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Finding Collective Strength in Collective Despair; Exploring the link between Generic

Critical Feedback and Student performance

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Abstract

Whilst formative feedback has been highlighted as a key element in both student satisfaction and

learning, research highlights the dissatisfaction of both tutors and students with its effectiveness

in improving performance. This study tracks changes in undergraduate student satisfaction and

performance across three cohorts in response to variations in group-level feedback. The findings

of the study show that an increased level of generic critical feedback targeted at the group had a

positive impact on individual student performance, but a corresponding negative impact of

student satisfaction scores. Thus, whilst the student cohort experienced a sense of collective

despair, this did not constrain their ability to change and adapt to the feedback given. It is argued

that instead of triggering a process of self-reflection and peer comparison, the group feedback

given, increased team spirit and collective action, resulting in improved academic buoyancy and

performance.

Key words: Student Feedback, Group feedback, Performance, Student Satisfaction

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## Introduction

Feedback has been highlighted as a key element in both student satisfaction and learning, with many pointing to the importance of high-quality feedback in meeting students' expectations (Brown & Knight, 1994; Higgins et al., 2001, 2002). High-quality feedback is seen as timely. providing detailed explanatory comments, and supplemented by the opportunity for discussion in a continuous dialogue between staff and student (Beaumont et al., 2011). A number of metaanalyses have argued that feedback is central to student learning (Black & Wiliam, 1998; Hattie & Jaeger, 1998; Hattie et al., 1996), providing them with the information they need to compare their actual performance against desired outcomes (Lizzio & Wilson, 2008; Mory, 2004) and empowering students to be self-regulated learners (Pintrich & Zusho, 2002). However, whilst a number of studies focus on the positive benefits of formative feedback on student learning (Black & Wiliam, 1998), others are more cautious in drawing such conclusions (Dunn & Mulvenon, 2009). For example, UK students in annual National Student Surveys continue to show dissatisfaction on the detail, timeliness and clarity of feedback given (Beaumont et al., 2011; HEA, 2013; Higgins et al., 2001). In addition, students are dissatisfied with the negative impact of feedback on their self-perception and confidence (James, 2000; Ryan & Deci, 2000), which may even reduce student performance (Lizzio & Wilson, 2008). Much of this past research has tended to focus on individual, as opposed to group-level feedback (London & Sessa, 2006). Therefore, it is unclear how the effects of feedback on student performance and perceptions, described above, might change at the level of the group. As a result, the link between critical feedback, learning and satisfaction is unclear, and exploring this relationship is

important given policy and institutional drives towards student satisfaction in higher education. This study is therefore guided by the following research question; what impact does generic critical feedback have on student satisfaction and performance?

This study reports findings of student satisfaction and performance on an elective intermediatelevel undergraduate module, offered as part of a degree in business studies. The module in question had two modes of assessment - a mid-semester formative group assignment and a summative end-of-semester individual essay. In the study, changes were made to the way in which feedback was given to students, and the resultant impact on student satisfaction and performance was measured. The findings of the study show that an increased level of generic critical feedback had a positive impact on individual student performance, but a corresponding negative impact on student satisfaction scores. Thus, whilst the affected student cohort experienced a sense of collective despair, this did not constrain their ability to change and adapt to the feedback given. As a result, the negative impact of critical feedback on student motivation and satisfaction was decoupled from their ability to react to such criticisms. It is argued that this was in part achieved by targeting critical feedback at the collective as opposed to the individual level. Thus, whilst the feedback still had a negative impact on student satisfaction, a collective strength was found in their collective despair. It is argued that instead of triggering a process of self-reflection and peer comparison, the group feedback given, increased team spirit and collective action, resulting in improved performance.

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<sup>&</sup>lt;sup>1</sup> Generic feedback in the sense that it was not directed at any one student, but at the full cohort of students.

# Theoretical Background and Hypotheses Development

Positive Feedback and Student Performance

The link between feedback and student motivation highlighted above has been shown in numerous studies. Whilst critical feedback can demotivate students (Ryan & Deci, 2000), positive feedback on the other hand, is seen to build student confidence, self-esteem and intrinsic motivation (Vansteenkiste & Deci, 2003; Weaver, 2006), with positive emotions promoting communication, flexible thinking, engagement, resilience and goal pursuit (Rowe et al., 2015). Students also point to the need for positive feedback to ameliorate the potentially negative effects of critical feedback on self-esteem and motivation (Lizzio et al., 2003; Lizzio & Wilson, 2008). However, it is unclear how effective this positive feedback might be in terms of improving student performance (Evans, 2013). Martens et al. (2010) for instance found no difference in student performance whether feedback was positive, neutral, or negative. Draper (2009) even argues that positive feedback damages learning.

