Author(s): Ketonen, Laura; Nieminen, Pasi; Hähkiöniemi, Markus

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How Do Lower-Secondary Students Exercise Agency During Formative Peer Assessment?

17

Laura Ketonen, Pasi Nieminen, and Markus Hähkiöniemi

17.1   Introduction

Assessment and feedback have traditionally been the provinces of teachers, but that approach is changing (Boud, 2014). In higher education, researchers have emphasized the need for students to actively participate in feedback processes (Carless & Boud, 2018; Dawson et al., 2019; Winstone et al., 2017). In secondary education, same trend can be seen in the schools' and researchers' interest in self-assessment and peer assessment. However, the research on peer assessment has significant gaps. Studies have been largely concerned with its cognitive side (Panadero et al., 2018) and have paid little attention to sociocultural perspectives (Panadero, 2016; van Gennip et al., 2009). This is a serious gap, given that the social dimension is an elementary part of peer assessment (Panadero, 2016).

This study considers the social dimension of peer assessment by employing the notion of students' agency. Agency can be defined as a "socioculturally mediated capacity to act" (Ahearn, 2001), which signifies that agency is considered as an interplay between individuals and their environment. Peer assessment promotes student agency by giving students the formal roles of assessor and assessee. However, assigning formal roles is only the beginning, since agency is coproduced in classroom environments as interplays between the teacher and students and among students themselves (Charteris & Thomas, 2016). According to research, students will not necessarily embrace their active roles. They may question their ability as assessors (Mok, 2011) or feel uncomfortable criticizing their peers' work, even

L. Ketonen (✉) · P. Nieminen · M. Hähkiöniemi
Department of Teacher Education, University of Jyväskylä, Jyväskylän, Finland
e-mail: laura.k.ketonen@jyu.fi

though criticism is officially sanctioned (Foley, 2013; Harris & Brown, 2013). Additionally, students may resist their peers' feedback (Foley, 2013; Panadero, 2016), worry about the effects of peer assessment on their social relationships (Harris & Brown, 2013), and let relationships influence the feedback they provide (Panadero & Jonsson, 2013). The findings reveal that social and cultural features play roles in peer assessment and that students' agency does not always take constructive forms but can be practiced in harmful ways (Harris et al., 2018).

In general, the literature on assessment and agency is in its infancy (Nieminen & Tuohilampi, 2020), particularly that focused on peer assessment and agency. Even though student agency is considered a necessary ingredient in formative assessment (Harris et al., 2018) and a rationale for using it includes the fact that it increases students' active role in assessment and learning (Boud, 2014; Braund & DeLuca, 2018; Panadero, 2016; Topping, 2009), little is known about the forms of agency that students exercise during peer assessment. In the present study, we advance the understanding of the topic by exploring lower-secondary students' forms of agency when formative peer assessment was repeatedly used in their science studies.

17.1.1 Formative Peer Assessment

Peer assessment has many variations. It can be used for summative or formative purposes, and it can be operationalized face to face or at a distance between individuals, pairs, or groups (Topping, 2013). This study only considered the formative purpose, which is the advancement of students' learning; it did not focus on measurements of student learning, which is the purpose of the summative approach. According to Black and Wiliam (2009), the same assessment instruments (e.g., tests, projects, self-assessment, and peer assessment) can be used formatively and summatively, meaning the function of the assessment defines its type, not the assessment itself. Peer assessment is formative when its goal is helping students understand intentions and the criteria for success as well as activating them as instructional resources for one another (Black & William, 2009). Teachers are responsible for creating a learning environment, articulating that the aim of peer assessment is to advance learning, and delivering instructions that support that intention (Black & William, 2009). Topping (2013) defined peer assessment as "an arrangement for classmates to consider the level, value, or worth of the products or outcomes of learning of their equal-status peers" (p. 395), and argued that both receiving and providing feedback are beneficial. Hence, the strategy of activating students as instructional resources for each other (Black & Wiliam, 2009) entails two separate goals: guiding them to be instructional resources for others (assessor's objective) and guiding them to use others as instructional resources (assessee's objective).

Researchers have reached the consensus that peer assessment requires training (Sluijsmans, 2002; Topping, 2009; van Zundert et al., 2010). Peer assessment

comprises several phases: developing original work, providing feedback, receiving feedback, and revising one's own work (). Acting as an assessor or assessee requires diverse skills that vary depending on the form of peer assessment. Assessors need to understand their responsible position as providers of feedback (Panadero, 2016), understand the assessment criteria, judge the performance of a peer, and formulate constructive feedback (Sluijsmans, 2002). Assessees need to be able to judge feedback, manage affect, and act on feedback (Carless & Boud, 2018). These skills are needed in peer assessment, and they can be further developed by practicing it (Ketonen et al., 2020a, 2020b).

