Needs-based Feedback? – The Role of Students in (Digital) Feedback Processes in Higher Education

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Abstract *Feedback processes are central to learning but not every feedback process is equally beneficial. Even though there is a growing number of criteria catalogs for "good feedback", these reach their limits in practice. One of the reasons for this is that there are many different understandings of feedback and that very different goals can be pursued with feedback processes. We might hypothesize that the characterization of good feedback is closely linked to the understanding and goal of feedback. This paper is based on an understanding of feedback that places the student at the center. Accordingly, the goal of the feedback process is to support students in their learning and professionalization processes. Based on an interactional-constructivist understanding of learning, it is argued that students should take a central – active – role in feedback processes and that feedback can only be successful if students are open for feedback and not only understand and comprehend it but are also willing and able to transfer it to future situations and to change their learning behavior. Starting from this hypothesis, a model of feedback communication processes is presented, which foregrounds the role of students in feedback processes from a constructivist view. These theoretical assumptions are contrasted with the results of a questionnaire study conducted in 2021, which analyzed the role students play in feedback processes from their own perspective. The comparison of theory and practice shows that students still see themselves primarily in a passive role in feedback processes. Implications are given for how feedback practices need to change. In addition, limitations and research perspectives are pointed out.*

Keywords *feedback; higher education; constructivism; student needs; student role*

1. Introduction

Feedback processes are central to learning. Many studies demonstrate the positive impact of feedback on learning, performance, and learner motivation (Bauer & Knauf, 2018; Boud, 2000; Hattie, 2009, pp. 173–178; Jurs & Spehte, 2021). Furthermore, feedback is seen as a central factor in fostering student autonomy and self-directed learning (Nicol, 2013, p. 34; Nicol & Macfarlane-Dick, 2006, p. 199). But feedback can also have negative

effects on learning and performance (e.g. Kluger & DeNisi, 1996) and is not always perceived as positive and helpful by students (e.g. Carless, 2006; Sadler, 2010). For this reason, it is not surprising that the question "What is good feedback?" plays a central role in the (higher education) didactic discussion. Numerous criteria are mentioned in the research literature (see e.g. Brück-Hübner, 2023; Henderson et al., 2019; Howard, 1987). Price et al. (2010, p. 287) state in this regard that feedback is a very complex process that is influenced by numerous factors. And even if all the criteria for good feedback are met, this is no guarantee that feedback will lead to the desired success (see, e.g., Brück-Hübner, 2023).

In view of the diversity of feedback and practice in the research literature, it is not surprising that criteria catalogs are of limited use. Feedback is a very complex concept and thus feedback practices can differ in multiple ways. Every feedback situation is unique and made up of numerous factors (see chapter 4 by Schluer in this volume). For this reason, it seems almost impossible to develop criteria that apply equally to all feedback situations (see e.g. Brück-Hübner & Schluer, 2023; Schluer & Brück-Hübner, 2024). One key element, where feedback situations may differ, is the goal that is pursued by the feedback process. When lecturers give feedback to students, they often aim to support learning processes and thus make a positive contribution to the students' professionalization. Apart from that, feedback processes can also have other goals, such as providing a reason and explanation for how a specific grade came about. Depending on the goal pursued, the requirements placed on a feedback process may differ. As a result, the question as to when feedback can be considered "successful" is linked to the definition as well as to the objectives of the feedback process.

When talking about "feedback", it is therefore important to specify which understanding it is based on and which goal is being pursued with it. This article is explicitly limited to the feedback processes that aim to initiate learning processes on the part of students and which support their professionalization processes. In this sense, feedback is understood as a (reciprocal) communication process about learning (process and/or product) between a lecturer and a student that refers to competencies and skills and aims at the professionalization of the students. Feedback processes can therefore be considered successful if they have a positive effect on the students, in the sense that they support learning processes and their professionalization.

