

Does Peer Feedback Develop Competence In Critical Thinking Skills?

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Aims

The objective of this research was to design a classroom intervention activity that aimed to encourage critical thinking in students and test the effectiveness of peer feedback as a tool for developing competence in critical thinking.

Background

First year undergraduate students at the University of West London (UWL) generally have not been taught how to think critically. Yet amongst the UWL graduate attributes is that of being thoughtful and proactive – ‘having the ability to interpret, analyse and evaluate information.’ Our students need academic support in the development of information literacy skills in order to lay the foundations for their studies and future careers. To do this effectively, active learning needs to be facilitated where students are active participants in the process rather than passive listeners (Bronwell and Elson, 1991).

National Student Surveys (NSS) and UWL Module Evaluation Surveys (MES) consistently reveal that students are left wanting when it comes to the area of developmental feedback. In stark contrast, is the assertion that feedback, if done right, is one of the most powerful influences on learning and achievement (Hattie and Clarke, 2019). It is clear that students need, want, and value feedback; however, feel dissatisfied with the current provision. This research seeks to address these key concerns of UWL undergraduates, and test an intervention to develop competence in critical thinking through engagement with formative peer feedback in first year undergraduates.

Literature Review

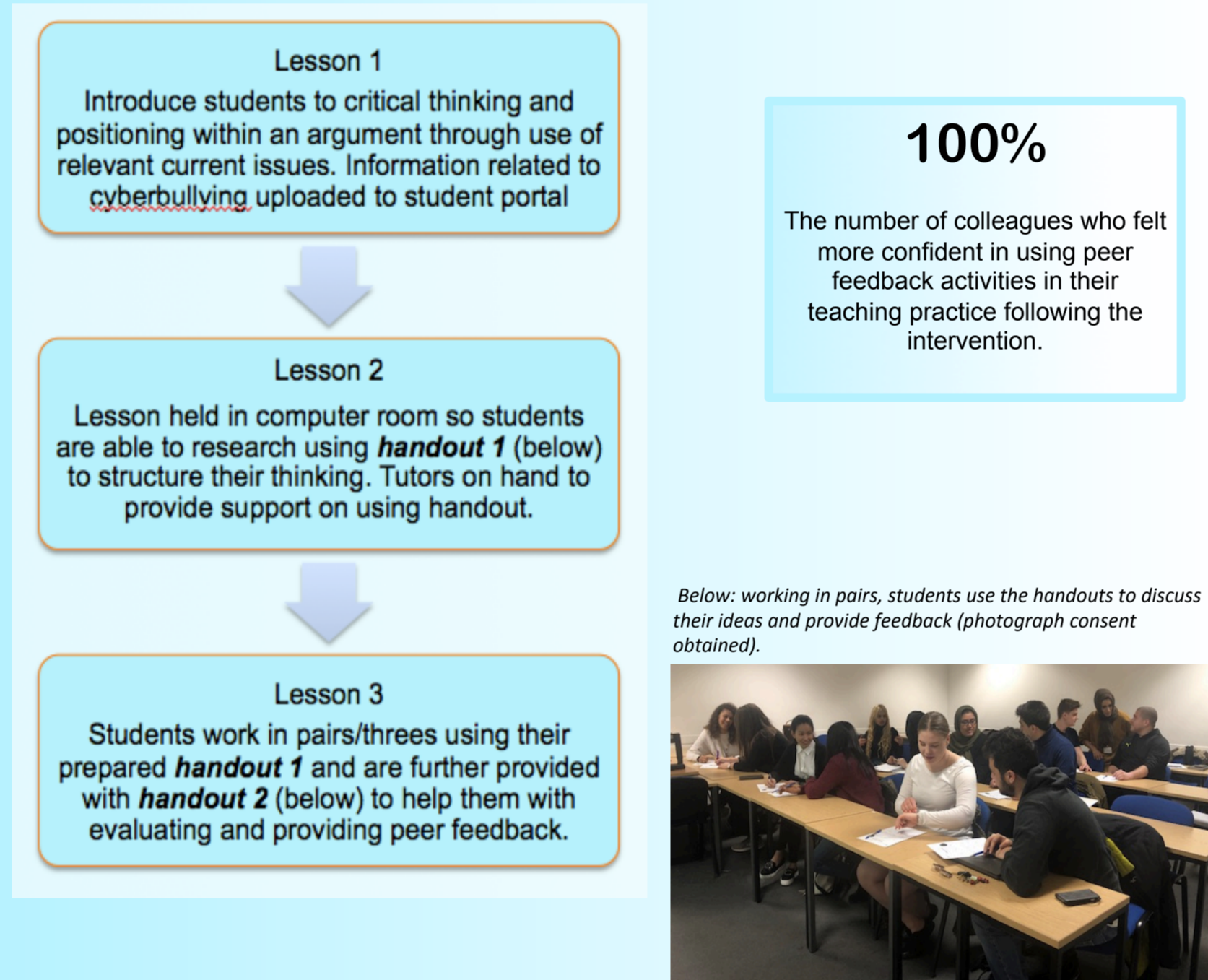
Critical thinking has been described as the defining concept of Western Higher Education (HE) with Moore (2011) going as far as to say it should be the goal of a higher education. The reality is however, that while academics assert that graduates possess critical thinking skills, employers disagree (Eales-Reynolds et. al, 2018; Hart Research Associates, 2013). Twenty first century graduates are more likely to work across many disciplinary boundaries and thus critical thinking is a valued transferable skill from academia to the workplace. Barak et al., (2007), in their study of high school students in California, demonstrated that teaching strategies encouraging the development of higher order thinking skills enabled students to do better in their Critical Thinking Skills Test (CCTST).