17.1.2 Agency in Peer Assessment

Depending on the research tradition, the concept of agency has different definitions and emphases (Eteläpelto et al., 2013). In this section, we discuss three aspects of agency for which researchers' views diverge, and we clarify our stance toward them. The first concerns the ontological dimension of agency—more precisely, the extent to which agency is considered an individual versus a social attribute. At one end of the spectrum, agency is construed as an individual's autonomous, rational actions; at the other, it is construed as shaped by structural factors, even to the point that the existence of agency is questioned (Eteläpelto et al., 2013). We take a middle ground in this research, following Billett's (2006) theorization of the "relational interdependence" between individual and social agency. Billett (2006) suggests that individuals practice agency by choosing which problems and social suggestions they engage in and by regulating their level of engagement when participating in these undertakings. Hence, individual agency has a social origin, but it is not socially determined. When considering schools, students' levels of agency may vary even within a single classroom because there are various microenvironments for participation (e.g., the whole class, a small group, or pairs) and social roles (e.g., colleague, peer assessor, or friend) offering different kinds of social suggestions and problems to engage in.

Temporality is another aspect in which the views of agency diverge. Some approaches do not consider the temporal element of agency, whereas others do (Eteläpelto et al., 2013). In this study, as presented by Emirbayer and Mische (1998), we construe students' agency as a composite of past, present, and future, which are all relevant when practicing peer assessment. First, students' agency in the classroom builds on experience. Even the first time they engage in peer assessment, students bring their experiences of learning, being assessed, and correcting and advising others. Their former ways of participating have developed patterns of agency that create expectations for their participation (Gresalfi et al., 2009). Second, agency is derived from imagined outcomes of action. Students visualize the consequences of complimenting and criticizing their peers, and apart from how those choices' influence learning, they weigh their influence on their relationships with their peers and teacher. Third, agency is enacted in the present, which is not necessarily a straightforward process. For example, the act of providing feedback

during formative peer assessment might demand considerations of the assessed work, the assessment criteria, one's own capacity as an assessor, the teacher's expectations, and the social norms and relationships in the classroom.

The third aspect of agency that has different emphases in the literature is the requirement of transformation. Some researchers highlight the transformative nature of agency and define it as transcendence of established patterns (Kumpulainen et al., 2018; Matusov, 2011; for transformative agency see Sannino, 2015). Others suggest that exercising agency does not require bringing about a change (Biesta & Teddler, 2007); instead, adaptive behaviors, such as seeking help, self-regulating, and setting goals, are also forms of agency. From such a perspective, students never lack agency completely; rather, they can always exercise at least a minimal amount of agency via either compliance or resistance (Gresalfi et al., 2009). Furthermore, forms of agency cannot be categorized as good or bad. For example, resisting authorship (Matusov et al., 2016) is neither unambiguously right nor wrong but rather reflective of students' interpretations of tasks, environments, and their positions within those environments. Students can use either compliance or resistance as a means to achieve their goals. For example, by working hard and utilizing feedback, students can pursue learning or good grades; conversely, by rejecting feedback and purposefully underperforming, they can protect the ego from criticism or manage an overwhelming workload (Harris et al., 2018). In this study, we take the stance that transformative behavior is not the only way of exercising agency; rather, agency can also be seen in adaptive behavior.

17.1.3 Study Objective

In this study, we explored students' actions during formative peer assessment during science studies in a lower-secondary school. The objective was to advance understandings of students' agency during peer assessment. The research questions are set out below.

1. What forms of agency do students exercise during formative peer assessment?
2. How do students exercise agency in different positions that peer assessment offers them with respect to other students?

17.2 Method

17.2.1 Participants and Procedure

This study was carried out in a standard classroom in a typical lower-secondary school in Finland; most of the students were born in Finland, and there was a roughly equal share of boys and girls. As to participants, we selected four seventh grade students (mean age: 13 years). The criteria for selection were that
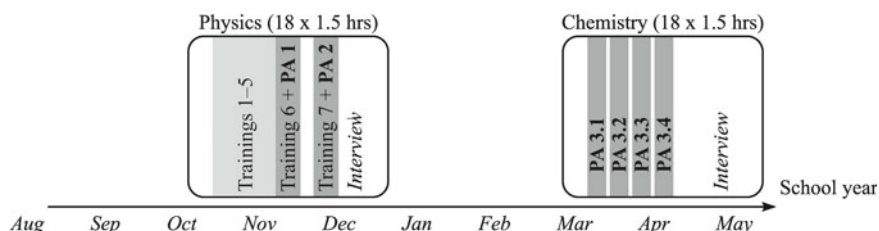
Fig. 17.1 Timeline of the training sessions, peer assessments (here abbreviated to "PA"), and interviews