This article argues that when considering feedback as part of learning processes, learning theories can help to find indicators of "successful" feedback processes. Referring to constructivist learning theory, the main aim of this article is to take a closer look at the role of learners in feedback processes and to critically contrast the "desired" and "actual" conditions in contrasting theory and practice.

This chapter analyzes criteria for successful feedback processes based on the theory of "Interactive Constructivism". Using this framework, a four-phase model of feedback processes is developed, in which the role of students in feedback processes is elaborated. Subsequently, the results of an empirical study analyzing students' self-perceptions of their role in feedback processes are presented and discussed in relation to the theoretical considerations. From this, implications for practice are derived. The paper concludes with a brief summary and outlook after discussing the study's limitations and providing suggestions for further research.

2. Interactive Constructivism and Feedback

Today, a variety of learning theories exist. In recent decades, the constructivist view of teaching and learning has gained in importance. There is a plurality of constructivist perspectives in the discussion of educational science, which have been shaped by numerous lines of discussion (e.g., cybernetics, systems theory, pragmatism, neurobiology, sociology, psychology, culturalism) (Hug, 2011, p. 467; Reich, 2007, pp. 8–9). One theory that has had a significant impact on the constructivist discussion in Germany in recent years is Kersten Reich's "interactive constructivism", which brings together numerous theories from philosophy, psychology, communication theory and education (for further information see e.g., Reich, 2007, 2010). The special characteristic of Reich's constructivist theory is its emphasis on the cultural imprint of interaction processes – and thus of communication and construction processes. Reich (2007, pp. 8, 11) notes that the demands of a changing, dynamic, pluralistic, and post-traditional world in which we live today are different from those of earlier times. Therefore, it is also important today to reflect on the broader cultural conditions and contexts of learning.

According to Reich (2007, p. 23; 2010, pp. 119–122), learning is the subjective construction of reality and takes place in an interplay between processes of construction (subjective construction of reality), reconstruction (cultural reproduction), and deconstruction (critical perspectives on omissions in versions of reality). He also emphasizes that knowledge, in the constructivist sense, cannot simply be transferred from one person to another. Rather, it requires the negotiation of meaning as well as social conditioning structures. In addition, knowledge is understood as a viable subjective construction that is directly related to previous knowledge and experience and thus cannot claim absolute validity. As a result, knowledge cannot simply be transferred from one person to another: Learning is an activity of the learner ("learning by doing"), which always takes place in a (culturally shaped) context. Consequently, learning and teaching processes must be designed in such a way that they support the freedom and participation of learners and take individual (social and cultural) conditions into account. However, learning is not only an individual process, but also a social process. Teachers should not only be supportive, but also consider (social and cultural) differences and reflect on culture, visions and expectations. Furthermore, Reich emphasizes that it is an illusion to assume that there is such a thing as "complete understanding" in the context of communication processes. Communication partners must therefore accept and reflect on the limits of mutual understanding (Reich, 2007, p. 21).

These basic assumptions can also be found in the discussion of feedback in higher education. Here, there has been a shift from feedback transmission to a greater focus on the students' role in the feedback process. Although much of the research still assigns a rather limited role to students, there is a growing body of research highlighting the centrality of the learner in feedback processes (e.g. Carless, 2022; van der Kleij et al., 2019, p. 319). Feedback is no longer seen as something that is delivered to students; instead, students are seen as active and co-constructing feedback partners. Consequently, feedback processes are conceptualized dialogically with the aim of constructing shared understandings and supporting students' active engagement with feedback. While students have been described as active agents and feedback seekers who are also invited to criticize,

deconstruct, or reject feedback, lecturers are regarded as designers of supportive feedback environments and as supporters who train students in giving and using (received) feedback (van der Kleij et al., 2019, pp. 317–319).

