Developing formative peer assessment in writing classes: focus on students' perceptions

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ABSTRACT: The literature of higher education has shown that formative peer assessment (FPA) promotes students' learning across disciplines (Topping, 1998, Lynch et al. 2012, Li et al. 2019, among others). Despite the solid reported benefits, studies on an effective implementation of FPA are still limited in the literature (Nicol, Thomson, and Breslin 2014, Wanner and Palmer, 2018). A debilitating factor includes students' negative attitudes towards peer assessment (Kaufman and Schunn 2011). Focusing on students' perceptions and experiences of FPA, this study attempts to describe how FPA can be implemented in a more effective manner in academic writing lessons for students of a preliminary course for engineering studies. More specifically, it inquires how the students' attitudes towards FPA as a learning method change according to their experiences of it and to what extent students' perceptions of FPA impact on their perceived learning effect. The result of the inquiry suggests, in line with the literature, that scepticism for students' assessment ability is a cause for their negative attitudes towards FPA. The students need to be trained to provide quality feedback, and they also need to develop their understanding of assessment criteria in order to benefit from FPA.

1 INTRODUCTION

Preliminary course students have different degrees of engagement in and motivation for their learning. In order to enhance every student's engagement in learning activities, it is crucial to create a supportive learning environment for the learning activities that help the students to achieve the intended learning outcomes. Such a learning environment can be set up by aligning learning outcomes, learning and teaching activities and assessment methods (Biggs, 1999). Moreover, the teaching and learning activities must be student-focused and student-active rather than teacher-focused to help students to be an active learner in their learning. For instance, Rynning (2014) observes that many beginner students in Norwegian colleges, who lack the basic learning strategy, in a traditional lecture setting achieve a little pedagogic effect.

Peer assessment is a student-centered learning form in which students evaluate each other's work. Formative peer assessment (FPA) involves students assessing and giving feedback to peers' drafts of work, and it focuses on improvement of students' learning and their learning process in contrast to summative peer assessment that evaluates students' success after the learning process (Sadler 1998). This article examines into an effective implementation of FPA in writing lessons for the students of the preliminary course for engineering studies at UiT The Arctic University of Norway (UiT).

Earlier studies show FPA's many potential benefits to students' learning. For instance, it may help to achieve deep learning and develop students' capacities to use higher-order thinking skills such as critical thinking (Topping 1998, Lynch et al, 2012). It may also help students take control of their own learning and enhance their autonomous learning (Nicole and Macfarlane-Dick, 2014).

In addition, previous studies report that FPA can promote learners' writing performance with for example improved global writing skills (Lundstrom & Baker, 2009), enhanced awareness of their own writing (Min 2005) and increased audience awareness (Cho, Cho and Haker 2010).

While FPA offers many benefits to learners, it also faces some challenges. One challenge is that students' perceptions and beliefs about peer assessment can influence a successful implementation of FPA. Kaufman and Schunn (2011), for example, show that students can have negative attitudes towards peer assessment because of their distrust for peers' or their own capability to assess their works. Such negative perceptions of FPA may decrease students' motivation to engage in FPA activities and may hinder potential benefits that FPA has on the students' learning. Therefore, more

inquiry into students' experiences from and perceptions of the different FPA arrangements is needed to promote a successful implementation of FPA.

The primary goal of this study is to investigate how we could design and implement FPA to enhance students' learning in the preparatory course writing lessons by focusing on their perceptions of FPA activities. The paper inquires into how students' perceptions have changed according to their experience with the FPA activities performed over a period of one semester. More concretely, the study attempts to answer the questions: 1) What are the students' perceptions of FPA as a learning method? 2) To what extent do their perceptions of FPA impact on their perceived learning effect?

2 METHOD

This study examines students' perceptions of FPA activities performed during the spring semester in 2022. In total five FPA rounds, R1, R2, R3, R4 and R5, were conducted in connection with three obligatory essay assignments in Norwegian (R1, R2 and R5) and in English (R3 and R4) (see *Fig. 1*). Two rounds (R1 and R3) were practice rounds in which students practiced to give feedback to other's work, using sample essays, while in the rest of the rounds, the students provided and received feedback to each other's essay drafts. Each round except for the two practice rounds contained five components: 1) assessment criteria formation, 2) peer-assessment of and peer feedback to peers' drafts, 3) self-assessment of own draft, 4) revision of peers' drafts and 5) revision of own draft. The peer-assessment and peer-feedback component required students to perform three activities: to annotate peers' text, to fill out an assessment form and to write a review of their assessment of the peers' drafts. Before R1 students were informed about the essay assignments and the process of FPA rounds. As tools for FPA, in total five digital tools and platforms were adopted initially. The social annotation tools Hypothes.is and Padlet were used to give and receive anonymous peer feedback. Teams was used for assessment criteria formation and other group works. Canvas was the submission channel, and Zoom was used for a few occasions due to the Covid-19 measures. Fewer digital tools were used as they proceeded with the FPA rounds.