they had participated in all the types of peer assessments and a majority of the peer assessment training sessions during the study and did not seem to struggle with motivation or have particular challenges with learning. All four students' attitudes toward science learning and peer assessment appeared positive. We made the choice to examine the role of agency when students were willing to participate in peer assessment. If a student struggled significantly with learning, the potential reasons for that disengagement or misbehavior were wide ranging and thus not only related to peer assessment. In this exploratory study, we sought to exclude such factors.

Two participants, Rachel and Maggie, worked in the same group of four students, while Lucas and Nathan in another group of four students. Students studied physics for half their fall semester and chemistry for half their spring semester (Fig. 17.1). These were their first physics and chemistry courses and were taught by a subject teacher. Students first received training in peer assessment and then performed assessment three different ways, twice in physics and four times in chemistry.

The training included class discussions and written tasks. Over six weeks, there were seven 10- to 45-min sessions, which are further described in Table 17.1 and in (Ketonen, 2021). The overarching message of the training sessions was that peer assessment was for learning. The assessors' goal was to help classmates progress, and the assessees' goals were to respect peers' assistance and use feedback if possible.

The peer assessments had different organizational forms and objectives, which are further explained in Table 17.2 and further in (Ketonen, 2021).

17.2.2 Research Design and Data

Since the goal of the study was to explore what happens in a classroom during peer assessment, a naturalistic study setting and a qualitative case study design were chosen. The data consisted of audio recordings of students' classroom discussions, written peer feedback, written work, student interviews, and the researcher's field notes. The first author observed the participants and made field notes during most of the 36 lessons of 1.5 h each. At the beginning of each lesson, she placed audio

Table 17.1 Peer assessment training activities

Type of task	Task	Goal
1. Individual reflection and class discussion	Understand the role of assessment at school	Understand and distinguish between different assessment aims
2. Individual reflection and class discussion	Understand what kind of assessments are helpful	Understand that (a) feedback is for learning and (b) the quality of feedback matters
3. Written task and class discussion	Create assessment criteria	Understand what constitutes good assessment criteria for inquiry tasks
4. Written task and class discussion	Assess the work of a fictional student using previously created assessment criteria	(a) Further understand what makes good assessment criteria and (b) practice comparing work to criteria
5. Self-assessment	Assess one's own inquiry task	Practice comparing work to criteria
6. Class discussion and PA1	Understand the qualities of good feedback and peer assessment principles	(a) Learn what kind of feedback is helpful for others, (b) understand that peer assessment is for helping each other move forward, and (c) practice peer assessment
7. Class discussion	Understand how to react to feedback	(a) Learn to evaluate feedback and (b) acquire strategies to deal with it

recorders on the tables of each student pair. The recorders captured students' conversations during the lessons. Students' written work included original and revised versions of their peer-assessed work and written peer feedback. All students were individually interviewed after PA2 and PA3. In semi-structured interviews that took from 6 to 11 min, their original work, revised work, and received feedback were used as bases for the conversations. An average interview followed the chronology of the peer assessment: it started with questions about the student's perception of their original work, turned to their consideration of the assessed work and the feedback they provided to others, continued to the feedback they had received, and the changes they were considering as a result of the peer assessment. If a student led the conversation to other topics, these were discussed, and this sometimes changed the order of the interview elements.

17.2.3 Analysis

The interviews and class discussions during peer assessments were transcribed, while written feedback and work were scanned, and each student's data were compiled in chronological order. Peer feedback sheets described what kind of feedback

**Table 17.2** The tasks and implementation of peer assessments

	Arrangement	Assessed task	Assessment criteria	After the peer assessment	Time used
PA1	Groups circulated through-out the class-room and assessed the other groups' plans	Technology project plan made by groups: planning and modeling a rover that moved on its own	Assessment criteria presented on a whiteboard. Feedback written on different color Post-it Notes	Groups were able to modify their plans right after the peer assessment and during the building of the rover	Task: 40 min Assessment: 30 min Revisions: 10 min
PA2	Each student assessed anonymously another's lab report (pairing planned by teacher and researcher)	Individually made inquiry report: defining the speed of a rover	Assessment criteria with a three-choice rubric and an opportunity to provide written comments for each criterion	Students had an opportunity to revise their report before returning it to the teacher for summative assessment	Task: 3 h Assessment: 45 min Revisions: 45 min
PA3.1 PA3.2 PA3.3 PA3.4	Working as "group members" in pairs or trios, students assessed each other's lab work	Chemistry inquiry conducted in pairs (four different inquiries and peer assessments, e.g., examining which substances dissolve in water)	Assessment criteria with a three-choice rubric and a requirement to provide at least one positive comment at the end	Students marked their agreement with the feedback by circling the most suitable of four options. The feedback sheets were returned to the teacher or the researcher	Task: 4 × 15–30 min Assessment: 4 × 2–10 min

