding was intriguing and informed the subsequent research.

The next stage of the research involved the distribution of a second online JISC questionnaire that specifically explored academic emotions and included 16 statements which provided a seven-point Likert scale for responses. Over the two years 115 students participated in the research, which represented a response rate of 46%. This highly structured questionnaire was based on the categorisation of emotional reactions in collaborative work using key words generated by Watzek et al. (2019), as well as Pekrun et al. (2011). These keywords included: empathy, co-operation and enhancing others' self-esteem, and were viewed by Watzek et al. (2019) as positive social-emotional reactions that developed collaborative learning. In addition, negative emotions such as anger and disagreement were also included in the questionnaire. So, for example, the questionnaire included statements linked to positive emotions such as: 'We express thanks to each other', 'We help each other', and 'We demonstrate real interest in everyone's contribution'. These statements that elicited responses in relation to negative emotions included: 'We work to minimise disagreement', 'We work to avoid being angry with another', and 'Some individuals undermine others in group work'. In order to ascertain whether there was any difference between gender or ability, the data were organised into four categories according to gender and qualifications (grades A and B, and grades C, D

and E at A level or equivalent; see Table 2). Students were asked to identify their grades, including Business Studies at A Level or BTEC. Given that students were enrolled onto an FP designed to prepare them for a degree in one of the subject areas within the business school, and that a majority had studied Business previously, this was a reasoned decision that was intended to obtain an insight as to the academic attainment of the cohort.

Table 2 A statistical overview of the research population by gender and educational attainment.

Gender	A-B grade	C-D-E- Other qualification	Total
Male	26	38	64
Female	24	27	51

Qualitative data were generated from 32 students in seven focus groups over the two cycles of the research. These focus groups each had four or five participants. Although Tomkins and Eatough (2010) acknowledge that there are some methodological issues concerning the use of focus groups, a number of scholars have adopted such an approach (Brocki & Wearden, 2006; Lambert & Loiselle, 2007; O'Toole et al., 2004; Palmer et al., 2010). In particular, Tomkins and Eatough (2010) and Palmer et al. (2010) acknowledge that the use of focus groups has been criticised because they may inhibit individuals, and that it is often more difficult to establish a coherent unit of analysis than in one-to-one interviews. Despite these concerns, a decision was taken to use focus groups because the data generated is "the product of context-dependent group interactions" (Lambert & Loiselle, 2007, p. 229). In this sense, focus groups can be seen as another manifestation of the group phenomenon itself in action. A word cloud was generated that included the key words derived from the literature including Watzek et al. (2019) and Pekrun et al. (2011). A number of keywords, such as shame, anxiety and enjoyment appear in both sources, whereas others such as anger were derived from Pekrun et al. (2011), and interest originated from Watzek et al. (2019). Students were asked to underline which key words they felt were relevant prior to discussing each. These word clouds were collected at the end of each meeting and the indications of underlined words recorded in order to provide some measure of students' views.

Data analysis

The data generated by the online questionnaire were initially organised into a spreadsheet with six categories in order to facilitate analysis by both gender and academic attainment. These categories were: male students with A-B or C-D-E grades at A level; female students with A-B or C-D-E grades at A level (or equivalent BTEC), together with overall totals for all male and female students. In the first cycle of the research, 85 responses had been generated by the questionnaire and these were inputted into online software that calculated the respective P value and H statistic, as well as an indication of significance at 0.5 and 0.1 using the Kruskal-Wallis statistical test. In the second cycle of the research, the data obtained from 30 students were added to the original spreadsheet. It was noticeable at this stage that the second stage of the data generation did not appear to alter the distribution of responses established earlier. This data was then inputted into the Kruskal-Wallis calculator to obtain the final P value and H statistic, and indications of significance, which are presented in Table 3.

The data generated through focus group discussions were organised using a spreadsheet. The 36 key words derived from the literature, and presented to students in the word cloud, not only served as a priori themes but also provided a framework for discussion. The frequency of referral to a key word had been recorded by

the researcher when taking notes and this data was inputted into the spreadsheet with positive social-emotional responses being indicated in green and negative responses in red. Once all the data had been entered, a hierarchy of most frequently mentioned key words was organised, presented in Table 4.