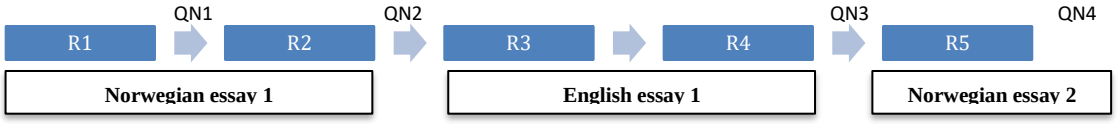

Fig. 1. FPA process

In order to answer the research questions, the study adopts a qualitative research method with questionnaires. Participants were students of the preliminary course for engineer studies at UiT, campus Tromsø, enrolled in Communication and Norwegian course. All 25 students in the course participated in all FPA rounds and were invited to answer in total four anonymous online questionnaires (QN1 to QN4) after R1, R2, R4 and R5. The questionnaires request students' evaluation of the FPA as a learning method, focusing on their experience from it and their perceived learning impacts of the FPA on their learning. Semi-structured questionnaires are used, and approximately half of the questions in each questionnaire are open-ended questions, allowing students to describe their answers freely in their own words. The questions that ask about students' perceptions of FPA as a learning method include "Were FPA activities you performed positive for you? Explain your answer in a concrete manner" and "Were there anything that were not easy or not positive in FPA activities? Explain." The questions that ask about students' perceived learning impacts of FPA on their learning include "Do you think you have learnt anything from FPA activities", "What have you learnt?" and "To what extent do you think FPA assisted your learning?".

3 FINDINGS AND DISCUSSION

All 25 students were invited to answer in total four questionnaires after FPA rounds. Response rates ranged from 44 % to 60 %. The first questionnaire (QN1) had a response rate of 56%, the second questionnaire (QN2) 44%, the third questionnaire (QN3) 48% and the last questionnaire 60% (QN4).

Concerning the students' perceptions of the FPA as a learning method, the questionnaires show that their perceptions became more positive over time. As shown in *Table 1*, after the first FPA round, slightly more than half of the participants regarded FPA as useful for their learning, whereas the other half did not agree with this. In contrast, after the final FPA round, almost all students gave a positive answer to the question "To what extent do you think FPA assisted your learning?".

Table 1. "To what extent do you think FPA assisted your learning?"

	1 (very small degree)	2	3 (neutral)	4	5 (largely agree)
QN1	0%	14,3%	28,6%	57,1%	
QN4	0%	0%	6,7%	80%	13,3%

As for what they believe they have learnt, it shifted from more general learning gains to more subject specific learning gains over time. After R1, almost all students meant that becoming familiar with assessment criteria was their learning gain (91,7%), and a very few (8,3%) meant that they have learnt how to write a recipient friendly text. After R2, fewer students answered familiarity with assessment criteria as an achieved learning outcome (54,5%), and more students answered that they learned how to provide feedback (27,3%). Only a few meant that they have learnt argumentation/academic writing (18,2%) after R2. In contrast, after R3 no students mentioned familiarity with assessment criteria as their learning gain, but most of the students meant that they have developed their understanding of the subject specific matters in writing. Almost half of the participants believed that they have enhanced their language and writing skills (45,4%), 36,3% conveyed that they have learnt how to write an argumentative essay, and a few (9,1%) meant that they have improved their reference techniques.

The lower percentage of the students' positive responses to FPA in the beginning may be partly attributed to students' negative perceptions about ability to assess. After R1 and R2, many described their skepticism for both assessing peers and being assessed by the peers. Some students were not sure whether they were capable of evaluating peers, as illustrated by students' comments *"(I) feel that we don't have sufficient competence to start evaluating other's texts."* and *"It was also difficult to know whether the feedback (I) gave was good, if the peer did not actually revise his/her text according to the feedback."* Others show scepticism or even distrust for the peers' assessment ability*: "But the uncertainties with peers' assessments are whether the person assessing the text is capable enough to make (good) suggestions for revisions".*

The students' scepticism and distrust for assessment capability may be tightly connected to the poor quality of the feedback they gave and received. After R1 and R2, many meant that providing good quality feedback was difficult: *"To give constructive criticism was more demanding".* Others meant that they received poor feedback from peers: *"Revising a text based on the feedback from another student when it showed that this student clearly did not know how to write a text (was not easy)."* The poor quality feedback the students gave to each other may have led to their scepticism for assessment capability. In order to avoid the issues of assessment capability and trust, the students must be able to provide good quality feedback to each other (cf. Wanner and Palmer 2018). This will in turn increase their motivation to and engagement in FPA activities.

What counts as good quality feedback may be arguable, but avoiding subjective judgement may contribute to a positive experience with peer-feedback. After R2, one student wrote that his/her feedback hurt the peer's feeling: *"It was not positive, but educational. (…) I personally marked that the person who received my feedback was hurt, without my intention. I learned to be careful in the way I write, but this was not a positive experience."* This student also meant that (s)he *"learned to be neutral (when giving feedback)".* As feedback practice is a communication process, students must be trained to improve the communication skills to avoid a potential conflict and to benefit from peers' feedback. Previous studies also emphasize that more practice, especially lessons on what constructive feedback means, is needed for students to learn how to give quality feedback (cf. Wanner and Palmer 2018).