Scaffolding as a teaching strategy is known to promote students’ learning. A study by van de Pol et al. (2018) on how teachers can use scaffolding to support students’ learning in small-group work found that scaffolding support in small-group work fosters students’ learning; however crucial to the success of the scaffolding process is the timely fading of this support. Literature discussing the use of scaffolding in HE is rare as the emphasis is on developing the higher order skills of analysis, synthesis and evaluation; these are considered more difficult to scaffold. However, a scaffolding approach was used with computing undergraduate students in Staffordshire University, to introduce a complex, unstructured problem requiring the exploration of a range of different issues. This was linked to assessment to encourage students to engage with the process. The findings revealed that whilst providing good support initially, linking scaffolding to assessments was problematic due to the fading of the support (Stanier, 2015).

Peer feedback has been found to assist in the development of critical thinking in students. Wanner and Palmer (2018) found that although formative peer feedback did not lead to improved marks in assignments, students stated that it improved the quality of their work, helping to clarify the strengths and weaknesses in their analysis. Moreover, students with specific learning needs appreciated the peer feedback for the added help with editing the work.

Intervention

An active learning approach was used for this project at the University of West London with a group of first year business students who had a summative assessment of a group discussion worth 20% in a core skills building module. The assessment involved discussion, in small groups, of a highly topical subject (cyberbullying). Students were required to adopt a position in the discussion and support this with credible academic evidence, while also listening and responding to the claims of other group members. The assessment was challenging, so, in order to support students, in March 2019, three lessons were planned to introduce students to critical thinking and argument positioning using specifically designed handouts (below) and utilising peer feedback. The module is delivered by a team of tutors so lesson planning had to be clear in order to be effective in its support of the students. The process is summarised in the diagram below:



Building an Argument

Name: _____ Date: _____

Introduce your claim. (This is your position on the issue.)

Introduce reasons in a logical order

Reason 1

Reason 2

Reason 3

(Provide statistical data, facts that can be proved, expert testimony/accounts of personal experience/other evidence)

Evidence

Evidence

Evidence

Evidence

Evidence

Evidence

(Share a counterclaim and provide evidence to disprove it.)

Counterclaim

Refutation

Above: handout 1 (critical thinking support)

Peer-Evaluation Form for Critical Thinking

CRITERIA	COMMENTS
Does the speaker attempt to engage listeners? How?	
What side is the speaker on?	
What are the reasons provided by the speaker to justify their position?	1) 2) 3)
Is the evidence they provide to justify each of their reasons clear?	1) 2) 3)
What is the speaker's counter claim(s)?	
How well is the counter claim(s) refuted? Are facts/reasons/evidence used?	
Were any emotionally charged words that were used that the speaker many want to change.	
Are the speaker's ideas connected appropriately, is there coherence between the reasons and evidence? Is appropriate academic vocabulary used?	
Does the speaker clearly articulate their conclusion and is it clear which side the speaker is on?	

Above: handout 2 (peer feedback support)

95%

The number of students who stated that this method helped them organise their ideas and think more critically.

90%

The number of students who anticipated higher marks as a result of the intervention.

Evaluation

Students provided anonymous voluntary paper feedback one week after completion of their assessed group discussion task. This allowed time for them to reflect on the usefulness of the intervention in the development of their critical thinking ability and to what extent they were able to apply this in their assessment. It was clear from their comments that they had found the structure of both handouts helpful. 95 percent of students commented that the peer feedback process using both handouts increased their competence in critical thinking and 100 percent felt that they better understood the value of peer feedback in skills development. Furthermore, 90 percent of students felt that they had performed better in the assessment after the intervention and were anticipating higher marks. This is in contrast to Wanner and Palmer's study (2018) where students found peer feedback helpful but not necessarily resulting in improved marks. The present study also disagrees with Stainer's research (2015) where linking scaffolding to assessment became problematic; the reason for this difference could be attributed to students having the scaffolding (two handouts) with them and consequently did not feel abandoned when the tutor's verbal support was gradually faded and replaced with peer feedback.

A further impact of the intervention was on the confidence of the module team. At a meeting to discuss the effectiveness of the intervention, it became evident that tutors who had previously felt hesitant about peer feedback activities now appreciated the value and were much more confident about setting up such activities in their teaching. A very welcome bonus to the intervention project.

Student Feedback

"This template helped to structure my points more clearly and come to a more solid point and showed me you can't just say a point without legitimate evidence."

"Helped me structure my argument in a critical way"

"This type of exercise, simplified way, is actually very handy and helpful for critical thinking"

"The counter claim and refutation part is useful as it is an often overlooked part of the whole argument process"

"It encourages you to use evidence for your argument"

"It helped me organise my thinking and not go off topic which can happen when researching"

Conclusion

The most important impact of this project was on the confidence of the students who felt that the intervention placed them in a much better position in terms of their ability to construct and evaluate a critical argument. It helped them realise the value and effectiveness of peer feedback and the explicit support provided by tutors. The overwhelming opinion was that critical thinking is a crucial skill that students value support to develop.

This intervention has the potential to be used as is, or adapted for any discipline taught at first year undergraduate level, to develop students critical thinking abilities in a supportive environment with peers, where ideas can be tested collaboratively without outside pressures. This research could be further developed with second and final year students in mind, on ways to continue explicitly supporting students in the development of critical thinking.

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