Such a perspective on feedback processes is consistent with constructivist learning theories. If feedback is to promote change and learning, it must be understood as a co-constructive process of communication and negotiation. Even if there is no such thing as "full understanding", it is important to build common constructions together. However, constructivism particularly emphasizes the active role of the learner in feedback processes. As mentioned above, learning is an activity of the learner and can be facilitated and supported by others, but there is no causality between learning and instruction/feedback. Applied to feedback processes, this means that success or failure depends largely on the person seeking and receiving the feedback. In addition to active participation in the communication process, students need to engage in internal processing. They need to process external information into "internal feedback" because only when the personal meaning is recognized can change processes be initiated (Carless, 2020; Nicol, 2019).

The following three hypotheses can be derived from the previous remarks:

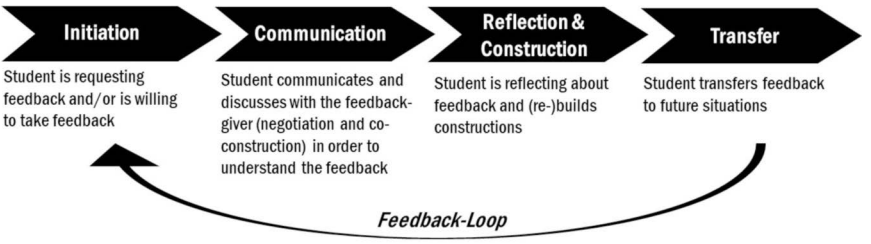
(1) If a student does not want to learn (from the feedback giver), and therefore is not interested in receiving feedback, the feedback process will inevitably come to nothing.
(2) Feedback must be exchanged in such a way that the latter understands its meaning as intended. This requires processes of co-construction and negotiation (= communication).
(3) If feedback is to bring about change, then it requires appropriate cognitive reconstructions, new constructions, or even the discarding of knowledge, beliefs or strategies that are considered "good" (deconstruction) on the part of the student. Such changes are an essential prerequisite for achieving behavioral change and putting feedback into practice (transfer).

These remarks emphasize the importance of the student in feedback processes and underscore the argument that feedback is successful only if the student understands and comprehends it (reconstruction), is also willing and able to transfer it to future situations and to adjust his or her learning.

3. Four Phases of Feedback Processes

When we look at feedback processes with constructivism in our mind, we can see that there are different phases in feedback processes: (1) the initiation phase, (2) the communication phase, (3) the phase of reflection and construction, and (4) the transfer phase (see Figure 1).

Figure 1: The Four Phases of Feedback Processes (Own Illustration)



In the *initiation phase*, the first question is who or what initiates the feedback process. According to constructivism, ideally it should be the learner. If the instructor initiates the feedback process, it is crucial that the student is willing to engage in the feedback process.

The *communication phase* is where the feedback process itself takes place. Through mutual exchange and negotiation processes, it is important to ensure that the student understands and can reconstruct the feedback.

In the *phase of reflection and construction*, students must reflect on the feedback and actively integrate it with their prior knowledge through re-, de- and new constructions. This is a prerequisite for drawing real consequences from the feedback process and putting them into practice.

Finally, in the *transfer phase*, students need to take action and transfer the conclusions drawn from the feedback processes into practice. This requires situations that are similar to the situation to which the feedback was related. Ideally, feedback should take place in a loop (Carless, 2019). This means that the feedback process starts again based on the transfer situation.

This four-phase model describes the presumably ideal path of feedback processes that has been derived from the theoretical foundations in section 2. Feedback is understood here as a process that requires an active student role in all four phases. Of course, it must be kept in mind that the model is based on numerous propositions and needs further empirical verification. At the same time, however, it provides a good basis for analyzing current feedback practices with respect to the role of students in feedback processes.