To be effective, positive comments need to be credible and informative (Brophy, 1981), and premature praise or praise for mediocre work may confuse students and discourage revisions (Mulliner & Tucker, 2017). In addition, whilst positive feedback can increase the likelihood of a student accepting negative feedback (Hyland & Hyland, 2001), it can soften criticism and as a result, diminish its developmental value (Benedict & Levine, 1988; Young, 2000). Hyland and Hyland (2001) found that tutors' attempts to mitigate against the negative effects of criticism

caused confusion and misunderstandings. They thus recommend that tutors are more direct and franker in their criticisms, so as to avoid confusion (Hyland & Hyland, 2001). As they note 'indirectness... can open the door to misinterpretation' as students, they argue 'are adept at recognizing formulaic positive comments which serve no function beyond the spoonful of sugar to help the bitter pill of criticism go down' (Hyland & Hyland, 2001). By diminishing the value of critical feedback, positive comments can thus undermine opportunities for learning, as the students shift attention to what they did well, and away from less palatable criticisms and areas for improvement. Positive feedback can therefore blur the directness of critical feedback. Hence,

Hypothesis 1: Directing feedback at areas for improvement only, increases the directness of feedback, and increases the potential for student learning and performance.

Negative Feedback and Student Satisfaction

Such direct and critical feedback can however lead to defensiveness and a loss in confidence (Boud, 1995), reducing a student's self-esteem and self-efficacy (Rowe et al., 2015), and leading them to being unreceptive to tutor comments (Boud, 1995; Hounsell, 1995). Critical feedback can cause anxiety having a negative impact on student motivation (Nash et al., 2015). However, this negative relationship between critical feedback and self-esteem doesn't hold for all individuals. Pitt and Norton (2017) found that cognitive, emotional and behavioral characteristics, such as emotional maturity, self-efficacy and motivation, shape an individual students' reaction to and subsequent use of feedback. Young (2000) found that students with low

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self-esteem tended to view feedback as a judgment of ability, whilst those with high self-esteem showed a positive approach to receiving feedback, even if this was negative. Indeed, these latter students did not feel the need for positive feedback, viewing feedback as a reflection of their work and not themselves (Young, 2000). Low self-esteem students however view feedback in the reverse manner, seeing it as a definitive judgment of ability, as opposed to a potential to change (Young, 2000). Dweck and colleagues contrasted "mastery-oriented" students, who were seen to have a positive and resilient orientation to problems, from "helpless" students, who saw failure as a reflection of their (perceived low) ability (Elliott & Dweck, 1988). These orientations are further linked to whether the student believes their intelligence is fixed or malleable (Dweck & Leggett, 1988). If an individual assumes the former then negative feedback is interpreted as a reflection of their low ability, and students are likely to give up. Students with a fixed mindset are more likely to adopt defensive behaviors, such as distorting the facts of the feedback and negative affect regulation, to protect their self-esteem (Forsythe & Johnson, 2017). On the other hand, if the student believes their intelligence is malleable, then they are more likely to recognize the expertise of tutors giving feedback, and are also more likely to act on and respond to that feedback (Forsythe & Johnson, 2017).

The receptiveness of a student to critical feedback is also influenced by their beliefs about how feedback is best delivered, and what makes it effective (Akiyama, 2017; Ellis, 2010; Kartchava & Ammar, 2014). Indeed, there is a gap in our understanding of the relationship between learner beliefs and corrective feedback (Akiyama, 2017; Han, 2017; Rummel & Bitchener, 2015). Kartchava and Ammar (2014) found a positive relationship between a learner's beliefs regarding

the importance of corrective feedback and whether a student noticed and recalled this feedback. Therefore, whilst anxiety can hinder a student's ability to process feedback, if they understand the purpose of that corrective feedback, students will engage with it regardless of any anxiety experience (Zhang & Rahimi, 2014). Rummel and Bitchener (2015) also found that students who received feedback they believed was the most effective, were more likely to act on the feedback given. On the other hand, when student and tutor beliefs are misaligned, then learning can be negatively affected (Horwitz, 2007; Storch & Wigglesworth, 2010).

