

Continuous assessment for learning: issues of multiple instances of peer feedback in a university course

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Résumé de l'article

Dans le contexte d'une évaluation continue pour apprendre, expérimentée dans un cours universitaire en Suisse romande, l'article étudie la perception des étudiants quand ils reçoivent une pluralité de feedbacks des pairs à propos d'un travail réalisé en petits groupes collaboratifs. Comment les étudiants, qui sont à la fois évalués et évaluateurs, perçoivent-ils ces feedbacks multiples, notamment quand ils sont amenés à les comparer dans la perspective de réguler leur propre travail universitaire et leurs compétences évaluatives? L'article analyse finement les processus et les ressentis en jeu quand les étudiants constatent des similarités et des différences entre les feedbacks reçus et produits. Au regard des résultats obtenus, une réflexion conceptuelle est proposée autour des notions de feedback, de feedback interne, de feedback global et de métafeedback, qui contribuent aux processus de régulation et d'apprentissage générés.

Continuous assessment for learning: issues of multiple instances of peer feedback in a university course

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KEY WORDS: assessment for learning, continuous assessment, written peer feedback, perception, regulation of learning, higher education

In the context of continuous assessment for learning in a university course in French-speaking Switzerland, this article studies students' perception when they receive multiple instances of peer feedback on a written academic assignment carried out in small collaborative groups. How do students, who are both assesseees and assessors, perceive these multiple instances of feedback, especially when they are led to compare them to regulate their own initial work and their assessment skills? This article analyses in detail the processes and feelings at play when students notice similarities and differences between the instances of feedback they received and produced. Conceptual considerations are proposed around the notions of feedback, internal feedback, comprehensive feedback, and metafeedback, seen as contributing to the regulation and learning processes involved.

MOTS CLÉS: évaluation pour apprendre, évaluation continue, feedbacks écrits entre pairs, perception, régulation des apprentissages, enseignement supérieur

Dans le contexte d'une évaluation continue pour apprendre, expérimentée dans un cours universitaire en Suisse romande, l'article étudie la perception des étudiants quand ils reçoivent une pluralité de feedbacks des pairs à propos d'un travail réalisé en petits groupes collaboratifs. Comment les étudiants, qui sont à la fois évalués et évaluateurs, perçoivent-ils ces feedbacks multiples, notamment quand ils sont amenés à les comparer dans la perspective de réguler leur propre travail universitaire et leurs compétences évaluatives? L'article analyse finement les processus et les ressentis en jeu quand les étudiants constatent des similarités et des différences entre les feedbacks reçus et produits. Au regard des résultats obtenus, une réflexion conceptuelle est proposée autour des notions de feedback, de feedback interne, de feedback global et de métafeedback, qui contribuent aux processus de régulation et d'apprentissage générés.

PALAVRAS-CHAVE: avaliação para a aprendizagem, avaliação contínua, feedback escrito entre pares, percepção, regulação das aprendizagens, ensino superior

No contexto de uma avaliação contínua para a aprendizagem, experimentada num curso universitário na Suíça francófona, o artigo estuda a percepção dos estudantes quando recebem uma pluralidade de feedbacks de colegas sobre o trabalho realizado em pequenos grupos colaborativos. Como é que os estudantes, que são ao mesmo tempo avaliados e avaliadores, percebem os feedbacks múltiplos, principalmente quando são levados a compará-los no âmbito da regulação do seu próprio trabalho académico e das suas competências avaliativas? O artigo analisa detalhadamente os processos e sentimentos em jogo quando os estudantes constatarem as semelhanças e as diferenças entre os feedbacks recebidos e produzidos. Perante os resultados obtidos, propõe-se uma reflexão conceitual em torno das noções de feedback, feedback interno, feedback global e metafeedback, que contribuem para os processos de regulação e aprendizagem desencadeados.

Introduction

The research presented in this article focuses on a continuous assessment in a first-year course in pedagogy at a university in French-speaking Switzerland. This assessment is based on the production and reception of multiple instances of formative and anonymous written feedback between students concerning an initial work realized in small collaborative groups.

Based on criteria explicitly worked out during the course, these instances of qualitative feedback do not lead to the formulation of any score or grade for the work assessed. Their function, announced to the students, is to contribute to the improvement of their initial in a reciprocal relationship, i.e. to produce formative and caring feedback to their peers and, reciprocally, to receive feedback on their own academic work for regulation purposes.

The conception of this assessment is that of “assessment for learning” (Black & Wiliam, 1998) articulating formative and certificative assessment approaches. The assessment emphasizes the contingent and dialogical relationships between teaching and learning; it aims to involve learners both in the production of assessments and in the way they receive them for purposes of self-assessment, critical judgment, and self-regulation (Allal & Laveault, 2009; Mottier Lopez, 2016, 2020; Nicol, 2020). Much work exists on peer feedback in higher education (e.g., Carless & Boud, 2018; Falchikov & Boud, 1989; McConlogue, 2015; Nicol et al., 2014). In a collaborative learning environment, the production and reception of formative feedback among learners is likely to be a powerful mechanism to support the regulation of their learning (e.g., Nicol, 2020; Strijbos et al., 2009).

In our research, the student is both in the position of assessee (i.e., receiving individual written feedback from anonymous peers on an initial piece of work) and assessor (i.e., providing anonymous written feedback to a peer and then reading other instances of feedback produced on the awork he or she has assessed). Predefined criteria provide a framework for

the student to write formative and prosocial¹ feedback. The student then receives numerous instances of individual feedback from peers who have not previously coordinated with each other. The written feedback instances may be different from each other; they may not be congruent or, on the contrary, they may provide complementary views on the work concerned.

Nicol's work (2013, 2020) shows that receiving multiple feedback from peers encourages the student who receives these instances of feedback to compare them and to position him/herself in order to decide on the regulation actions to be undertaken. The purpose is to improve his/her work and, more generally, to develop new learning, including metacognitive learning. This work shows that appropriate comparisons between instances of feedback represent real resources for the regulation of students' performances as well as for the development of their self-regulation skills, without necessarily requiring support from the teacher (Nicol, 2020).

The research presented in this article thus aims to answer the following general research question: *In the context of continuous assessment for learning, how do students, who are both assessees and assessors, perceive multiple sources of peer feedback, especially when they are asked to compare these instances of feedback to regulate their own academic work?*

Our working hypothesis is that various instances of written feedback, if compared and confronted by the student, generate different perceptions according to the role held (assessees or assessors) about the learning associated with the academic work and about the assessment skills required to produce and receive formative and prosocial feedback.

After this introduction, the second section of the article presents a state of the art in assessment for learning, especially when it aims at continuous assessment to create links between different learning and assessment tasks over a long period of time. The discussion then turns to the practices of peer feedback, in particular when a plurality of formative feedback is proposed to compare and confront peers' assessment judgments on their own academic work. Finally, two configurations of feedback comparison are defined and delineate the conceptual framework of our research. The third part of the article presents the context and outline of Continuous

1. Prosociality is our translation of the French-word "bienveillance", which does not have an exact translation in English. "Bienveillance" is defined as a positive disposition towards others and a concern for others and their empowerment. Unlike "prosociality", however, "bienveillance" is part of the everyday language and is widely used.