4. The Student Survey – Research Questions, Methods and Sample

4.1. Research Questions and Objectives

The research project "Digital Feedback in Higher Education", carried out at Justus Liebig University Giessen in Germany from 2022 to 2023, investigated the opportunities, challenges and limitations of digital feedback processes in higher education from the perspective of students. By means of an online survey, it was examined how feedback was enacted during the digital (Corona) semesters, and what was perceived as good and bad digital feedback. The analysis will lead to a discussion of the consequences that can be

drawn from this for the future design of digital feedback cultures in higher education. The article focuses on the question of what role students ascribe to themselves as well as to the lecturers in feedback processes, and what needs to be changed.

4.2. Methods

A partially standardized questionnaire was designed and used for data collection. In addition to selected closed questions, special emphasis was placed on the integration of open questions in order to capture the different feedback practices and experiences as diversely as possible.

The closed questions were analyzed using descriptive-statistical methods. The qualitative data were analyzed using qualitative content analysis (adapted from Gläser & Laudel, 2010; Kuckartz, 2016). The formation of the main categories was initially deductive, based on the principles of interactive constructivism (see section 2) and the assumptions about the different phases of feedback processes (see section 3). In addition, an inductive extension of the material took place. In a second step, subcategories were formed on the material itself. Finally, the entire material was coded on the basis of the (sub)category system. A text passage was counted as a coding unit if its content related to one of the main thematic categories and if it was self-contained (sense unit). A single student comment could consist of several different coding units. Thus, if a text passage addressed multiple themes, it was assigned to multiple major categories. Irrelevant passages were not coded (Kuckartz, 2016, pp. 41, 102–104). Finally, the influence of individual characteristics was quantified by means of a descriptive-statistical evaluation.

4.3. Sample

The survey was distributed to students at universities or universities of applied sciences who had studied predominantly digitally for at least one semester (Corona semester). In addition to a circular email sent via a mailing list at the Justus Liebig University Giessen, letters were sent to student councils at other universities and universities of applied sciences, advertisements were placed on social media, and specific requests were made to university lecturers in the researcher's own network. From April to May 2022, 385 students participated in the survey, with a total of 204 (53%) questionnaires having been completed.

65.6% of the participants were students of the Justus-Liebig-University Giessen, 4% were students of the Philipps-University Marburg and the rest were spread over 41 other universities. In total, 90.6% of the participants were enrolled at universities and 9.4% at universities of applied sciences.

The distribution of students by subject was as follows: Education (36.6%), Psychology (17%), Economics (12.4%), Natural Sciences (11.9%), Medicine (8.8%), Cultural Studies (6.2%), Law (3.1%), Social Sciences (2.1%), and Engineering (1.5%).

5. Results

This section summarizes the key findings of the empirical study by focusing on the analysis of the students' views on learner and lecturer roles during the phases of feedback initiation and feedback communication (see section 3).

5.1. Attitudes of Students towards Feedback and Feedback Initiation

Based on a constructivist understanding of feedback processes, the fundamental willingness of students to receive and engage with feedback is essential. But what does the student survey data show us about student attitudes toward feedback?

The results of the responses to the closed questions (see Table 1) show that with 73%, the majority of students find lecturer feedback important. Only 17% of the student's state that they are not interested in lecturer feedback. 71% of students say feedback helps them improve their learning. With 54%, slightly more than half of students would like more feedback from their instructors. In contrast, only 19% of students state that they actively ask lecturers for feedback.

Table 1: Attitudes of Students Towards Feedback and Feedback Initiation (N=284)

To what extent do you agree with the following statements?	Agree	Rather agree	Partly agree	Rather not agree	Not agree
Lecturer feedback is important to me.	36 %	37%	20%	7%	1%
I am not interested in feedback from lecturers.	7%	10%	13%	22%	48%
Lecturer feedback helps me to improve my learning.	38%	33%	20%	7%	1%
I would like to get more feedback from lecturers.	26%	28%	30%	8%	8%
I actively seek feedback from my instructors (e.g., by voluntarily signing up for office hours).	6%	13%	25%	34%	21%

But what do students' responses to the open questions tell us about the initiation phase of feedback, as well as the role students assign to themselves? Students were asked to describe one feedback situation they found particularly positive and one they found particularly negative. Only 25% of the 181 positive and 168 negative feedback situations described by the students allowed to draw conclusions about who initiated the feedback process. Nevertheless, the analysis revealed five different variants of feedback initiation:

(1) Students expect lecturers to give feedback, but do not receive any.