The impact of critical feedback on student performance therefore depends on the learner's beliefs regarding the importance of that feedback, and whether the student views negative feedback as a reflection on him/her personally or as an opportunity to improve his/her learning (Knight & Yorke, 2003). As Black and Wiliam (1998) note, feedback which draws attention away from the task and towards self-esteem, can have a negative effect on attitudes and performance. Critical feedback can thus negatively affect a student's self-esteem and satisfaction, potentially undermining their ability to learn. Therefore,

Hypothesis 2: Directing feedback at areas for improvement only, negatively affects individual student satisfaction, and potentially impairs student learning and performance.

Group Feedback and Student Performance

Nadler (1979) highlights important differences between feedback given to individuals and groups. First it may be difficult for group members to interpret the extent to which group-level feedback reflects their own individual performance. Second, each group member is limited by the group in their response to this feedback, given the collective involvement (Nadler, 1979). Therefore, the connection between group-level feedback and individual performance becomes blurred. Some argue that individual feedback leads to higher levels of task performance when compared to group-level feedback (Archer-Kath et al., 1994), as each individual can reflect on person-specific feedback. Other studies have found that generic feedback given to the group, can reduce the negative impact of anxiety on student performance noted above, if students believed that feedback to be useful (Núñez-Peña et al., 2015).

Pritchard et al. (1988) point to improvements in group productivity as a result of group-level feedback, further benefiting group cohesion. Group feedback is thus seen to help the development of shared mental models, and help generate interpersonal congruence between members (London & Sessa, 2006; Polzer et al., 2002). Berkowitz and Levy (1956) found that group feedback encouraged group members to have greater pride in their group and to be more task-oriented. This is particularly the case when groups experience negative emotions in the face of critical feedback. As members mimic the emotional expressions of others (Bruder et al., 2014), their feelings may converge (Shields, 2015), as they feel a shared group membership (Livingstone et al. 2011). A shared experience of pain can thus have a positive impact on affiliation and solidarity within a group (Bastian et al., 2018; Knight & Eisenkraft, 2015), which can in turn, be the basis of mutual support in stressful situations (Alfadhli & Drury, 2018; Kellezi

et al., 2019). This increase in cooperation and trust can lead to improved group performance (Bastian et al., 2018), counteracting the negative relationship between critical feedback on individual-level esteem noted above. Therefore,

Hypothesis 3: Directing critical feedback at the student group as a whole, will increase group cohesion, and with this the resilience of the group to respond to critical feedback.

## Method

This study reports findings of student satisfaction and performance on an elective intermediate-level undergraduate module over a three-year period. The module in question was entrepreneurship, and all the students taking this were in their second year of a three-year undergraduate business studies degree at a UK university. Each year a different cohort of students took the module, with 109 students in the first year (57 were male), 128 students in the second (80 were male), 84 in the third year (46 were male). A quasi-experimental design was used, in which the impact of a change in feedback given to students in year 2 (cohort 2) was compared against two control groups (cohorts 1 and 3 in years 1 and 3 respectively). A between group analysis was then carried out on the three cohorts to determine any significant changes in dependent variables. Retrospective institutional ethical approval was given for the study, and all data have been anonymized in accordance with university ethical procedures.

Changes in Tutor Feedback

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In all three cohorts, the module included a number of methods for providing feedback to students. First, face-to-face feedback on set tasks was given to students in fortnightly tutorial sessions. Students completed these tasks in groups of five, presented their analysis to the class (maximum of 15 students in attendance), and then received feedback from the class tutor. Second, students received written formative feedback on a mid-semester piece of group work. Third, students received one-to-one feedback on questions posted on the Blackboard student support site. With the treatment cohort in year 2, the nature of the feedback was altered to explore the hypotheses given above. These changes in feedback were also motivated by focus group research within the wider program of study, in which students were asked to describe the kind of feedback they preferred, and how the business school might improve the delivery of that feedback. In these focus groups, students commented both on the importance of generic feedback given to the whole group in lectures (hypothesis 3), and on feedback which focused on areas of weakness, or 'where people have gone wrong' (hypothesis 1). These student "beliefs" therefore highlight the importance and usefulness of both generic and critical feedback. Therefore, in addition to the forms of feedback outlined above, additional critical feedback was given to the entire cohort of students at the beginning of each weekly lecture. This feedback was critical in the sense that it pointed directly to gaps between actual and ideal performance (Lizzio & Wilson, 2008) or "areas for improvement only", and covered two key areas. First an overview was given each week on the performance of the cohort, including where relevant, statistics in relation to marks given on the assessments or tests. Second, this generic feedback focused on what students could do to improve their work (see appendix for an example), thereby facilitating a feedforward in student learning (Carless, 2006; Higgins et al., 2002; Knight & Yorke, 2003). This generic