Findings

Issues that generated positive responses from students

The Kruskal-Wallis test was used to identify significant statistical difference between the four data sets, as it is viewed as appropriate for the analysis of Likert scale questionnaires (Lanz, 2013). In the first cycle of the research, all but statements 12 and 15 had generated a positive response from students. Following the second cycle, all but statement 12 met with a positive response. Those statements that generated the most positive responses included statement 3 'We cooperate with each other' (59 from all 64 male respondents, and 47 from all 51 female respondents), statement 10 'We understand what the task is collectively' (57 from all 64 for male respondents, and 47 from all 51 female respondents), and statement 11 'We actively listen to each other' (55 from all 64 male respondents, and 47 from all 51 female respondents). In terms of the attainment groupings, statement 9 'We enjoy working with each other', and statement 10 generated the most positive responses (23 from 26 students) in the A-B category of male students. The statement that generated the most positive responses in the C-D-E category of male students was statement 3 (37 from 38 students). In terms of female students in the A-B category, the statement that generated the most positive responses was statement 3 (22 from 24 students), and for those female students in the C-D-E grouping the most positive statement was statement 11 (25 from 27 students).

The quantitative data implied a pragmatic and instrumental approach to group work that was characterised by an understanding of the task, mutual cooperation and enjoyment in working collectively. This is reflected in the data derived from focus group discussions. Although 36 words appeared in the word cloud, nine did not feature in the focus group discussions. These 'zero-response' words included: anger, alone, interrupt, lazy, pessimistic, stupid, undermine, irritation and blame. As these key words are all regarded as negative social-emotional reactions, these findings imply that group work was more likely to be reported as being a positive experience. A number of key words appeared more frequently than others, with contribution (19 times) being the most common, followed by collaborative (13), trust (12), ideas (12), enjoyment (10) and self-worth (9).

Importantly, there is significant commonality across both the quantitative and qualitative data sets with the themes of cooperation and collaboration, as well as enjoyment feature prominently. Students appear to adopt a purposeful approach that is tolerant and that values others' contribution to the collective task. There were, however, some outliers to this general overview.

Issues that generated negative responses from students

The statement that generated the least positive responses was Statement 12 'Some individuals undermine others in group work' (25 from all 64 male respondents, and 22 from all 51 female respondents). Interestingly, the other statement that generated a low level of agreement was Statement 15 'We work to avoid being angry with another [student]' (41 from all 64 male respondents, and 32 from all 51 female respondents). In terms of the attainment groupings, the lowest level of agreement was generated by

statement 12 for those females in the A-B category (7 from 24 students) and also statement 12 for those in the C-D-E category (12 from 27 students). For those males in the A-B category, the lowest level of agreement was again generated by statement 12 (9 from 26 students) and for those in the C-D-E grouping, it was also statement 12 (with 8 from 38 students). Although this finding would appear to feature across the research population, it is statistically significant only in relation to the female C-D-E category.

Although the research had been undertaken across two academic years, there was little divergence in the data generated from the anonymous online questionnaire. Although there may be little in the quantitative data to explore issues raised by statement 12, there is some inference in the qualitative data of dysfunctional behaviours. The highest ranking negative social-emotional word was disagreement (10 times) and the least frequently mentioned positive word was caring (1). However, in large focus groups students explored the origins of negative emotional reactions. In particular, students commented on how they organised follow-up work away from campus and the problems associated with this approach. Those key issues raised related to time-management, lack of co-ordination within groups, the emergence of a domineering figure, lack of commitment by some group members, playing on a smartphone, and insider and outsider sub-groups, as well as poor scheduling of work. This insight from the focus groups suggests that collaborative work can be frustrating for highly committed students who view groups as potentially dysfunctional and difficult to organise.