Situations in which lecturers were expected to give feedback (even without explicit request) were experienced as negative by 21 students (12.5% of negative feedback situations), e.g.:

> "It was especially negative whenever there was almost no feedback, or when I would have had to actively seek feedback."[1] (S397, Description of a negative feedback experience).

(2) Lecturers give feedback without request.

Regarding the question about particularly positive feedback experiences, 28 students (15.5% of positive feedback situations) explicitly reported about situations in which they received feedback from the lecturer unexpectedly, e.g.:

> "After submitting a term paper […], I received very helpful feedback by mail unexpectedly […]." (S257, Description of a positive feedback experience)

Apart from those 28 students who perceived unexpectedly received feedback as positive, there were two students (1% of positive feedback situations) who mentioned that they liked feedback via mail because by that they can decide on their own whether they read it or not, e.g.:

> "[I like] Email [feedback] – because you can read the feedback on your own or not" (S86, Description of a positive feedback experience)

This example is supporting the claim that feedback can only result in a change when the student is willing to take it.

(3) Students request feedback but get no response.

Nine students (5.4% of negative feedback situations) reported negative feedback experiences in which they actively requested feedback from instructors but received no response, e.g.:

> "[…] I had many questions, I wanted to seek the conversation with my lecturer. I contacted him several times by mail, as this was the only way I could get it from him. However, he did not respond to these mails at all and did not help me […]." (S125, Description of a negative feedback experience)

1 All student quotes were originally written in German and translated into English by the author.

(4) Students request feedback and get a less useful feedback response.

Nine students (5.4% of negative feedback situations), in describing a negative feedback process, reported that they had asked for feedback and received a response, but that the response was not helpful (for a variety of reasons), e.g.:

> "It was negative for me when I had to email multiple times to get a single evasive response to questions." (S158, Description of negative feedback experience)

(5) Students request feedback and get a useful feedback response.

Overall, 20 students (11% of positive feedback situations) reported positively about receiving useful and helpful answers to feedback requests from their lecturers, e.g.:

> "I got a quick response from a lecturer. I asked him about an idea, and he even gave me suggestions for improvement." (S13, Description of a positive feedback experience)

The analysis shows that these five different forms of feedback initiation are all directly related to a positive or negative evaluation on the part of the students. While students evaluate it positively when they receive feedback unexpectedly from instructors and when they receive helpful responses to requested feedback, they report negatively when instructors do not give feedback by their own initiative, when students receive no response or an unhelpful response to their active request for feedback. A look at the frequency of each feedback initiator group, lecturers (56%) and students (44%), shows that these were relatively evenly distributed in the coded responses. Based on these data, it could be concluded that feedback initiation is relatively equally distributed between students and faculty in practice. However, since students were only allowed to pick one particularly positive and negative situation each, this quantitative number can by no means be considered as representative of the real distribution of feedback initiators, especially because only 25% of the overall answers of students allowed an explicit conclusion about the person who initiated the feedback.

5.1. Feedback Communication and Understanding

Based on a constructivist understanding, successful feedback processes require that (reciprocal) communication processes take place: Discussions, negotiation processes, co-constructions and the effort for mutual understanding are central so that the feedback recipients understand the feedback as intended by the feedback sender. But how important is communication and mutual understanding in feedback processes for students?

37% of the students (rather) agreed to the statement "It is important to me to explain my personal point of view to the lecturer in the context of feedback discussions", while 36% agreed only partially. For 27% of the students, it is (rather) not important to bring in their own point of view into feedback processes.