feedback was based on both the mid-semester assessment, and tutorial performance from the previous weeks.

## **Dependent Variables**

#### Student Satisfaction

Student satisfaction was captured through an anonymous questionnaire, distributed in the final lecture of the module (and before students received their mark for the final summative assessment). Specific questions focused on ten different categories ranging from feedback, assessment methods, quality of teaching, to enthusiasm of staff, with students being asked to rate each on a 5-point Likert scale (5- strongly agree, 1- strongly disagree). Descriptive statistics for each of these categories was analyzed to assess overall student satisfaction in each year. Students were also asked open-ended questions on what they liked, and disliked about the module (see below).

## Student Performance

Individual student performance in the module was assessed using an end-of-semester 3500 word summative essay. Two examiners independently evaluated these essays, and a selection was second marked to ensure consistency of marking. As the groups occurred in different academic years, and as participants were not randomly assigned to treatment and control groups, steps were taken to mitigate against confounding factors (i.e. that differences found between the groups may have been due to factors other than the treatment) (Shadish et al., 2002). To test for

this, the performance of the same groups of students was analyzed over the three-year period on a second 'test' module (i.e. strategic management). Each cohort completed this strategic management module, over the same time period (i.e. the autumn semester in each year), and completed two pieces of assessment (formative and summative) similar in nature to that given on the entrepreneurship module.

#### **Results**

A univariate analysis (ANOVA) was used to explore the effect of changing tutor feedback on student satisfaction and performance over the three years.

Student Satisfaction. Variances in responses to four different questions were compared across the three years. First there was a significant difference found between the three cohorts in terms of the average student satisfaction scores (across the full range of questions asked<sup>2</sup>), F(2,159)=6.67, p=0.002. Descriptive statistics are given in table 1. It is seen from these findings that average student satisfaction scores dropped from an average above 4.07 for control cohorts 1 and 3, to 3.70 in the treatment Cohort 2 (see figure 1).

## Table 1 and Figure 1 about here

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<sup>&</sup>lt;sup>2</sup> Students were asked a total of 11 questions as follows; 1. Staff are good at explaining things, 2. Staff have made the subject interesting, 3. Staff are enthusiastic about what they are teaching, 4. The module is intellectually stimulating, 5. The assessment methods used are appropriate, 6. Feedback has helped me clarify things I didn't understand, 7. I have been able to contact module staff easily, 8. I have been able to contact module staff easily, 9. The module is well organized and runs smoothly, 10. The library resources and services are good enough for my needs, 11. Overall, I am satisfied with the quality of this module

Second there was a significant difference found between the three cohorts when answering the question, 'Overall, I am satisfied with the quality of this module', F(2,157)=3.64, p=0.028. The average score here dropped from means of 3.95 and 4.11 in cohorts 1 and 3 respectively (control), to 3.65 in cohort 2 (treatment).

Third, with regards to specific questions on feedback (i.e. 'feedback has helped me clarify things I didn't understand'), there was again a significant difference found between the three groups, F(2,157)=5.55, p=0.005. The average score dropped from means of 3.87 and 4.04 in cohorts 1 and 3 respectively (control), to 3.43 in cohort 2 (treatment).

Finally, this changing satisfaction with feedback also affected the students' views on the assessments set. When answering the question, 'assessment requirements and marking criteria have been made clear', a significant difference was found between the three groups, F(2,156)=6.46, p=0.002. Here, the average score dropped from means of 3.77 and 3.94 in cohorts 1 and 3 respectively (control), to 3.32 in cohort 2 (treatment).

