Peer Feedback Content Quality: The added value of structuring peer assessment

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Abstract: The present studies examined the added value of structuring the peer assessment (PA) process for the peer feedback (PFB) content quality in a wiki-based computer-supported collaborative learning (CSCL) environment in higher education, by firstly investigating a varying structuring degree in the peer feedback template (study 1) and secondly, by further structuring the role of both the assessor and assessee in the PFB process (study 2). Results of the first study revealed that structuring the PA process could be advantageous for the peer feedback content quality, while the results for study 2 are underway. The main aim of this poster presentation is to illustrate the impact of instructional interventions in which we further specify the role of the assessor and/or assessee, in order to enhance the content quality of peer feedback messages.

Introduction

Being a common method of formative assessment and an example of a more complex learning task, which requires high-level cognitive processing, PA is a process in which students assess a peer's performance, which results in numerous cognitive rewards for the assessee as well as the assessor (Topping, 1998). PFB can be seen as a constructive technique for enhancing students' learning, such as enhancing the quality of the students' writing. As the power of peer feedback heavily depends on its content (Cho & MacArthur, 2010), it is important to reflect on what exactly defines peer feedback content quality. A growing body of research suggests that the content of effective feedback should provide for example two types of information: verification and elaboration (Narciss, 2008). Recently, research emphasizes on the need for structure and support to ensure effective feedback (Poverjuc, Brook, & Wray, 2012). As high-level PA processes hardly happen spontaneously, previous literature recommends the use of collaboration scripts, as they focus on socio-cognitive structuring (Kollar, Fischer, & Hesse, 2006). However, finding the accurate level of scripting appears to be difficult (Dillenbourg, Järvelä, & Fischer, 2009). The instructor could structure the PA process by providing more detailed instructions on expected performance (Kollar, Fischer, & Slotta, 2007), e.g. by providing guiding questions to support the assessor while providing peer feedback. One remaining question, however, is how detailed the script should be and what level of structuring is the most appropriate. In the context of the present studies, we especially want to investigate to what degree the role of the assessor and assessee in the PA process should be structured to have an impact on the quality of the peer feedback content.

Methods

Quasi-experimental research was conducted, in which first year university students, enrolled in an educational sciences program (N=168 and N=125, for the first and second study respectively) were divided into groups (respectively N=37 and N=27) of five. For the two studies, each group member was asked to write three abstracts based on provided articles on the wiki. For each student, one fixed group member was assigned the role of assessor and had to provide PFB on this draft version in the next phase. Based on the feedback, students revised the draft version and constructed the final version of the abstract. At the same time, assessees wrote an evaluation of PFB they received. In the first study, all students received a varying degree of structure in their particular PFB template with a list of criteria, resulting in a no structure condition, basic structure and elaborate structure condition. In study 2, the assessee in the request condition had to formulate on which particular aspects they require PFB. In the content checklist condition, the assessor had to complete a checklist with relevant article content, which served as an input source for formulating PFB on the draft. This study applied a 2 x 2 factorial design, which resulted in four conditions namely a control, a request, a content checklist and a combination condition. All conditions used the same structured PFB template. As an overarching ready-to-use content analysis scheme fitting our needs did not exist, both studies employ a developed coding scheme (as presented at the CSCL 2013 conference in Madison), which attempts to identify variations in the peer feedback content quality, by concentrating on the peer feedback style, type, and focus. Therefore, the first study attempts to find an answer on the effect of a varying structuring degree in the PFB template on the quality of the PFB

content. In the second study, all students use an identical structured PFB template, but the role of both assessee and assessor in the PFB process is additionally structured. For this reason, the following hypotheses are put forward. For study 1 and 2, we hypothesize that students, who receive more structure in their PFB template (study 1) or in the PFB process (study 2), are more likely to provide peer feedback content with a significant higher proportion of: (H1) elaborations, (H2) negative verifications, (H3) general verifications that are focused on particular criteria (H4) suggestive elaborations, and (H5) general elaborations that are focused on particular criteria.

Findings

Regarding study 1, the findings reveal that the elaborate structure condition had a significant higher number of segments per student, compared to the no structure ($p<.001$) and the basic structure condition ($p<.001$). Concerning PFB style, all conditions provide a reasonably balanced proportion of verifications and elaborations in their PFB messages. In more detail, students in the basic structure condition have a significant higher proportion of elaborations (59%) ($p=.002$), compared to students who receive no further structure (48%). Following, results indicate that students tend to provide substantially more positive than negative verifications. In more detail, only the elaborate structure condition had a significant higher proportion of negative verifications compared to the basic structure group ($p=.015$). As well, the elaborate structure condition has a significantly higher proportion of general verifications that are focused on particular criteria, compared to the no structure condition ($p<.001$) and the basic structure condition ($p=.001$). Regarding elaboration type and focus, research claims that feedback should not only include feedback, which refers to the past performance (informative), but should also include valuable feed forward to augment the quality of future performance (suggestive). Although no significant differences were found between the conditions, results reveal that all students provide slightly more suggestive than informative elaborations (more or less 60%). Similar to verification focus, students who receive an elaborate structure have a significantly higher proportion of general elaborations focused on particular criteria, compared to the no structure condition ($p=.030$) and the basic structure condition ($p=.043$). Currently, the data of study 2 is being analyzed and the results will be reported at the CSCL conference in Gothenburg.

Conclusions and implications

These studies attempt to illustrate how an instructional intervention in the peer feedback process can increase the potential impact of peer assessment and boost students' learning in higher education. Based on the findings of the first study, a varying structuring degree in a peer feedback template during the PA process can have an impact on the specific peer feedback content. A practical implication of our study is that we propose the use of a peer feedback template for classroom practice, both online and face-to-face, when instructors consider engaging students in peer assessment.

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