An analysis of the description of the feedback processes perceived positively by the students shows that 32% of the students described situations in which they were given the chance to ask their own questions (e.g., "I wrote an email with two questions and the lecturer offered me a personal meeting via video conference." (S145)). In addition, 29% of the students mentioned that they perceived dialogical and personal exchanges as positive – especially when media were used through which they could also see the lecturer (8%) (e.g., "I perceived this feedback process as positive, because you could talk directly with the lecturer (and at the same time also saw each other)" (S209)). 8% also assessed it as positive when they had the chance to describe their own perspective (e.g., "we could also actively participate in the conversation and say if something bothered us" (S39). Overall, therefore, about one third of the students described situations in which they took at least a partially active role (see Table 2).

Table 2: Analysis of the Positive and Negative Feedback Situations Described by Students Related to Student and Lecturer Roles (N= 111[2])

Positive Feedback Experience	**Negative Feedback Experience**
Student Role	
Chance to ask questions (32%)	Asking questions is not desired/possible (6%)
Explain own perspective (8%)	Get suppressed / No chance to clarify misunderstandings (7%)
Chance of self-evaluation (2%)	
Student and Lecturer Roles	
Dialogical/ Personal exchange (29%)	No feedback (41%)
"Can see each other" (8%)	"Not seeing each other" (2%)
Informal exchange (3%)	No personal exchange (6%)
	Have technical issues (2%)
Lecturer Role	
Give elaborated/ detailed feedback (32%)	Give standardized/ vague feedback (19%)
Praise students; name strengths (26%)	Give no elaborated/ detailed feedback (14%)
Give a quick response (response time) (20%)	Give not reasonable and traceable feedback (10%)
Give specific suggestions for improvement (tips) (17%)	Give no specific suggestions for improvement (tips) (6%)
Take time (16%)	No immediacy of communication (long response time) (6%)

2 Only those comments were counted that involved any information related to the student and lecturer role.

Positive Feedback Experience	Negative Feedback Experience
Appreciate students/ Do a conversation at "eye level" (16%)	Give feedback in a public setting (5%)
Give reasonable and traceable feedback (13%)	Give feedback that is hard to understand (4%)
Give formative / frequent feedback (10%)	Give spontaneous feedback (without preparation) (1%)
Give accurate / individual feedback (10%)	
Give suggestions for thought/ help for self-help (3%)	

When looking at the descriptions that contained information about the lecturer role in positive feedback situations, we note that there are many content-related criteria the students adduce, such as "give elaborated/detailed feedback" (32%) and "give specific suggestions for improvement" (20%) (e.g. "I had a super nice, detailed conversation with the lecturer. He explained to me what went wrong and how I could do it better." (S118)) or "give reasonable and traceable feedback" (13%) (e.g. "[…] feedback directly on assignments […] helped me a lot to be able to see directly what was not yet so good and what was. In an email it is always very general, but here you could see it concretely." (S172)) (see Table 2). These criteria suggest a need of those students to receive feedback that they understand and from which they can derive consequences for action.

The description of the student and lecturer roles in the context of the feedback processes perceived as negative are content-wise consistent with the roles derived from the positive feedback situations. However, the category "give and receive no feedback" needs to be added, which was named by a total of 45 students.

Overall, quantitative as well as qualitative data suggest that approximately only one third of the students see themselves in an active role during feedback processes. However, a discussion of the feedback as well as associated processes of co-construction and negotiation seem to be of minor importance for the majority of students.

5.2. Summary

The quantitative findings related to the feedback initiation phase suggest that a large proportion of students are interested in feedback, but at the same time it can also be concluded that students played a primarily passive role in the initiation phase. The qualitative results illustrate that many students expect to receive feedback from their lecturers and consider it negative if this does not happen.