Students were also given the opportunity to make open-ended comments on the student satisfaction questionnaires. Two boxes were provided for positive ('if you think there were some particularly good features of the module please explain what they were') and negative feedback ('if you were unhappy with any aspects of the module please suggest how it might be improved').

Each of the open-ended responses given, was analysed and coded into a number of emergent themes. Six themes were identified, for which there were at least three separate responses, namely: teaching approach, formative assessment design, summative assessment design, feedback given on formative assessment, feedback given on summative assessment, and generic feedback given. For each year, the total number of comments given in each of these categories is shown in table 2. It can be seen that a higher proportion of negative comments were given in cohort 2 when compared to cohorts 1 and 3 (control). To further analysis differences between the cohorts, a word frequency analysis was carried out on these negative comments using NVIVO 11. Table 3 compares the most frequent descriptive words found in these open-end comments for the cohorts. It is seen from this table that the words used in the treatment cohort 2 were increasingly emotive in nature (e.g. negative, unpleasant, de-motivating), when compared to control cohorts 1 and 3 (e.g. practical, clear, rationalized).

## Table 2 and Table 3 about here

Student Performance. There was a significant difference found in student performance between years, F(2,318)=4.62, p=.01. Descriptive statistics are given in table 4. It is seen from these findings that student performance increased from an average of 53% and 55.7% in cohorts 1 and 3 respectively (control), to 57.7% in cohort 2 (treatment) (see figure 2).

# Table 4 and Figure 2 about here

It was further seen that no significant difference was found in student performance across the same three cohorts in the strategic management 'test' module. As shown in figure 2, average student performance in this module across the three years was between 59% and 60%, for the same group of students. Therefore, any changes observed across the three cohorts do not reflect a general trend in student performance on other similar modules.

## **Discussion**

The findings of this study show that an increased level of critical generic feedback had a positive impact on individual student performance, confirming hypothesis 1. Whilst this direct feedback negatively affected student satisfaction, it did not, contrary to hypothesis 2, impair their learning and performance. Instead the treatment group improved their performance in response to additional generic critical feedback. Providing critical feedback at a group level did not reduce the negative effects of critical feedback on student satisfaction. Instead it is argued that the student cohort experienced a sense of collective despair, as evidenced by the significant drop in student satisfaction scores and the nature of open-ended comments given. This increase in negative affect did not however constrain the group's ability to change and adapt to the feedback given, partially confirming the increased resilience of groups referred to in hypotheses 3.

As noted above, the response of an individual to negative feedback depends on their self-esteem and the way in which they perceive such feedback. Whilst this present study did not measure for fixed or malleable orientations (Elliott & Dweck, 1988), various studies have shown that a

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majority of undergraduates hold beliefs in fixed intelligence (Forsythe & Johnson, 2017; Yorke and Knight, 2004). If one assumes a similar representation within the studied cohort, then one would expect an increase in negative affect when faced with increased levels of critical feedback (Elliott & Dweck, 1988). Alongside this, one would also expect to find a withdrawal of effort and decrease in student performance (Dweck & Leggett, 1988). Whilst the current study did show an increase in negative affect, this was, in contrast, accompanied by an improvement, not a deterioration, in student performance. In other words, whilst we may expect entity-oriented students to react negatively to critical feedback, we would also expect to see a deterioration, not an improvement in performance.

The findings of this study instead point to the generic, critical and collective nature of the feedback given in the affected year. It was noted above that the receptiveness of a student to critical feedback is influenced by their beliefs about how feedback is best delivered (Akiyama, 2017; Ellis, 2010; Kartchava & Ammar, 2014). If these beliefs are aligned with the type of feedback given, then students will engage with it regardless of the levels of anxiety experienced (Zhang & Rahimi, 2014). In this study, prior focus group research highlighted the importance of feedback which a) focused on areas of weakness (i.e. critical feedback), and b) was given to the entire group (i.e. generic). This apparent alignment between student beliefs and feedback introduced in year 2, might therefore explain improvements in performance within that cohort. The improvement in student performance in the treatment group might also be linked to the collective nature of the feedback given. A shared experience of pain can have a positive impact on affiliation and solidarity within a group (Bastian et al., 2018; Knight & Eisenkraft, 2015). This in turn can be the basis of mutual support in stressful situations (Alfadhli & Drury, 2018;