Presentation of data

Table 3 The analysis of the four data sets (Male, A-B; Male C-D-E; Female, A-B; Female, C-D-E) using the Kruskal-Wallis test (n=115 students), with reference to academic emotions as defined by Pekrun and Stephens (2010) and Watzek et al. (2019).

Statement	H statistic	P value	Significant at <0.5	Significant at <0.1	Positive / Negative
1 We empathise with each other	1.3224	0.25015	No	No	Positive
2 We trust each other	0.4682	0.5229	No	No	Positive
3 We co-operate with each other	0.4939	0.4822	No	No	Positive
4 We actively enhance each other's self-esteem	1.8	0.17971	No	No	Positive
5 We express thanks with each other	0.6898	0.40623	No	No	Positive
6 We help each other	0.8	0.37109	No	No	Positive
7 We feel comfortable in making an apology	1.8	0.17971	No	No	Positive
8 We demonstrate real interest in everyone's contribution	1.3224	0.25015	No	No	Positive
9 We enjoy working with each other	0.0041	0.94906	No	No	Positive
10 We understand what the task is collectively	0.102	0.74939	No	No	Positive
11 We actively listen to each other	0.4939	0.4822	No	No	Positive
12 Some individuals undermine others in group work [females (C-D-E) compared with all male students]	4.1796	0.04091	Yes	Yes	Negative
12 Some individuals undermine others in group work [females (C-D-E) compared with the three other student data sets]	5.8939	0.01519	Yes	Yes	Negative
13 We work to minimise disagreement	0.2612	0.60928	No	No	Negative

14 We work to reassure when one has a problem	0.0041	0.94906	No	No	Positive
15 We work to avoid being angry with another	1.6327	0.20134	No	No	Negative
16 We feel comfortable in challenging an idea with others	0.8	0.37109	No	No	Positive

Table 4 The hierarchy of responses in focus group discussion in relation to key words.

Key word	Total	Ranking	Type of social-emotional response
Inadequate	1	12	Negative
Cooperation	8	6	Positive
Emotional	1	13	Neutral
Caring	1	13	Positive
Learning	6	8	Positive
Optimistic	3	11	Positive
Enjoyment	10	4	Positive
Help	6	8	Positive
Shame	13	13	Negative
Interrupt	0	14	Negative
Contribution	19	1	Positive
Stupid	0	14	Negative
Self-worth	9	4	Positive
Agreement	7	7	Positive
Blame	0	14	Negative
Disagreement	10	4	Negative
Anger	1	14	Negative
Bored	4	10	Negative
Sharing	7	7	Positive
Empathy	3	11	Positive
Trust	12	3	Positive
Challenge	2	5	Negative
Pride	2	12	Positive
Pessimistic	0	14	Negative
Alone	0	14	Negative
Lazy	0	14	Negative
Thank	0	14	Positive
Irritation	0	14	Negative
Collective	7	7	Neutral
Together	4	11	Neutral
Clarification	8	6	Positive
Apology	1	14	Positive
Collaborative	13	2	Neutral
Undermine	0	14	Negative

Ideas	12	3	Neutral
Anxiety	5	9	Negative

For ease of interpretation in Table 4, the social emotional response (positive, negative and neutral) that is associated with each key word is colour coded.

Discussion

Developing effective intra- and inter-personal techniques in dealing with others is one of the key challenges for university students as they transition to become mature adults. This discussion will address the two research questions stated in the introduction.

Research question 1: What do students tell us about how they control their social-emotional reactions in group work?

In general, the quantitative data imply that students enjoy collaboration and find it both productive and enjoyable. There are, however, concerns about individuals who do not act as a team player, and this is further expressed in the qualitative data. The qualitative findings indicate that a lack of organisation within groups may enable dominant figures to emerge and where there is an absence of collective consensus about protocols and processes, the potential for dysfunctional working behaviours can develop (Panadero et al., 2015). Attending such observations is the relevance of maturity and the ways in which FP students demonstrate inter-personal skills in managing their emotions. This research reinforces the importance of a positive social-emotional climate within which students are able to interpret and respond purposefully to the physical and emotional signals from others. The focus groups identified key words such as contribution, trust, enjoyment and sharing as important aspects of group-based collaboration. Importantly, they also identified disagreement and challenge as relevant key words, which points to the complexities involved in working with others. As such, it is possible to align this research to the 'individual in context perspective' (Jarvenoja et al., 2013) in which students actively engage in the management of their intra- and inter-personal emotions in response to the actions of others.