students had provided and received, and their preliminary and final work provided information on how they went about their revisions. Students' conversations in their groups and working pairs provided additional information related to providing and using feedback. Students' written work, classroom discussions, and written feedback were used as primary data sources, and interviews and observations were

used to complement and explain the findings. The first researcher, who had taught at the school for some time, was responsible for the coding. She read the files carefully multiple times. Then she analyzed the data using a thematic analysis (Braun & Clarke, 2006). She marked data extracts containing information about students' agency during peer assessment and labelled them with descriptive codes. Gresalfi et al.'s (2009) description of agency was used to identify extracts relevant to our study purpose: "An individual's agency refers to the way in which he or she acts, or refrains from acting, and the way in which her or his action contributes to the joint action of the group in which he or she is participating" (p. 53). A unit of analysis was one student's data in one peer assessment in one role, for example, all of Student 1's data while they were an assessor during PA1. Since individual students' ways of participating in certain peer assessments were intertwined and partly explained each other, the researcher first coded all students' data from PA1 and proceeded chronologically through the remaining assessments.

After coding the whole data set, the researcher retrieved and examined data extracts and codes, developed preliminary categories of student forms of agency, and wrote descriptions for each. When developing the categories, she compared the codes to data extracts in each one to consider their internal consistency, and then she compared the categories with each other to examine their distinctiveness and coherence, which led to changes to the codes. After, she recoded the data set with new codes. To test, discuss, and develop the coding and to support the entire process, we used peer debriefing (Onwuegsbuzie & Leech, 2007). The second and third researchers, who were not involved in the field work, asked critical questions and explained their views of the first researcher's codes and categories. The iterative process of coding, comparing codes and categories, and revising them continued until it did not produce any changes. Then the researcher named the categories and wrote the final category descriptions. The categories' relationships were elaborated with a thematic map (Braun & Clarke, 2006). We noticed that the forms of agency were related to the positions of assessor, assessee, and group member (Fig. 17.2). Given that agency is a relational and context-dependent construct, this finding was significant. In the last phase, we examined individual students' ways of exercising agency in each of these three positions, thus answering research question 2.

Fig. 17.2 Students' ways of exercising agency as group members
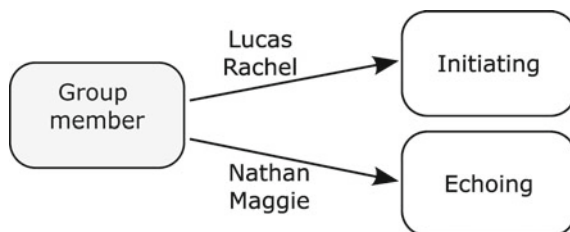
17.3   Results

In this study, we explored the forms of agency that students exercised during formative peer assessment in different positions with respect to other students. We found 12 forms of agency that related to three positions. These are presented in Table 17.3. As group members, students were on an equal footing with their peers; as assessors, they were in an advisory position; and as assessees, they were in receiving position. In some cases, students worked in several positions concurrently, such as when they acted as assessors in a group. The finding revealed that students conducting peer assessment act in various positions in relation to each other and the way their agency presents itself depends on that position.

In the following three sections, we introduce and compare the forms of agency within the position in which each form was exercised.

17.3.1 Exercising Agency as a Group Member

As group members, students exercised agency by initiating or echoing ideas. In their respective groups, Nathan and Maggie echoed others' ideas, while Lucas and Rachel were active in introducing original ideas, whether providing or receiving peer feedback (Fig. 17.2). Lucas and Rachel expressed their ideas without difficulty, whereas Nathan and Maggie hesitated to make suggestions even when they built on others' ideas.

The following example of initiating is from PA1, in which Rachel and Maggie, and their two other groupmates, Mia and Tara, assessed another group's work. The assessed task was a plan for a mobile rover that could be built with available resources (see Ketonen, 2021 for more information). Below, the exchange begins with the group's first comment on the other group's plan.[1]

1	Tara:	*(Quoting other group's plan)* "Rubber band, catapult …
2		tail end."
3	Rachel:	It does not say what [materials] they need there
		. *(Discussion unrelated to peer assessment and physics)*
14	Tara:	Once nothing else is needed,

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[1] Transcription notations are described immediately below.