Assessment for Learning (ECPA²), which incorporates the peer assessment focused upon herein. The fourth section outlines the methodological framework and analyses undertaken. The results of the research are presented in the fifth section. A concluding discussion summarizes the main findings and cautiously states some conceptual advances in light of the results.

State of the art and conceptual framework

Continuous assessment for sustainable learning

Assessment whose function is to help students learn has traditionally been associated with formative assessment since the proposals of Bloom et al. (1971) exposed in the mastery learning model. Since the end of the 1990s, other terms have been proposed, particularly in the context of the English-speaking world, in order to emphasize the role of support for learning that assessment can play when it is strongly linked to the processes of teaching and regulation of student learning. Table 1 presents several of these proposals.³

The common goal of these conceptual proposals is to *reconfigure* assessment, both formative and certificative, so that it is conceived and used as a positive lever for supporting quality student learning. With a few nuances, the authors agree on a set of characteristics considered crucial to achieving this ambitious goal, elements that have guided the ECPA tested in our research:

- Design *learning* tasks that incorporate assessments with opportunities for student regulation and self-regulation.
- Design complex *assessment* tasks that encourage student collaborations, such as through group work and/or project work.
- Clarify with students the assessment contracts at stake, i.e., expectations, objectives, and assessment criteria, including building mutual trust among learners and with teachers concerning the various assessment issues.

2. ECPA is the French acronym and stands for “évaluation continue pour apprendre” (“Continuous Assessment for Learning”). We wish to keep the acronym “ECPA” to maintain consistency across our research papers.

3. The dimensions listed in Table 1 came from the cited references without aiming to be exhaustive. Other developments have been proposed in later texts. We do not include them here.

Table 1
Conceptual proposals for reconfiguring assessment of student learning

Term in English	Original authors	French translation	Main dimensions highlighted
<i>Assessment for learning</i>	<i>Assessment Reform Group</i> (Black & Wiliam, 1998)	Évaluation pour apprendre Évaluation soutien d'apprentissage (Allal & Laveault, 2009)	Includes all forms of assessment (formal and informal, formative and summative) that can encourage students to engage in learning for the purpose of regulation and self-regulation; strongly integrated with teaching and learning activities
<i>Authentic assessment</i>	Wiggins (1998)	Évaluation authentique	The contents, structure, characteristics, and validity of assessments are associated with complex situations of the “real” world, without distinction between formative and certification assessments
<i>Sustainable assessment</i>	Boud (2000)	Évaluation durable	Assessments, regardless of their forms and their functions, meet the needs of learning in short and long term temporalities (lifelong learning)
<i>Assessment as learning</i>	Earl (2003)	Évaluation comme apprentissage	Assessments are seen as likely to represent learning opportunities, especially when students are involved in self-assessments, peer reviews, and collaborative formative assessments. Assessment becomes a learning objective

- Involve students in self- and peer-assessment processes that not only serve their academic learning, but also allow them to develop assessment skills, critical judgment, and self-regulation.
- Value the student voice as a full partner in assessment.
- Provide ample opportunities for feedback with teachers and peers to support learning in the tasks at hand, as well as for future learning.

Elsewhere (Mottier Lopez, 2021; Mottier Lopez & Girardet, 2022), we have conceptualized this ECPA over a long period of time, through different tasks that integrate formal and informal formative assessments, based on a variety of modalities, including written or oral, individual or in groups, face-to-face or remotely, and using digital tools.

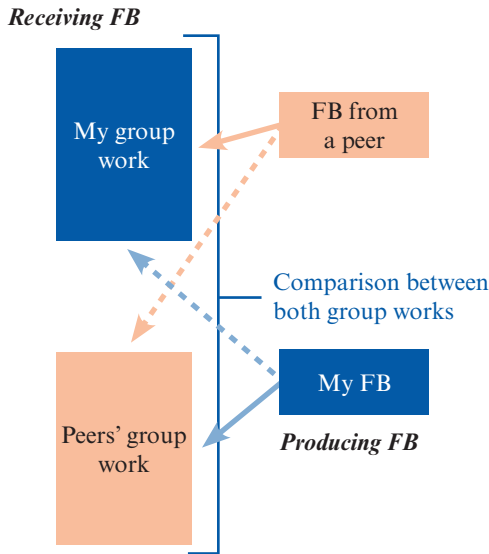
The ECPA differs from traditional continuous assessment, which consists of a succession of micro-summative assessments that are more or less detached from each other, and for which the teacher adds up the sum (or “average”) at the end of the training period. Rather, it aims to develop academic and cross-curricular competencies that go beyond the strict framework of the course in favor of lifelong learning (Boud & Soler, 2015). Among other things, it supports the learning of assessment and self-assessment skills through peer feedback with the aim of contributing to the development of students’ empowerment and autonomy (Bain, 2010).

A plurality of peer feedback for comparison and regulation purposes

In the literature, feedback is seen as crucial in producing scaffolding that is adjusted to the characteristics and needs of students as well as supporting their learning progression (e.g., Black & Wiliam, 1998; Hattie & Timperley, 2007). Boud and Molloy (2013) define feedback as a “mechanism through which students discover whether they are successful in their work and if they are on track to meet expectations” (p. 1). Feedback is conceptualized as an active process for the student, going beyond “mere” informational content delivered orally or in writing (Boud & Molloy, 2013; Hattie & Timperley, 2007). Nicol (2020) speaks of “internal feedback” to designate the active appropriation by the student of information produced by the environment (social, material) leading to the production of new knowledge.

In an academic context, peer feedback represent a modality to actively engage students in assessment and formative regulation processes (e.g., Nicol et al., 2014; Panadero et al., 2016). They contribute not only to the development of cognitive skills involved in academic tasks, but also assessment, self-assessment, and metacognitive skills (Girardet, 2020). Specifically, research shows that asking the student not only to *receive* but also to *produce* feedback on peer work engages a *comparison* between peer work and one’s own work (see Figure 1), generating new knowledge (Nicol, 2013, 2020).

Figure 1
***Receiving and producing peer feedback:
 a comparison between academic productions***



A number of studies find that the modality of producing peer feedback tends to be more effective than the modality of receiving feedback (McConlogue, 2015; Nicol et al., 2014). Others note the complementarity between the two modalities (Cao et al., 2019; Girardet, 2020). Nicol (2020) observes that students tend not to regulate in the same way: assessing a peer's work leads them to bringing new perspectives to their own work; receiving feedback leads instead to correcting missing elements.

This same author emphasizes the interest of multiplying the sources of feedback between peers, both as receivers and producers of feedback, in a conception of authentic assessment in relation to the situations of the professional world:

In professional and workplace settings and in life beyond university, feedback rarely comes from a single source. Rather, faced with multiple sources of feedback, the task is usually to evaluate, weigh up, reconcile and respond to different and sometimes quite contradictory feedback perspectives. Also, in professional life, graduates are not just consumers of feedback but they are also producers;

they will invariably be required to evaluate and comment on the work of others from a range of perspectives. (Nicol, 2013, n.p.)