Kellezi et al., 2019), and can encourage cooperation and trust leading to improved group performance (Bastian et al., 2018). This impact of a shared negative experience is stronger when the source of negative affect is external to the group (Knight & Eisenkraft, 2015), as with the tutor in this study. Indeed, when members of a group interpret this experience as unjustified or illegitimate, they band together to challenge the status quo (Cruwys & Gunaseelan, 2016). Furthermore, this bonding effect of a shared negative experience is stronger when the group has just formed, and group boundaries are weak. In such situations, shared negative feelings can help define group boundaries, and identify a source of commonality within the in-group (Knight & Eisenkraft, 2015).

On the one hand, groups might have capitulated on masse, collectively seeing such feedback as a reflection of their low ability. However, as proposed in hypothesis 3, the strengthening of group bonds, can also act to increase the academic buoyancy of groups in the face of critical feedback, where buoyancy relates to a student's capacity to withstand setbacks, challenges, and pressures experienced during their education (Martin & Marsh, 2009), such as, receiving negative feedback or dealing with academic pressures. In which case, they might have 'rebelled' in the face of such unjustified criticisms, and attempted to 'prove the tutor wrong' (Cruwys & Gunaseelan, 2016). The latter appears to have been the case. In other words, the group may have found collective strength in their collective despair.

The process might be compared to that of the army boot camp, in which the sergeant major knocks recruits into shape through firm and critical words. However, by targeting criticisms at

the group and not the individual, individual self-reflection and negative processes of peer comparison are not triggered. Instead the 'sergeant major' or tutor becomes the target of collective negative thoughts, or the 'common enemy', as the group becomes more cohesive and resilient, with a strengthening team spirit (Bastian et al., 2018; Knight & Eisenkraft, 2015). As noted at the beginning of this paper, critical feedback connects directly to improved learning and performance, albeit with a consequent negative impact on individual student satisfaction. However, given the mix of both fixed and malleable orientations (Elliott & Dweck, 1988) of students within a cohort, it becomes difficult for educators to tailor feedback for each of the very different responses from both types. By re-targeting critical feedback at the level of the group, the tutor leverages the power of the collective to counteract the negative impact critical and direct feedback might have on individual student self-esteem and performance. This 'boot camp' approach might thus act to improve academic buoyancy, and academic performance. As a result, more buoyant students have more positive self-belief, are more adaptive to setbacks and thus experience lower levels of worry anxiety (Putwain et al., 2015).

## Limitations and Future Research

The current study is subject to a number of limitations linked to the relationships between feedback, student performance and levels of satisfaction. First the study did not capture individual level differences in satisfaction and performance, as the former measures were anonymized. As a result, it was not possible to see how individual levels of performance and satisfaction might vary across the cohort of students. Future research should therefore include

such measures of individual satisfaction and self-esteem. Furthermore, future research should include measures relating to group cohesion, interpersonal coordination and group-level esteem.

Second, this study focused on the comparative effect of changes in one module towards more generic and critical feedback. It was therefore not possible to explore how different forms of feedback, such as; positive versus negative feedback, individual- versus group-level feedback, or generic versus task-focused feedback might have influenced student performance and levels of satisfaction.

## Conclusion

With growing pressures to improve student satisfaction, in the face of an increasing degree of customer orientation in UK students (Bunce et al., 2017), there might be a temptation to reduce the level of pain inflicted by the feedback given. However, this study clearly shows that though unpleasant at times for the student, additional generic feedback can improve student performance. Critical feedback is seen to be more direct and targeted than positive feedback, and as a result has the potential to lead to a process of self-regulated learning (Draper, 2009; Hyland & Hyland, 2001; Young, 2000). However, such critical feedback can at the same time demotivate students (Lizzio & Wilson, 2008; Ryan & Deci, 2000), and undermine a student's ability to respond and change (Elliott & Dweck, 1988). Neutralizing the detrimental effects of critical feedback on a student's self-esteem can thus enhance the potential for that student to learn from formative feedback. In this study, it is argued that the negative impact of critical

feedback on student motivation and satisfaction has been decoupled from their ability to react to such criticisms. This has been achieved by targeting critical feedback at the collective as opposed to the individual level. As a result, whilst the feedback still had a negative impact on student satisfaction, a collective strength was found in their collective despair. Instead of triggering a process of self-reflection and peer comparison, the feedback increased team spirit and collective action, resulting in improved performance.