( )   Description of context or nonverbal speech.
" "   Reading text.
—   Comment was interrupted.
…   Words were cut out.
[ ]   Clarifies the reference.

The line numbers are group specific and start from "1" after each transition (i.e., each change to new work [PA1] or a change in assessor and assessee [PA1, PA2]).

15		they can write what they need
16	Rachel:	Yeah, they can write there what they need,
17		and then they can draw it, like, from below—
18		the bottom
19		Like, from the bottom angle
20	Tara:	From the bottom
21	Maggie:	And from above,
22		not just from the side

Right after seeing the other group's plan, Rachel argued that they had not listed what material they would use to build their rover (2), and later, she proposed the need to draw the model from different angles (17, 19). At that point, she put forward two ideas that were echoed by other group members, thus practicing the initiating form of agency. Tara repeated Rachel's first (14) and second (20) ideas and Maggie elaborated on Rachel's second idea (21–22).

The difficulty of initiating new ideas became apparent when students assessed the next group's work. Rachel—the former initiator—was concentrating on another issue, and the other three group members were left with the job of providing feedback. First, they took considerable time comparing Maggie's handwriting to that of the assessees. When they turned to assessing, the conversation below took place.

37	Maggie:	There could have been… *(silence)*
38	Tara:	If …
39		nothing. *(Silence)*
40	Maggie:	This could have been better planned
41		Like, they could write what everyone brings or something
42	Mia:	But it's there
43	Maggie:	Right. *(Silence)*
44	Maggie:	This could have been drawn from several
45		different angles
46	Mia:	Yeah, right
47	Maggie:	How should I formulate it?
48	Mia:	Could you have done it from several angles?

The students tried to provide feedback, but they either did not come up with any ideas or did not feel comfortable expressing them (37–39). After a while, Maggie raised Rachel's previous idea of listing the required material (41). After Mia pointed out that the material were already listed (42), Maggie took a moment to rethink and suggested Rachel's other previous idea about drawing the rover from different angles (44, 45). This was accepted (46) and written on a Post-it Note. This excerpt demonstrates that even when assessors are willing to provide

**Table 17.3** The forms of agency and the positions in which they were exercised

Forms of agency	Role	Description
Initiating	Group member	This form entails participating in group discussions by introducing new ideas or opinions
Echoing	Group member	This form entails participating in group discussions by repeating or elaborating on other members' ideas or opinions but not presenting ones' own
Judging work	Assessor	This form entails analyzing other students' work and performance and providing feedback that contains criticism and/or suggestions for improvement (the provision of positive comments is not included in this form, as providing superficial, positive feedback is a common way of avoiding engagement as an assessor)
Avoiding criticism	Assessor	Avoiding criticism is a concealed form of agency, as it cannot be observed by looking only at what students do but at what they do not do. Engaging in assessment but repetitively providing only positive feedback is considered as the avoidance of criticism
Seeking help	Assessor and Assessee	This form entails seeking help with assessor or assessee tasks
Appraising feedback	Assessee	This form entails examining feedback in order to judge its quality or validity and appreciating one's own judgement
Rejecting feedback	Assessee	This form entails rejecting feedback after mentioning a reason for the rejection
Revising work	Assessee	This form entails revising one's own work after assessing others and receiving feedback. It shows engagement with the task, but it does not necessarily lead to an improvement of the work
Avoiding revision	Assessee	This form entails receiving critical feedback and, while not rejecting it (i.e., mentioning a reason for not following feedback), not revising the work

feedback, new ideas may not be put forward, which constitutes a lack of initiation. Having an initiator in a group supported others in assessing their peers.

17.3.2 Exercising Agency as an Assessor

As the previous section showed that initiating ideas was challenging to some students, one may wonder how they exercised agency, when they were supposed
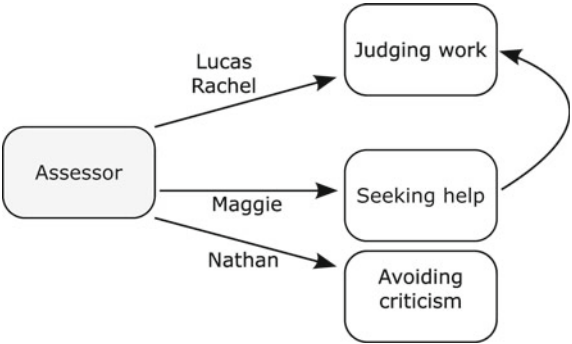
to work as individual assessors during PA2. Students' diverse ways of exercising agency are presented in Fig. 17.3. The assessed task was a lab report about determining the speed of the previously planned and built rover. The inquiry was conducted in groups, but the reports were individually written. Perhaps unsurprisingly, Rachel and Lucas—who, much like Rachel, had initiated ideas in his group—assessed their peers' work without difficulty. They concentrated on assessing for a moderate amount of time and provided both confirming and correcting comments.