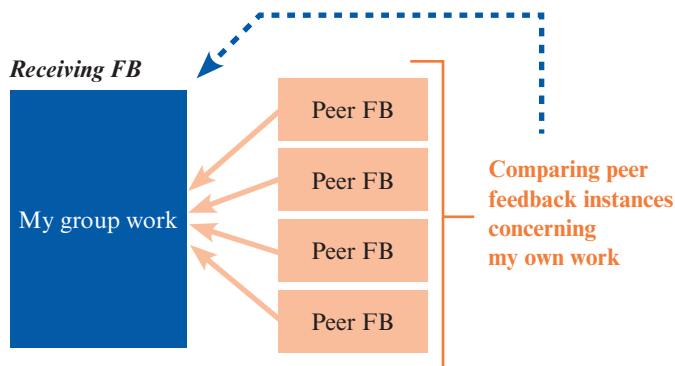
Cho and MacArthur's (2010) experimental study also supports this contention by showing that reception of multiple peer feedback would lead to a better regulation of the initial work than one-off feedback from a peer or an expert.

The objectification of two peer feedback comparison configurations in an ECPA

In addition to the comparison between academic productions (see Figure 1), other forms of comparison may be interesting to explore, in particular comparing received and produced peer feedback. In this perspective, we define below two written peer feedback comparison configurations for the purpose of continuous assessment for sustainable learning.

In the configuration shown in Figure 2, comparison occurs at the level of receiving multiple peer feedback on one's own academic work.

Figure 2
***Receiving peer feedback from multiple sources:
comparison between instances of feedback***

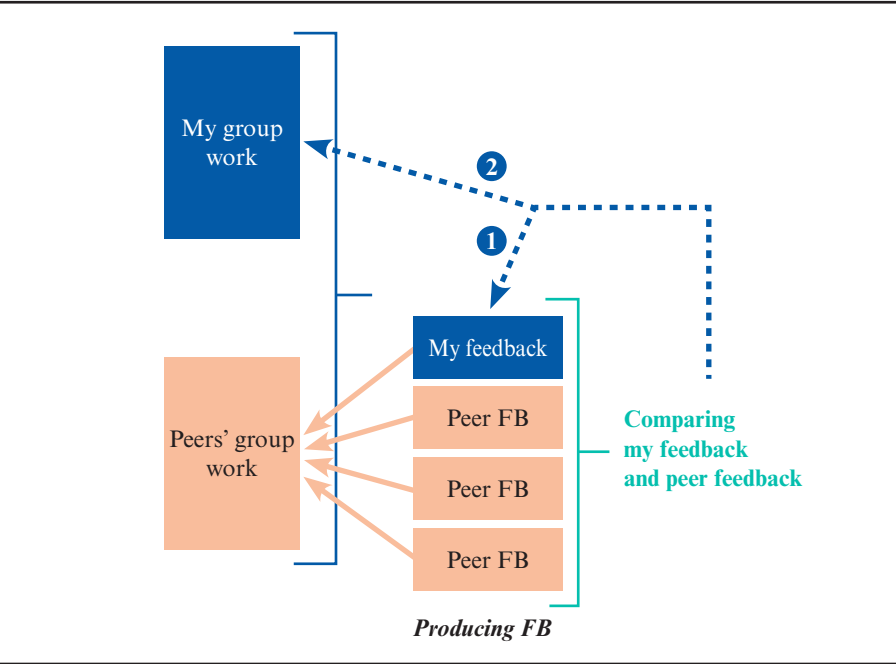


Receiving different instances of feedback on one's work should allow the student to compare them as well as become aware of the possible diversity of assessment judgments, similarities and possibly contradictory differences between instances of feedback. This includes different options for regulating the work on which peer feedback is focused. The research

cited by Nicol et al (2014) shows that this diversity of feedback represents a potentially favorable enrichment for a more in-depth regulation of one’s own work. This diversity allows for decentralization, which engages in stepping back to support self-assessment and work regulation (Girardet, 2020; Nicol, 2020). These same authors observe that diversity can also represent a source of destabilization. The validity and reliability of the assessment judgments of peers may be questioned, which could reflect, for example, a feeling of insecurity linked to the positioning of an assessor seen as a non-expert (Girardet, 2020).

A complementary configuration consists of involving comparison at the level of the production of feedback on the work of peers, in particular between one’s own feedback and the feedback of other students on the same assessed academic work. This configuration is presented in Figure 3 and appears to be less studied in the literature.

Figure 3
*Multiple instances of peer feedback:
comparing one’s own feedback with that of others*



This configuration encourages students who have provided feedback to look at other peer feedback on the work being assessed, again for the purpose of comparing assessment judgments and the suggestions for regulation in the instances of feedback. On the one hand, we postulate that this comparison is likely to produce critical feedback on one's own feedback (see ❶ in Figure 3) and, more generally, to provide information on the assessment skills involved in producing peer feedback, as well as being useful for a self-assessment of one's own academic production (see Figure 1). On the other hand, it can generate feedback on one's own academic work for potential regulation (see ❷ in Figure 3).

As in the previous configuration (see Figure 2), while positive effects are expected from feedback comparisons, potentially counterproductive effects could also emerge. Work in social psychology, for example, highlights the tensions that exist between the constructive informational support that comparison to others can represent and the sense of threat to competence if a competitive climate dominates among the individuals involved (e.g., Butera et al., 2011).

Other research also highlights the limitations of strictly written feedback. This research emphasizes the importance of embedding such feedback in contexts of dialogue and co-construction of meaning (e.g., Schillings et al., 2021; Yang & Carless, 2013), including negotiating the expectations, rights, and duties associated with its uses in a classroom culture designed to support the regulation of learning (Mottier Lope, 2016).

Our research explores, in a qualitative approach, these two configurations of peer feedback comparison. The scientific goal is to better understand how students perceive and use peer assessments that rely on multiple sources of feedback in a reciprocity of roles (assessee/receiver of feedback and assessor/producer of feedback), which leads to comparisons that can contribute to the regulation of their academic work and support the development of their assessment skills.