In order to improve the quality of the students' feedback, before R3, they had training in providing more constructive feedback. They were instructed to avoid authoritative tone and provide feedback in a more nuanced manner, using polite language with hedging. They were also instructed to give peers "helpful" feedback, which could be used to relate their essays to their learning goals and the assessment criteria. In addition, the instructor gave comments to the students' feedback and corrected the feedback that were not accurate, to help them to develop their feedback writing skills. This may have assisted students to produce more quality feedback. After R3 and R4, the students' comments about the scepticism for the assessment ability disappeared from the answers to the questionnaires. In fact, in QN4 after the final FPA round, most of the students responded that they trust their own capability to assess (80%) and peers' capability to assess (87%). Thus, training to provide useful feedback as well as scaffolding from the instructor may help students to produce more constructive feedback and help them to be more confident in assessing peers' and own works.

Another factor that may have contributed to students' increased confidence in assessment in the later FPA rounds is the gained familiarity with the assessment criteria. As mentioned above, many students meant that their major learning gain in the early FPA rounds was to become familiar with assessment criteria. In each FPA round, the students first formed assessment criteria before engaging themselves in peer feedback. Involving students in assessment formation has been reported to be beneficial for the students (Nicol and MacFarlane 2006, Wanner and Palmer 2018). Nicol and MacFarlane (2006) advocate that clarifying assessment criteria and engaging students in forming criteria help develop students' capacity to self-regulate good performance. It seems that many students have attained increased awareness of the promotion of their own performance as they gained their experience of FPA. After R3, one student wrote *"The (FPA) task reminded me what parts of my written texts I need to focus on improving. Finding and correcting the mistakes of others reminded me what mistakes are common, and that I should look out for them."* The comment suggests that (s)he could monitor and evaluate his/her goal progress in writing through FPA, which is an important factor for self-regulated learning (cf. Lynch et al, 2012). Thus, being familiar with assessment criteria may have helped promote students' performance, which may in turn have contributed to increased self-esteem and confidence in assessing peers and being assessed by peers.

In addition to the trust and capability issues, the students' responses show their dissatisfaction with the FPA organizations in the early FPA rounds. In the beginning, the students were not very satisfied with the teacher's instructions, the platforms adopted and the time management. Many meant that instructions were not very clear and there were too many platforms to work with: *"In the start (it was not easy) to understand the procedure and the platforms used"*. Also, many meant that the time distributed to each task was not completely adequate: *"Sometimes (we had) too little or too much time (to complete a task)(…)"* After R2, the components of FPA were simplified with fewer platforms, the students were given clearer written instructions, and the time allocated to each task was adjusted according to the students' need for completing the task. This led to a positive result, and the students' responses after R3 show their satisfaction with these elements. Modelling and scaffolding of the peer assessment process is important for a successful FPA (Wanner and Palmer 2018), and clear instructions, fewer components and platforms and good time management are regarded to be part of the crucial elements when creating a model of an effective FPA.

4 CONCLUSION

This article has discussed students' perceptions and experiences of FPA activities in writing lessons in the preliminary course. It has discussed that the students' negative attitude towards FPA is a factor that can undermine its effective implementation. Two issues may have caused the students' negative attitude during FPA. The students' distrust for their own and peers' ability to assess has been argued to negatively influence their learning. To enhance their confidence to peer-assess and reduce their scepticism and distrust, students need to be trained to provide quality feedback and they need more experience in evaluating works of different quality with ample practice sessions. They also need to be involved in assessment criteria formation in order to develop their understanding of the standard of their work and enhance capacity to self-regulate good performance (Nicol and McFarlane 2006). Moreover, the FPA activities must contain clear instructions, fewer components and good time and

tool management to promote students' positive attitude towards FPA. These results conform to some of the "best practice" principles of FPA in the literature (Nicol and McFarlane 2006, Wanner and Palmer 2018), and thus the study supports the usefulness of such principles from a Norwegian context.

One of the questions that should be further investigated is to what extent the instructor should be involved in the process of FPA. Students seemed to have nourished feedback skills by training as well as by teacher's intervention on their feedback. The teacher involvement is argued to be crucial for a good FPA practice in the literature (Wanner and Palmer 2018), while it has also been argued that FPA saves teacher's workload, shifting the burden for feedback production from the teacher to the students (Nicole 2010). It will be therefore meaningful to look into what constitutes an effective teacher intervention that benefits both the students and the teacher.

The current study investigated into a design and implementation of an effective FPA for the preliminary course students, who may benefit more effectively from active learning. It has been reported that students in STEM disciplines also learn best through active learning activities in small-groups settings (Prince 2004). Therefore, the findings of this study may be relevant and useful for researchers and instructors in STEM disciplines who may wish to implement more student-active learning activities, including formative peer assessment, in their research and teaching.

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