Maggie, who had echoed others' ideas during PA1, accomplished the task by seeking help from peers and the teacher. At first, she spent time criticizing the assessee's handwriting. She interpreted handwriting with Tara, asked Rachel for help, and then asked the teacher for help. Since in our opinion, the handwriting looked rather clear, we interpreted her criticism of it as an excuse to avoid the task and seek help with assessing. The teacher came to Maggie, calmly read and discussed the work with her, and encouraged her to write down her thoughts. This helped Maggie complete half the criteria, after which she again criticized the handwriting and asked Rachel, the researcher, and the teacher for help. Maggie was persistent in her attempts to provide feedback, and after a considerable struggle, she provided one encouraging comment and one suggestion for improvement. Maggie's struggles became even more evident later, and this is depicted in the extract below, in which she was assessing her friend Tara's lab performance.

34	Maggie:	Tara, sorry, I can't mark
35		that you correctly used the burner
36	Tara:	But I did
37	Maggie:	You blew on it
38	Rachel:	Yes, you did *(laughs)*,
39		and you, like, blew it out
40	Tara:	I'm sorry, but my fingers almost burned
41	Rachel:	I wouldn't have *(indistinguishable)* shaken
42	Maggie:	"Your working was thoughtful and controlled."
43	Tara:	Really?
44	Rachel:	*(Laughs)*

45	Maggie:	I feel bad
46		*(Asks the teacher)* Can you mark two options
47		if it's in between?
48		Like, it seems that it's actually neither
49	Teacher:	Either/or, preferably
50	Maggie:	But I think these, like,
51		Tara did otherwise good,
52		but there was, like, one tiny thing

During the inquiry, Tara lit the gas burner and blew the match out in front of it, blowing the burner out as well. The gas kept leaking out, spreading its distinctive smell across the classroom, and this caused minor chaos. When assessing Tara's work, Maggie, quite justifiably, commented that she could not rate Tara's burner use as "excellent" but only "good" (34, 35). Notable is that even though the assessment was formative, Maggie felt uncomfortable rating Tara as "good," and in addition to explaining her decision to her (34–35, 37) and being supported by Rachel (38–39), she asked the teacher for help. For Maggie, providing criticism was laborious, but she was persistent, and with other's support, she managed to do it. It was evident that Maggie did not lack the attitude (she strove to give a solid judgement) or skills (she knew that Tara's performance was less than excellent) but rather the agency to put her knowledge into action. By seeking second and third opinions, she gained agency that enabled her to provide feedback she considered justified.

Nathan was Lucas' group member and had echoed his ideas during PA1. Nathan seemed to struggle with providing feedback too, but his solution was the opposite of Maggie's. Assessing the lab report took Nathan a substantial amount of time. On the recording, the sound of Nathan writing and erasing can be heard long after Lucas was done. He wound up marking each criterion with the best option ("Everything is ok") and provided only one written comment: "What you needed was clearly explained." It is possible that Nathan did not notice any of the several shortcomings in the lab report, but this seems unlikely, as providing trivial feedback took him such a long time. We suggest that Nathan noticed some problems and spent time thinking about how to react to them. During the year of practicing peer assessment, Nathan consistently avoided criticizing others' work and independently gave only the highest marks and compliments. During PA3, when pairs assessed each other's lab work, Lucas even corrected Nathan several times for providing him with feedback that was too positive. Apparently, providing criticism was not a satisfactory option for Nathan. Unlike Maggie, he did not seek help with assessing but kept on providing overly positive feedback.

17.4 Exercising Agency as an Assessee

Students had diverse ways of exercising agency as assessees; these are presented in Fig. 17.4 and followed by examples.

Lucas, who initiated constructive ideas during PA1, was a rapid reviser. After receiving feedback about his lab report (PA2), he read the feedback, quickly judged it, rejected part of its useful aspects, and made small-scale improvements to his lab report. Rachel, who also initiated ideas during PA1, operated in a similar way, but she was more careful and did not reject useful feedback. It seemed that both Lucas and Rachel experienced both providing and receiving feedback as appropriate and uncomplicated.