Context and methodology

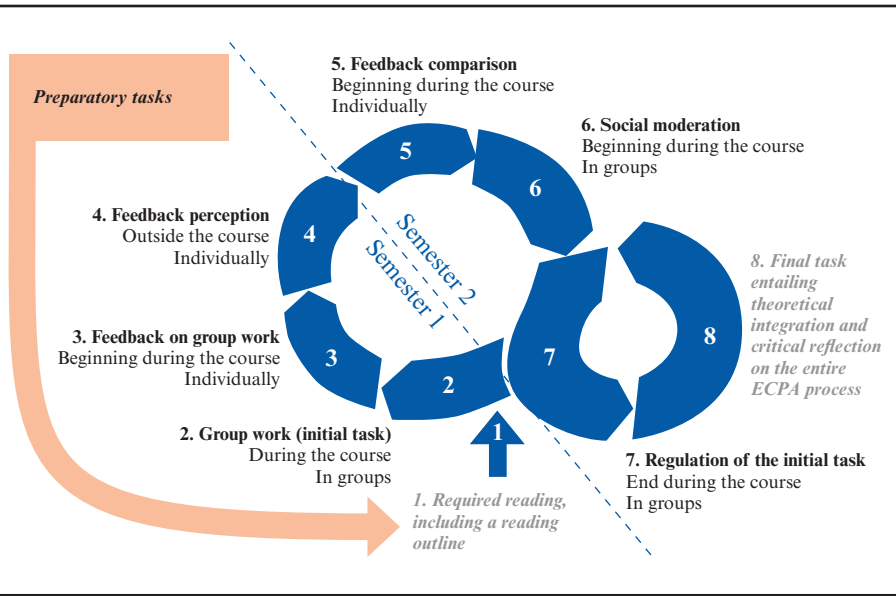
Presentation of the ECPA

An experiment in Continuous Assessment for Learning (ECPA) was conducted during the 2020-2021 academic year in a first-year bachelor's degree course in education at the University of Geneva.⁴ This ECPA is

4. This is part of a continuous assessment modality that leads to the course certification.

based on a succession of tasks linked to the teaching contents and spread over one year. In this case, the interrelated tasks were designed both to support the regulation of student learning and to produce empirical data for research (Mottier Lopez & Girardet, 2022). Figure 4 provides a diagram of these tasks.

Figure 4
Diagramming the ECPA



The different tasks are described below. The focus is on tasks 2, 3, and 4, which are at the heart of the questioning presented in this article.

Preparatory tasks A (quiz on the functions of assessment) and B (perception questionnaire on two examples of written feedback to initiate a questioning on what is formative and prosocial feedback) as well as task 1 (compulsory reading on self-assessment in a broad sense with a reading outline) were carried out before the initial academic work subject to anonymous peer feedback.

Task 2: Group work

This initial work was done on a Google Document file by small groups of 4-5 students, who were divided in Zoom video conference breakout rooms. The assignment was to develop assessment scenarios to

support the learning and autonomy of a fictional student, Victor, who had trouble completing task 1 (required reading including a reading outline). The students were provided with Victor's fictional reading outline, instructions, and criteria for assessing their group work.

Task 3: Feedback on group work

Following courses focused on formative and prosocial assessment and feedback,⁵ each student was individually required to write two feedback pieces on two group works from different peers based on the assessment criteria of task 2. Each instance of feedback had to be a minimum of 1000 words.

Task 4: Perceptions of feedback

After all the assigned feedback was completed, each student received four instances of written peer feedback on his or her initial group work and three on another group's work for which he or she had provided written feedback. For the seven feedback instances received, each student responded individually to two reflective entries presented below.

Tasks 5 and 6 encouraged students to continue comparing all the peer feedback on their initial group work (including the four instances of feedback from task 4). The purpose was to position themselves explicitly, first individually (task 5), then in the form of a social moderation (task 6). For the latter, students were back in their initial group and were instructed to build a consensus on the regulations to improve their work, which was due as task 7. Task 8 consisted of a reflection on the entire ECPA experience.

5. One of the course objectives (Mottier Lopez, 2020) communicated to the students was to recognize the characteristics of feedback that can support the regulation of learning. The content taught included the definition of feedback, the purposes of formative feedback, the effects and limitations on learners, and recommendations from the literature (e.g., Allal & Mottier Lopez, 2005; Black & Wiliam, 1998; Hattie & Timperley, 2007). The recommendations for making prosocial comments were (a) no expressions of exasperation, irony, contempt, ...; (b) no judgments about the person; (c) a reliance on objective, observable facts; (d) caution regarding one's interpretations; and (e) consideration of the fact that being prosocial includes being demanding (Mottier Lopez, 2020). Preparatory task B was used to identify suggestions for producing formative and prosocial feedback in their opinion.

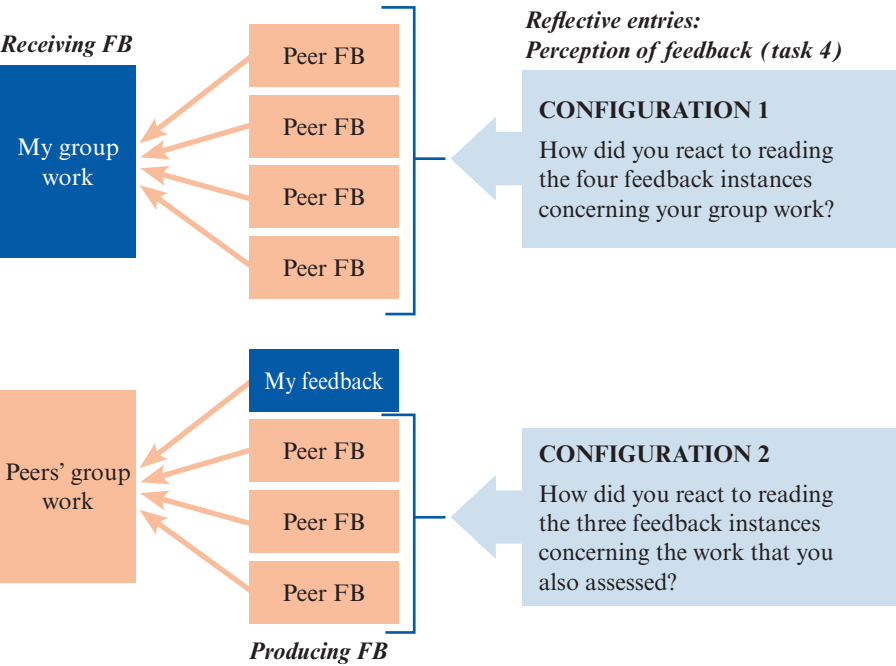
Reflective entries for task 4

The results presented in this paper come from the two reflective entries of task 4, which involves the two feedback comparison configurations defined in the conceptual framework. Figure 5 presents the reflective entry instruction associated with each of the configurations.

In configuration 1, the student responded as a co-author of his or her group work (task 2) which had been given four feedback instances written by peers (task 3). The student was in the position of peer feedback receiver.

In configuration 2, the student responded as an assessor of a peer group work about peer feedback instances on the work the student had assessed him or herself. In this case, the student was in the position of peer feedback producer.

Figure 5
*The two feedback comparison configurations
and their reflective entry from task 4*



Corpus and analysis

A total of 123 students (88 females and 35 males) completed the two reflective entries of task 4. The analysis was therefore based on 246 entries, each of which had to be at least 100 words long. Most students exceeded this minimum, even producing double and sometimes quadruple the number of words.

A content analysis (Bardin, 1998) of the students' reflective entries was conducted using NVivo software. The coding chosen is justified by our research question and by our conceptual framework. Thus, the two configurations were coded separately.