## **Appendix**

## Example of generic feedback

In the second tutorial in year 2, students completed their first project presentations to the tutor in groups of five. The task involved developing an idea for a product or service which the groups would 'sell' to other students. Immediately following each presentation in this tutorial, groups were given specific feedback on how they could improve their ideas. In the week following these presentations, the tutor opened the module lecture with critical generic feedback on overall performances across all groups. The tutor highlighted key mistakes made and thus areas for improvement across all groups. In this specific session, this feedback included a) a lack of secondary research completed to support ideas, b) a failure to draw on relevant theoretical models to structure the presentations, and c) a lack of novelty in terms of the originality of ideas presented. The tutor then linked these three issues to criteria within the assessment again focusing on areas for improvement only. No specific groups or ideas from groups were identified or discussed in this feedback.

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Table 1. Descriptive Statistics for Between Group Change in Student Satisfaction Scores

Cohort	N	Mean	SD	Std.	95%		Min	Max
				Error	Confidence			
					Interval for			
					Mean			
					Lower	Upper		
					Bound	Bound		
Cohort 1 (control)	39	4.07	0.53	0.09	3.90	4.24	2.45	5.00
Cohort 2 (treatment)	74	3.70	0.76	0.09	3.53	3.88	1.18	5.00
Cohort 3 (control)	49	4.08	0.53	0.08	3.92	4.23	2.80	5.00
Total	162	3.90	0.67	0.05	3.80	4.00	1.18	5.00

Table 2. Total number of open-ended comments given on student satisfaction forms

Cohort	Forms	Positive	Negative	Teaching	Formative	Summative	Feedback	Feedback	Generic
	returned	comments	comments	approach	assessment	assessment	on	on	feedback
					design	design	formative	summative	
							assessment	assessment	
1	39	15	9	11	4	3	6	0	0
2	74	9	22	7	7	1	5	2	8
3	49	12	9	10	3	1	3	1	0

Table 3. Comparison of word count frequencies in open-ended responses to question "if you were unhappy with any aspects of the module please suggest how it might be improved"

Cohorts 1	and 3	Cohort 2 (treatment)			
(control)					
Word	Count	Word	Count		
Think	10	Think	17		
Feedback	5	Unclear	12		
Clear	5	Badly	11		
Involved	4	Negative	10		
Gained	4	Critical	7		
Prepare	4	Sufficient	5		
Rationalized	3	Difficult	5		
Useful	2	Helpful	5		
Practical	2	Harsh	4		
Wrong	2	Unpleasant	4		
		Useful	3		
		De-Motivating	3		
		Unfair	3		
		Clearer	2		

Table 4. Descriptive Statistics for Between Group Changes in Student Marks

Cohort	N	Mean	SD	Std.	95%		Min	Max
				Error	Confidence			
					Interval for			
					Mean			
					Lower	Upper		
					Bound	Bound		
Cohort 1	109	53.0%	14.8%	0.014	50.2%	55.8%	0%	75%
(control)								
Cohort 2	128	57.7%	8.8%	0.007	56.1%	59.2%	30%	78%
(treatment)	120	37.770	0.070	0.007	30.170	39.270	3070	7070
Cohort 3	0.4	55.70/	11 20/	0.012	52.20/	<b>5</b> 0.10/	2007	000/
(control)	84	55.7%	11.3%	0.012	53.2%	58.1%	20%	80%
Total	321	55.6%	11.9%	0.006	54.3%	56.9%	0%	80%

Figure 1. Change in Average Student Satisfaction Scores between Cohorts

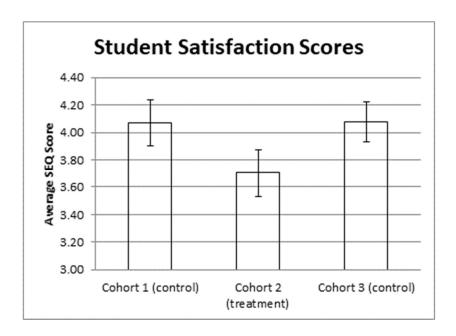


Figure 2. Change in Average Student Performance between Cohorts