Nathan, who echoed ideas during PA1, appeared generally open to feedback and committed to using it for improvement. In PA2 (revising own lab report), Nathan's immediate reaction after receiving the feedback was to ask the teacher's opinion: "Teacher! Should I revise this?" He waited until the teacher came to see him. Nathan wanted to know whether the feedback was valid, which the teacher confirmed. They discussed the issue for a considerable amount of time, and after, Nathan revised his work independently, managing to improve it.

Maggie, who also echoed ideas during PA1, took the opposite approach to a similar situation. In the excerpt below, she reacts to corrective feedback.

35	Maggie:	Look, I made a few mistakes in the text
36		It doesn't matter. Small mistakes
37	Tara:	What mistakes do you mean?
38	Maggie:	That hypothesis was about the distance,
39		not speed
40		I guessed the distance here
41		and not the speed,
42		how fast it moved
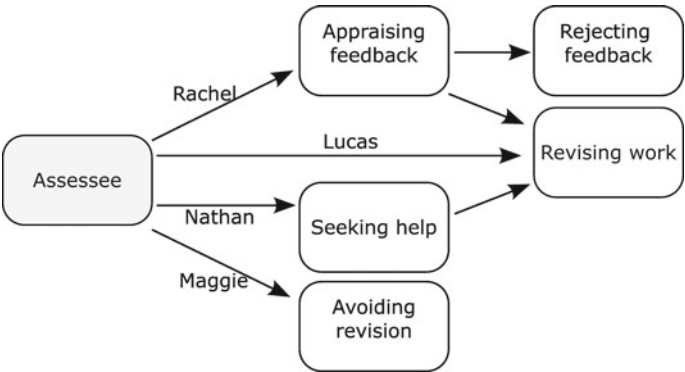
Fig. 17.4 Students' ways of exercising agency as assessees

43	Tara:	Yeah
44	Maggie:	But it does not matter
45		I'm surprised that I was this good

The feedback Maggie received—"the hypotheses was about distance, not speed"—could have been used to improve her work. She could have changed her hypotheses, or comment the mistake in her revisions. Maggie affirmed that she had made a mistake (35) but characterized it as a small one (36) that did not matter (36, 44) and instead concentrated on her general performance (45). She bypassed the criticism by congratulating herself, did not return to the topic, and did not revise her work. One could construe that she was unresponsive, but her explanation in an interview suggested otherwise.

Researcher:	Okay, okay. Were you motivated to make revisions since you considered that [work] was not so super, not quite superlative?
Maggie:	It has always been really hard for me to accomplish something *(indistinguishable)* because I always think that I'm stupid and if I do something, it always seems bad. So it's hard to begin to improve

Maggie said that a lack of confidence in her own abilities held her back from making revisions. Under the surface of congratulating herself, she was uncertain of her skills. It appears that she did not have the agency to undertake her revisions.

17.5 Discussion

This study explored students' actions during formative peer assessment and contributed to the literature by enhancing awareness of their agency during the exercise. We identified nine forms of agency (initiating, echoing, judging work, avoiding criticism, seeking help, appraising feedback, rejecting feedback, revising work, avoiding revision) in three roles that peer assessment provided (group member, assessor, assessee).

Closer investigation of students' interaction revealed that peer assessment challenged the students unevenly. Throughout each assessment, Lucas and Rachel practiced the agencies of initiating, judging work, and appraising feedback without difficulty, while Nathan and Maggie exercised those agencies only when they received support. When working in groups, Nathan and Maggie participated only by echoing other students' suggestions. When acting individually as an assessor, Nathan consistently avoided criticizing others by providing only positive feedback. Maggie was persistent in her aspiration to provide valid critical feedback, but she needed help to do so. By asking support from other students and the teacher, she gained the agency of judging other students' work. As an individual assessee, Nathan needed help appraising feedback before he revised his work, whereas Maggie did not seek help and refrained from revising her work. The findings show that

even all students were placed in the same classroom, undertaking the same task of assessing their peers, their challenges were unequal. We explain this by referring to the notions that experience builds agency (Emirbayer & Mische, 1998) and that students' previous actions create expectations for their participation (Gresalfi et al., 2009). For students who generally initiate ideas, are active, and advise others, the assessor role is more familiar and their feedback more likely to be accepted by classmates. For them, peer assessment is a straightforward task. For others, assessing may require acting outside their accustomed role.