First, all excerpts in which students wrote sentences suggesting comparisons between feedback instances were identified. Second, the excerpts were coded according to whether students noted *similarities* and/or *differences* between the various feedback instances. For each case, we observed that students primarily expressed *judgments*, *feelings*, and *regulation intentions*, which led us to develop an analytical coding of these three emergent categories (see Table 2).

Table 2
Three levels of coding

Identification of elements of comparison					
Similarities between feedback			Differences between feedback		
Judgments	Feelings	Regulatory intentions	Judgments	Feelings	Regulatory intentions

Once this coding was stabilized by the three authors, one of the authors systematically coded the entire corpus. This was subject to back and forth between the coding carried out and collective discussions with the other two authors to ensure the validity of the analysis and to make corrections, if necessary.

Results

As a reminder, our research question is the following: *In the assessment mechanism presented, how do students, who are both assessees and assessors, perceive this multiple feedback, especially when they are led to compare them to regulate their own initial assignment and their assessment skills?*

The results below are presented for each of the two configurations of task 4 of the ECPA. They are structured according to the comparisons made by the students. Nicol (2020) emphasizes the importance of making the assessment referents accessible for comparative purposes. In our case, it is the assessment criteria that act as referents:

- the assessment criteria of the group work associated with academic learning (anchoring in Victor's case, matching of the scenarios with the objectives, and correct mobilization of the concepts related to assessment and regulation of learning);
- the assessment criteria of peer feedback writing relating to the skills of producing and receiving formative and prosocial feedback (matching with the assessment criteria of the group work, accuracy of the written content, specificity with regard to the work of peers, presence of suggestions for regulation, and prosociality of feedback).

These two criterion-referenced frameworks organize the comparisons presented below, which include corpus excerpts as illustrations.

Configuration 1: “Me” receiving multiple instances of feedback on my group's work

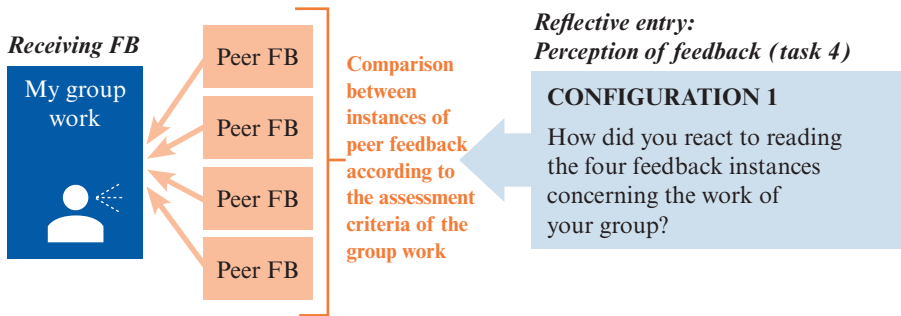
Comparison between instances of feedback according to the assessment criteria of the group work⁶

Figure 6 recalls the characteristics of this first configuration of task 4 in which the student expresses him/herself as a (co)author of his or her group work.

When students compare the content of the four feedback instances they received on their own group work with the assessment criteria of that work, it appears that the elements they point out are different depending on whether they find similarities or differences between the peer feedback instances. These two cases are presented below separately, even though they are likely to be intertwined in the reflective entries.

6. As a reminder, these criteria were anchoring in Victor's case, matching of the scenarios with the objectives, and correct mobilization of the concepts related to assessment and regulation of learning.

Figure 6
**Configuration 1: Comparison of instances of peer feedback
 on one's own group work**



– *When students found similarities*

Students' observation of similarities in the content of the four feedback instances they received about their group work seemed to have an impact on the *feelings* expressed by the students, especially when the feedback was positive and validated the work done. When comments about the assessment criteria of the group work were positive and similar across multiple feedback instances, students perceived them as "comforting" (NIC⁷). They provided "a sense of satisfaction" (SEV), or "kept one motivated and wanting to improve the work" (LAM). Overall, students felt comforted and reassured about the quality of their group work when they received positive and consistent feedback based on the criteria for its production.

When suggestions for improvement were mentioned in several feedback instances, students tended to consider them as valid. In most cases, they expressed an intention to regulate their group work by taking into account the comments of their peers:

Many of the comments are similar, which means that our work was not complete. We need to redefine some of the concepts to show that we have grasped them. We also need to be more explicit and detailed about the proposed scenarios. (INR)

7. For anonymization purposes, we indicate a combination of three letters from the first and last names of the student whose reflective writing we quote.

Most people raised very relevant points, and these allowed me to look back on my work and see that, for the most part, the “criticized” aspects needed improvement. (ISV)

Overall, the peer feedback incorporating convergent suggestions for improvement appeared to the students to be a motivating force for bringing regulation to their group work.

– *When students found differences*

The observation of differences in the feedback received about their group work triggered an awareness among many students of the possible diversity of assessment judgments about the same work:

I realized that feedback is a very personal thing. Even if we have criteria to guide us, we don’t have the same points of view [...]. That’s why I received four completely different instances of feedback on the same work. (MAU)

For some, this awareness seems to have been appreciated as a “challenging, motivating, and rewarding experience” (NIA), as it was “interesting to see that each person has a special way and look...at [their] scenario” (NIA), which may have “enriched [their] ideas for improving it” (OCA).

Others, on the contrary, expressed a destabilization in the face of this awareness, which led them to question the validity of peer feedback:

The four feedback samples brought different criticisms and advice. This leaves me wondering and puzzled. I’m not sure which feedback I should really take into account and which I should trust. What’s more, I find them all relevant and this confirms me in my questioning. (SYB)

There was one instance of feedback that confused me a little bit, because it went against all the others. This means that we don’t know if we should trust the majority or the other, which will make the correction a little more difficult. (BEF)

Students often said they were confused by the diversity of feedback they receive. On the other hand, for some, this diversity led them to critically analyze peer feedback:

Getting different feedback for the same work leads you to have different points of view on what you’ve produced. I’ve noticed that not everyone picks up on the same points, the same aspects. By mixing all these instances of feedback, we can have a good comment on our work as a whole. (SAF)