Research question 2: How do the findings contribute to the further theorisation of collaborative learning with reference to gender and academic ability?

Although previous research has reported that there is some divergence between gender across aspects of self-regulated learning, this has been explained in terms of socio-genic and cultural rather than innate bio-genic factors. Research (Frenzel et al. 2007; Pelch, 2018) that has found that anxiety is more likely to be self-reported by female than male students was not replicated in this study. This may be attributable to the absence of examinations in the FP, as fear of failure and anxiety are often linked to formal tests. Indeed, anxiety appeared only as a mid-range keyword in the ranking of students' qualitative data, whereas challenge and disagreement feature more prominently and are perhaps more useful indications of students' views of group-based learning. The finding that students in the female C-D-E category expressed concerns relating to the perceived undermining of others is important and raises issues relating to the organisation of group-based learning and the protocols adopted. Given that those keywords such as anxiety and fear of

failure that are associated with academic ability in the literature are not prominent in this research, it would be reasonable to claim that academic ability is not a pre-eminent determinant of group work cohesion.

Implications for the organisation of collaborative learning

The findings report that students' behaviours correspond more closely to CoRL than SSRL, and this can be linked to a control-value perspective on behalf of students. The lack of consensus within groups and the emergence of dominant figures is inconsistent with SSRL. Instead of developing a consensual approach that is inclusive and co-constructed (Isolatala et al., 2017), the findings imply that students do not engage in sophisticated forms of collective meta-cognition and tend to act as individuals as they exercise judgment over the task and its likely outcome. This observation highlights the complexities inherent within collaborative learning and the propensity of individuals to exercise a control-value approach in collaborative work. This observation raises questions relating to what priorities are established when organising groups and the amount of individual autonomy assigned. Furthermore, this research recommends that protocols are developed and explained to students prior to launching group-based activities. In this way, expectations of students' behaviours may be better understood and the foundations for a conducive social-emotional climate established.

Conclusion

This research reports on how students view collaborative learning and the ways in which they regulate their academic emotions. The findings point to a positive view of group work, especially in terms of developing inter-personal trust, task enjoyment and self-worth. These findings highlight the positive aspects of group work for most students. This paper found that there were differing approaches in collaborative learning that can be attributed to a control-value theory perspective. Students continuously make judgments about their task, others in their group and the progress they make. It is with this instrumental context that students' academic emotions are formed and condition their future behaviours. SSRL requires a very high degree of collective commitment, which is not evident in the data. Rather, the evidence infers that students are more likely to engage in SRL and CoRL as they learn how to navigate the social and emotional challenges of working with others.

This research has implications for how group-based learning is organised. Although this research pertains to FP students, it can be applied to other contexts. One possible approach of facilitating group-based learning would be to conceive of it in three stages. In stage one, students would be inducted into those expectations associated with a house style of collaborative learning. In providing some form of social scaffolding, students have a formal structure to their interaction and a framework to manage their emotions. On completion of the activity, students should be encouraged to reflect on the experience and how they managed their emotions and responded to others. In short, this paper offers one way of navigating academic emotions through effective induction, scaffolding and reflection.

Limitations of this research

The research population reflected a higher level of participation from male and those students in the C-D-E category, both at 56% in terms of gender and ability groupings. It would be informative to have a more

representative sample across both genders and ability categories. Future research could involve other FPs in other disciplines, and indeed at other institutions, to ascertain whether there are common themes at this level.

Biography

David William Stoten EdD, PhD was the Programme Leader for the Foundation Programme in Business and Management in the Newcastle Business School at the University of Northumbria at Newcastle until retirement in July 2024. Prior to entering academia, Dr Stoten taught in the Sixth Form College sector.

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