The operationalization of peer assessment, especially whether it was conducted individually or in groups, influenced the social suggestions that were available for students (Billett, 2006) and thereby the agencies that students exercised. When assessing and receiving feedback in a group (PA1), the agencies of initiating and echoing were practiced. Working in a group allowed struggling students to receive subtle support when assessing and receiving feedback, as they were able to echo other students' initiatives. Individual peer assessments (PA2, PA3) forced students to be responsible for themselves, which created the need to ask for and offer help and caused some students to avoid the task.

The findings are highly significant for the practice of peer assessment. The requirement of agency sheds light on the effects of students' individual attributes on peer assessment, which is thus far an unexplored area (Panadero, 2016), and it addresses the need to ensure appropriate support for students' agency when they are requested to exit their comfort zones as assessors and assessees. With an understanding of the requirements of agency, teachers can be better equipped to provide support. They can listen to, confirm, and endorse students' thoughts, guide them to discuss the issue with their friends, or open the subject to a classroom discussion. The finding also highlights the need to be careful with the use of unsupported individual peer assessment, since it can be highly stressful for students who struggle with their agency. Moreover, if teachers are not aware of the requirement of agency, they may misinterpret students' misbehavior or underperformance as stemming from a lack of skills or a negative attitude. If teachers respond by assisting students in the accomplishment of their peer assessment tasks instead of strengthening their agency, they can weaken that agency by indicating students are not capable of acting as assessors and assessees on their own.

The finding about the requirement of agency has implications for peer assessment training. Peer assessment provides a platform for students to exercise agency in assessment and learning by guiding them to act in various, and potentially new positions in relation to other students. Hence, peer assessment can advance democracy in the classroom not just between teachers and students (Gielen et al., 2010) but also by sharing among everyone the responsibility to help others. However, helping others, especially in the form of criticizing and advising, cannot be taken for granted. Nineteenth century German pedagogue Froebel (1887) argued that "the purpose of teaching and instruction is to bring ever more *out* of man rather than to put more and more *into* him" (p. 279, emphasis in the original). The quote applies to students' agency by describing a new aspect of peer assessment training. We agree with the necessity of providing students with knowledge, such as

understanding the qualities of constructive feedback (Tasker & Herrenkohl, 2016), skills, such as judging received feedback (Carless & Boud, 2018), and attitudes, such as their sense of responsibility when assessing (Panadero, 2016). However, students' agency also needs to be encouraged. As agency is seen as an interplay between an individual and their environment, training requires investing not just in individuals but also in their relationships and the culture of the classroom. We consider this a significant area for future research: how does peer assessment assist in transcending the classroom's fixed patterns and strengthening students' agency?

Technology can support the development of student agency (Marín et al., 2020). Technological environments are commonly used in peer assessment (see Fu et al., 2019). They are convenient for sharing work, matching students for peer assessment, and providing feedback, and they allow students to assess each other either anonymously or by name. The findings of this study suggest that the organization of peer assessment should be examined from the perspective of agency, which also concerns technological environments. First, how do different kinds of technological environments support students' agency? Anonymity may provide students different kinds of social suggestions, a new role in which to operate, and hence a lower threshold at which to participate actively. Interaction has been suggested as an element that deepens the learning process of peer assessment, while anonymity is a feature that diminishes that interaction (Panadero, 2016). Technology allows students to interact anonymously, and the pros and cons of such arrangements for students' agency are worth examination. Important aspect to consider is that students' agency must be supported in technological environments, one way or another. Students should not be left alone with their devices but be allowed to interact with each other and the teacher and to seek help during peer assessment. Technological environments can be interactive and allow students to seek help (e.g. Tasker & Herrenkohl, 2017). We consider the diverse ways of supporting students' agency during peer assessment—both face to face and online—to be an important topic for future research.

This was a case study of four students, two of whom appeared to struggle with their agency during peer assessment, whereas the other two did not. The finding was consistent throughout all types of peer assessment during the school year. The merit of our study is that it introduces and demonstrates the requirement of agency during peer assessment. However, by selecting students who did not have apparent cognitive or motivational challenges, we have dealt with only part of the spectrum of forms of agency during peer assessment, and further research about the topic is needed. For example, what role does students' social position in class play alongside their subject skills or confidence in mastering them, and what kinds of environments support students' agency? Potentially, different types of challenges with agency require different types of support.

Our study showed that the concept of agency is useful in unveiling and explaining peer assessment's underlying dynamics. Awareness of how students' agency plays a role in peer assessment is significant to educators and researchers. Students' reluctance or inability to help their peers or accept help do not necessarily

stem from a lack of knowledge, skills, or attitude but can be suggestive of their difficulties in exercising agency.

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