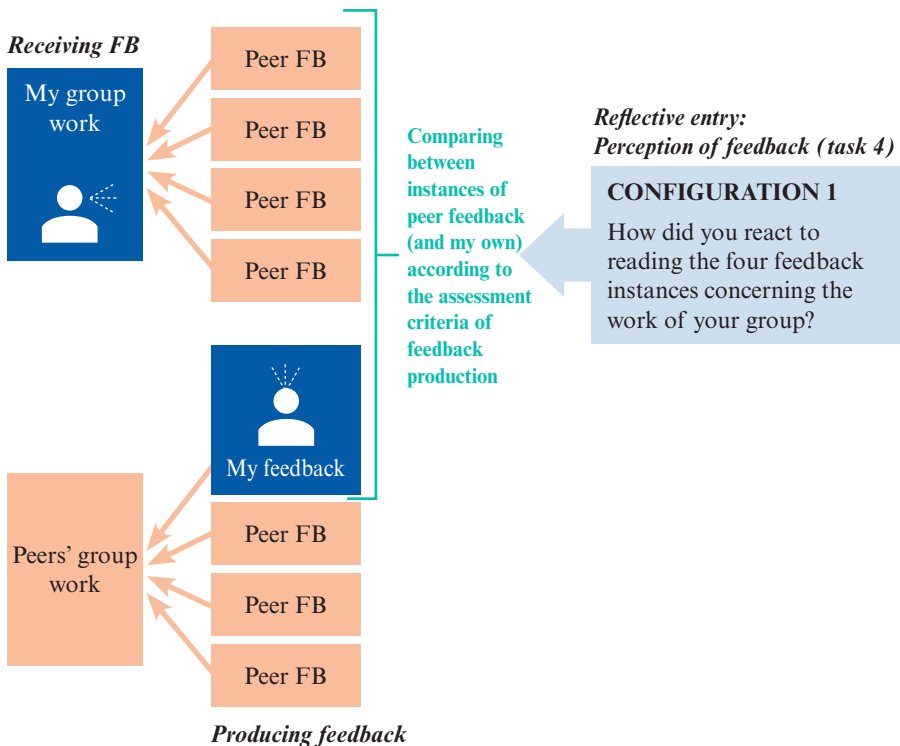
A few students reported creating *comprehensive feedback* for themselves from the differing views and judgments of peers.

Comparison between instances of feedback according to the assessment criteria of feedback production⁸

Still in configuration 1 (“me” receiving multiple instances of feedback on my group’s work), it appeared that students did not only compare the instances of feedback in relation to what they said about their group’s work, but also in relation to the criteria of quality of the feedback itself (i.e., about its formative and prosocial character). While students always expressed themselves as the “feedback-receiving self,” some also compared the feedback they received through the lense of the “feedback-producing self.” This is illustrated in Figure 7.

Figure 7

Configuration 1: Comparison between instances of peer feedback (including one’s own) according to the assessment criteria of feedback production



8. As a reminder, these criteria were matching the assessment criteria of the group work, accuracy of the written content, specificity with regard to the work of peers, suggestions for improvement, and prosociality of feedback.

It appears from our analysis of reflective entries that students only reported *differences* in peer feedback. Sometimes, students expressed themselves rather as *(co)authors of their group work*. In this case, they essentially expressed their *feelings* when reading the feedback received.

One student explained that “some [feedback] [did] make him a little angry and that’s when [he] realized how important prosociality is” (PAS). Feelings and perceptions of assessment judgment appeared to be intimately linked:

The conclusion for me from all this feedback is that I much prefer prosocial feedback than any other! What I liked the most was the feedback where the author is involved in his or her text by giving personal examples or by trying to understand what could have happened on a misunderstood question and by putting him or herself at the same level as the one who did the exercise by providing encouragement. On the other hand, what I didn’t like was the feedback that I’d call “hyper-complete,” with a lot of things to review and sometimes rather harsh terms. This was the worst part, because I felt that everything the author said was true and there was a lot to review! (ELV)

The perception of prosociality, a concept worked on during the course, was strongly emphasized in the reflective entries. The elements of feedback that provide a feeling of prosociality seemed to be specific to each student. For example, for ELV, prosociality was expressed through signs of empathy or the feedback author’s involvement. For MAV, prosociality was manifested in the form of the sentences, in the structure and in the layout of the text:

I noticed that the wording of the sentences or the layout had a great influence on my feeling. Sentences that are too long and too complex are demotivating and I couldn’t help but feel offended if the sentences were reproaches. Negative comments explained in several simple and clear sentences were much more digestible and seemed less aggressive. (MAV)

Finding differences between instances of feedback led some students to express effects on their motivation to improve their group work:

What I find very interesting is that my level of motivation and desire to improve my work changed according to the different feedback received. If the feedback was too positive, I didn’t necessarily want to improve, and it was when I read the feedback that I felt was the most demanding, raising the most points for improvement, that I had the greatest motivation and desire to improve. (JUN)

I also read feedback that I didn't like at all. It contained almost only negative aspects, which demotivated me considerably. This instance of feedback was very unbalanced, because I felt that there were only reproaches. (ISV)

Motivation to engage in group work regulation appeared to be linked to the feeling produced by perceived negative or positive feedback.

Interestingly, in configuration 1, students also expressed themselves as producers of peer feedback (see Figure 7, a dual standpoint of assessor and assessee):

The first feedback I received was extremely positive and laudatory, almost too much so, highlighting only the positive. Then, the next two were more incisive, sharp, critical, but at the same time extremely well written, constructive and conducive to really identifying (rather confirming) my weaknesses, which I already had in mind regarding my group work. It was very relevant, and as I truly discovered that I hadn't written my feedback with enough precision, technique, and reference to the course. (SAR)

Whether it is by comparing the feelings produced by the different instances of feedback or by comparing instances of peer feedback with their own feedback piece, some students expressed intentions to regulate their *feedback writing skills*:

Some of them have understood the purpose of feedback very well, namely to write clearly, with precise objectives. They are also very prosocial and offer explicit suggestions for improvement. It really makes me want to review my feedback in conjunction with their comments. (LAG)

Configuration 2: "Me" providing feedback on the group work of peers

Figure 8 shows the details of this configuration.

As with configuration 1, configuration 2 involved students comparing instances of feedback with the assessment criteria of the group work and the assessment criteria of feedback production as a frame of reference.

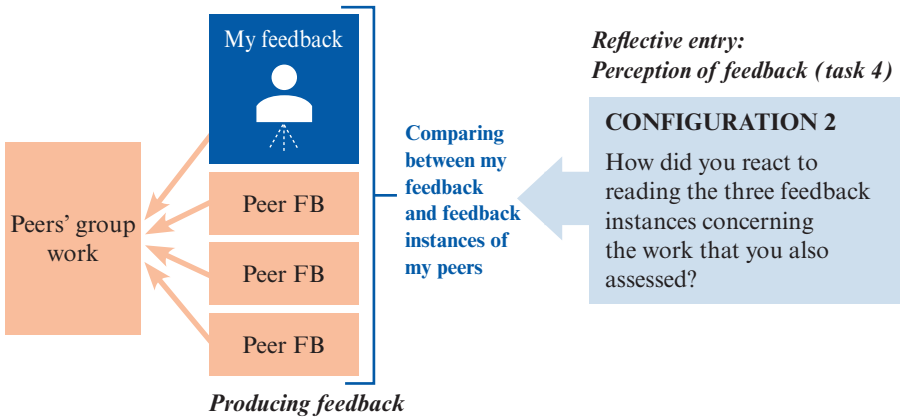
Comparison between instances of feedback according to the assessment criteria of the group work⁹

When students compared instances of peer feedback on the group work that they themselves had assessed, much of their thinking focused on *content issues* related to the group work.

9. As a reminder, these criteria were anchoring in Victor's case, alignment of the mechanisms with the targeted objectives, and correct mobilization of the concepts related to assessment and regulation of learning.

Figure 8

Comparing one's own instance of feedback with those of peers concerning the same work



– When students found similarities

When students found similarities in the content between the instances of feedback, they mainly expressed *feelings*. They expressed reassurance about their own feedback:

Most of the time, my classmates' feedback was in line with mine and the elements that I had judged positive or negative were reflected in their feedback. Having a similar opinion to my classmates gives me more confidence in the relevance of my analysis and, more importantly, makes me aware of my legitimacy in this work. (RGR)

I find it interesting to see the opinions and comments of my classmates regarding an assignment that I also had to do. I realize that I brought similar remarks to my classmates, which is quite reassuring. I was worried that my comments would be irrelevant or off the mark, but I realize that they may not be. (INR)

Some spoke of a sense of relief. Students reported gaining confidence when they discovered that some of the comments they made were consistent with those of their peers who assessed the same group work. This finding of similarities between instances of feedback allowed students to dispel their doubts about the validity of their own feedback. Overall, it appears that in this case, no intent of regulation was expressed by the students.

– *When students found differences*

In configuration 2, when students noted differences between the content of the feedback, it was to express mainly *negative* feelings. The students expressed doubts, or even concern, about their assessment skills:

It is unsettling to see that one's own opinion is in the minority on certain points. It can even cause a certain amount of "stress" to be completely "off the mark" (especially when the majority supports this different opinion from your own). (CMU)

Most of the time, when I read something different from my conception of the group work, I found it interesting, always very well justified, and it explained what could make me doubtful regarding my own work. (MAP)

The differences observed between the instances of feedback led some students to become aware of the diversity of assessment judgments, an awareness they seemed to find useful for their future life:

It struck me as odd that there could be so many different opinions on a single text. It just goes to show that we are all subjective and even with assessment criteria, we don't all assess the same way. This is something I'll keep in mind moving forward. (BEF)

It also helps to identify other readings of the group's work - and sometimes even another understanding or positioning. It highlights the fact that feedback can be so different depending on the assessor!! Which I think is very important to be aware of now, because we'll be dealing with this throughout our professional teaching careers. (CAF)

Decentralization through awareness of other instances of feedback and their differences led students to make assessment judgments about their own feedback piece and the feedback instances of others:

Comparing myself to others made me feel inferior, i.e., I felt that mine was not as good as others and therefore I could have done better. (MIM)

It allowed me to see what other people had found for improvement and how they had picked up on the correct points. I also found it very interesting to read feedback on another group's work other than my own, as it lets me step back and judge them without the personal dimension. (JES)

They also express intentions to regulate their feedback:

The fact that we see students handling the concepts of the course better than we do, and that they use them adeptly to analyze the work of our peers, is very challenging. It makes us want to do better, to know more, to master as well. I feel that I was still too much in the dark when I wrote my own feedback

and this makes me want to improve, based on ways of doing things displayed by my colleagues. (SAR)

Noticing differences sometimes led students to check their peers' arguments by returning to the resources at hand and, in so doing, to deepen the concepts worked on during the course:

Reading my peers' productions helped me sharpen my grasp of the concepts, as I went back to check the slides and my note taking several times to judge my classmates' arguments. (NMA)

Comparison between instances of feedback according to the assessment criteria of feedback production¹⁰

In this last case of comparison between feedback instances (their own and those of others), students' reflective entries only show differences. The majority of students expressed empathy towards the group whose work was assessed:

I felt empathy for the group receiving the feedback in contrast to some of the feedback that seemed very hurtful and critical. Indeed, negative feedback can have a strong emotional impact, hurt and demotivate, whereas this is not the purpose of the exercise or of an assessment in general. (MAA)

In this excerpt, the student became aware of the emotional impact of feedback that seemed to her to be lacking in prosociality.

It is interesting to observe that students explicitly invoked the assessment criteria to make judgments about the quality of peer feedback:

These instances of feedback [...] remained, as a whole, prosocial, easy to understand, and relevant to the work done. They are formative in my opinion because the authors argue well and provide suggestions for improvement. So I was satisfied when I read this feedback, because it respected the requested criteria and is formative. (CVI)

Some instances of feedback are particularly good because of the improvements suggested [...], because of the precise comments [...], because of the interpretation of the answers [...], because of its clear structure. (DAM)

When students noted differences in configuration 2, the regulation intentions they expressed concerned the feedback they will have to write in the *future*:

10. As a reminder, these criteria were matching with the assessment criteria of the group work, accuracy of the written content, specificity with regard to the work of peers, suggestions for improvement, and prosociality of feedback.

This allowed me to identify the strengths of the different feedback that I could then apply to my future work. (DAM)

This will allow me to improve my next feedback productions since I have here in front of me works with qualities and defects. All I have to do is to sort out and keep only what works well. (NIC)

Discussion

The first part of this discussion presents the main findings that emerged from our analyses of students' reflective entries. The second part proposes a conceptual development of these findings. The last part, in the form of a brief conclusion, returns to the importance of placing these findings in the context of a situated assessment, here that of an ECPA in a university teaching context.

Main empirical findings

Table 3 summarizes our results in order to identify what emerged from students' perceptions when they found similarities and differences between the instances of feedback being compared.

Three main sets of findings emerged.

The first shows that the experience of the two standpoints (me as producer/me as receiver) offers students opportunities to develop both their mastery of the content of the group work (concepts related to the course) and their assessment skills in producing feedback, in both configurations. Work in the literature has highlighted a complementarity between feedback-producing and feedback-receiving tasks for the regulation of students' learning (Cao et al., 2019; Girardet, 2020).

Our study goes a step further by exploring two different configurations in which students find themselves when receiving feedback and which have not been studied to our knowledge: the reading of feedback on their own work and the reading of feedback on work that they themselves have assessed. Our results show that getting students to reflect on peer feedback in these two configurations provides an interesting complementarity in terms of regulation of their teaching-related skills and their assessment/self-assessment skills. We postulate that these configurations make it possible to multiply and diversify the opportunities for regulation favourable to heterogeneous learner profiles.

Table 3
Summary of results

	Similarities	Differences
“Me” as feedback recipient		
Comparison/ GW criteria	Convergence of positive comments → relief concerning GW quality	Awareness of diversity → interest and/or destabilization concerning the pathways to retain
	Convergence of improvement pathways → validity of feedback → GW regulatory intentions	Evaluative judgement → critical analysis of feedback received → overall feedback
Comparison/ feedback production criteria		Feelings → evaluative judgment on feedback received → (de)motivation with respect to regulating GW
		Shift to the feedback-producing “me” → intentions to regulate one’s assessment skills
“Me” as feedback producer		
Comparison/ GW criteria	Relief concerning one’s assessment skills	Doubts about assessment skills
		Awareness of diversity → interest
Comparison/ feedback production criteria		Decentralization → evaluative judgment on the feedback of others and/or on one’s own feedback
		Feedback check (back to the classroom) → regulation of their understanding of the concepts
Comparison/ feedback production criteria		Empathy for recipients
		Evaluative judgement on compliance criteria → intentions to regulate assessment skills

NB: GW = group work

The second set of findings, new to our knowledge, is that comparisons between various instances of feedback help to support regulation intentions and their objects differently, depending on whether students observe similarities or differences between those instances of feedback. Findings of similarities tend to elicit an emotional security that reassures students about the quality of their group work in the case of convergent positive feedback (configuration 1) and about the quality of their feedback to peers (configuration 2). Noticing differences between instances of feedback is a more powerful regulation lever than noticing similarities, both regarding the content of group work and feedback production. The students say they become aware of the diversity of the assessment points of view of their peers. Unsettled, they are led to assess and analyze the diverse feedback instances received. This result highlights the importance of creating opportunities for students to receive multiple instances of feedback on their work, as noted by Cho and MacArthur (2010) as well as Nicol (2013, 2020), in order to intensify opportunities for divergences conducive to the regulation of learning. Overall, the convergence of feedback instances tends to lead students to conclude that they are valid. Because consensus tends to be perceived as valid (Cho & MacArthur, 2010), it does not encourage students to take a critical distance.

These findings highlight the feelings expressed by the students. Nicol (2020) considers that a gap in his work on student comparisons concerns the affective dimension of internal feedback, which has not been well documented, although he acknowledges the role played by emotions. Moreover, feedback-related feelings are among the elements highlighted by the literature as important to take into account in the development of student feedback literacy (Carless & Boud, 2018; Carless & Winstone, 2020).

Our third set of findings concerns precisely the pervasiveness of these feelings, which appear to be intimately linked to the assessment judgments students make about feedback. In configuration 1, students tend to express an assessment judgement on the feedback they receive by comparing their emotional reactions to their reading. In configuration 2, they grasp the feelings by empathically projecting themselves into the role of the peer being assessed. This leads them to make an assessment judgement on their own instance of feedback and on their peers', but this time being "preserved" from the personal dimension linked to the standpoint of the assessed.

In both configurations, the comparison of feedback seems to have contributed to the construction of more and more meaning to the criteria concerning the production of formative and prosocial feedback, and this, in close interaction with the affective dimension inherent to feedback reception. The students' reflections show an awareness of the feelings that feedback can trigger about themselves and others. Consistent with the literature, these feelings seem to play a role in their motivation (or lack thereof) to regulate their work (Girardet, 2021; Rowe et al., 2014). Some emotional discomfort may promote regulation of learning (Molloy et al., 2013). Indeed, feelings of doubt and destabilization seem to prompt some students to critically assess instances of feedback to “resolve” the perceived destabilization (Girardet, 2021).

Conceptual development around internal feedback

According to Nicol (2020), “*internal feedback is the new knowledge that students generate when they compare their current knowledge and competence against some reference information*” (p. 2). The empirical findings presented in this article lead us to state two complementary notions: *comprehensive feedback* and *metafeedback*, linked not only to the assessment criteria predefined in the ECPA (concerning group work and feedback production), but also to students' emerging feelings. “Rebound effects” between the configurations of producing and receiving multiple instances of feedback were observed.

– Comprehensive feedback

Let us take up our two configurations again. In the first one, receiving multiple and diverse instances of feedback on their group work leads the students, through comparison, to building internal feedback, and then to elaborate *comprehensive feedback* which partly integrates the points of view and assessments of their peers. To do this, the students make an assessment judgment and a critical analysis of the instances of feedback received in order to decide what to retain from each feedback instance. This comprehensive feedback reflects an appropriation of individual instances of peer feedback, while including the criteria (for producing feedback and group work) that reveal the values associated with the ECPA and the content they are expected to grasp.

Our analyses show the crucial role of feelings in students' appropriation of the course content feelings from which students step back by the means of the assessment criteria. This critical distancing is favoured by the ECPA, in which students alternate between the roles of assessor and assessee, and by the fact that the notions of formative feedback and prosociality were worked on during the course. Our hypothesis is that this first configuration offers conditions for the development of *metaknowledge about oneself* as a receiver of feedback, through an awakening to the characteristics of feedback that are "most appropriate" and the emotions they generate, as well as through the possibility to express themselves on this matter.

A first rebound effect is observed from configuration 1 to configuration 2, which calls upon the assessment skills of students as "feedback producers," actors who are themselves called upon to assess the work of others. This rebound effect leads some students to critically assess their own feedback with a view to regulating future feedback that they may be required to give. This self-assessment of their feedback is based not only on the predefined criteria, but also on the comparison between one's feedback instance and those of peers, as well as between the emotions that the different instances of feedback made them feel. In so doing, we can postulate the development of *metaknowledge about the feedback production task*.

– *Metafeedback*

In configuration 2, when students compare their own feedback piece with feedback instances of their peers, they tend to express *metafeedback*, i.e., feedback on feedback. The assessment criteria of feedback production play an important role as an interpretive framework that allows students to objectify the degree of relevance they perceive in feedback (their own and that of their peers). This objectification allows them to sort out the feedback they consider relevant in terms of feedback-giving skills. Hence, this configuration is likely to contribute to the development of a finer critical eye, which leads students to differentiate instances of feedback according to their quality and to determine their value with regard to the predefined criteria and also with regard to the differences between the compared instances of feedback (including their own and leading to its self-assessment).

As in the first configuration, students' feelings become *referents* for the assessment judgments they make. Some students project themselves into the role of the assessee by imagining how the feedback might be received by their peers, while being the assessor. An awakening occurs in connection with the criterion of feedback prosociality, which leads to a decentralization, mediated by the feeling of empathy. In this configuration, our empirical findings allow us to postulate the development of *metaknowledge about what feedback can produce in terms of feelings* and about the potential impact of these feelings on learning.

A second rebound effect is observed between configuration 2 and configuration 1. By comparing the content of their feedback instance and the feedback instances of others about the group work of their peers (configuration 2), students develop an increased understanding of the course content invoked in the group work. Potentially, this increased understanding, which we hypothesize is supported by internal feedback encompassing comprehensive feedback and metafeedback, represents a resource for regulating their own group work (configuration 1).

Brief conclusion

Beyond its limitations, which keep us from generalizing due to its singular nature, our research highlights the potential contributions of multiple instances of peer feedback on a single academic work in a continuous assessment for learning (ECPA) that articulates a set of interrelated tasks offering possibilities for conceptual progression (content-specific and cross-curricular competencies) and regulation of concrete work for final certification purposes.

This ECPA is seen as essential for building a shared assessment culture with students that gives meaning and purpose to the peer feedback practices highlighted in this article (Mottier Lopez, 2021). From a pedagogical point of view, one contribution of our research is to show the importance not only of learning to produce formative feedback, but also of learning to receive it in order to be able to use it critically for regulation purposes. Further studies on the other ECPA tasks will aim at better understanding the processes involved.

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