On the other hand, there are students who do not expect any feedback at all but are happy to receive it. In addition, the reports by students who received no or no helpful response to a specific feedback request show that feedback requests from students are not always answered (in a needs-oriented manner) by the lecturers. This refers to the communication process that immediately follows the initiation phase. In that regard, quantitative as well as qualitative data suggest that approximately only one third of the students

see themselves in an active role during the feedback communication processes – mainly in being able to ask their own questions. However, active discussion of the feedback and related processes of co-construction and negotiation seem to be of minor importance for most students.

6. Discussion of the Results and Implications for Feedback Practice

Based on interactive constructivism, activity plays a central role in feedback processes. While the initiation phase is about students being open to feedback or, in the best case, even specifically asking for it, the communication phase is primarily about ensuring that the feedback content has been understood and also accepted – especially in the case of different perspectives. These processes of co-construction and negotiation are central for the following steps of individual reflection and construction as well as for transfer. However, the present study reveals a gap between theory and practice: A large part of the students see themselves in a rather passive role in the context of feedback processes.

These findings are not surprising, as the shift from a more instructor-centered to a student-centered perspective of feedback has only been discussed more extensively in recent years (see section 2). It is no secret that learning cultures – and thus also feedback cultures – have evolved in long-established practices and are very slow to change. A change of feedback cultures requires a rethinking of the actors involved – lecturers and students – as well as their capacity and willingness of changing their roles. For this to be implemented, lecturers as well as students need appropriate training, support and guidance. There is a need for the development of shared teacher and student feedback literacy (Brück-Hübner, 2020, pp. 25–39; Carless, 2020, pp. 150–151; Winstone & Carless, 2020).

Another element that the present study illustrates is that there are different ideas on the part of the students as to what constitutes "good" feedback and what goal is pursued with it (see section 7). The wishes and needs expressed by the students regarding feedback processes differ. With reference to interactive constructivism, it can be assumed that feedback processes are only productive and successful if students recognize their added value for themselves and perceive it as positive, i.e. feedback should be needs-oriented. This importance of the needs-orientation of feedback has also become clear in the context of the study, in that the possibility of being allowed to ask questions (and thus also to express one's own needs) was mentioned most frequently by the students. However, needs-based feedback also means that feedback should only be given when it meets a student's need. Otherwise, it can be assumed that the feedback will not be heard anyway and will thus turn out to be redundant. This is also evidenced by some student statements, e.g., in the statements referring to the possibility of simply not reading feedback (see section 5.1). However, lecturers could only learn about students' needs if they openly communicate with them about them. Again, this emphasizes the need for student activity – especially in the initiation phase itself.

At the same time, the study showed that unsolicited lecturer feedback can also have positive effects on students and their learning. Some students described positive feedback situations in which they experienced unexpected lecturer feedback as constructive and, above all, motivating. On the other hand, there are also students who complained

about a lack of feedback or feedback on demand only. Regarding the latter, it can be assumed that some students might find it difficult to actively ask for feedback out of personal reasons (e.g., being shy or afraid). It can be deduced from this that the exclusive reduction of feedback to student-initiated processes is therefore not the optimal solution neither. However, even if lecturers actively reach out to students to provide feedback, students should not only be given the opportunity, but more importantly, be encouraged to express their needs during the feedback process. And furthermore, the feedback processes – depending on the needs of the students – should also be designed differently, individually adapted to the student (see Boud & Molloy, 2013, pp. 205–206).

The latter is also supported by the study data, as standardized and non-personalized feedback is the second most frequently described characteristic of feedback situations that are perceived as negative by students (19%). From the lens of interactive constructivism, it is also important to take cultural differences into account, even if this was not specifically named by students in the collected data (see Paul et al., 2013).

For students to be able to express their needs openly, however, there also needs to be an appropriate climate for discussion. 16% of the reported feedback situations included aspects related to the way of communication (e.g., the appreciation of each other, communication at eye level). Communication in this way plays a central role in the role change and the accompanying change in hierarchical relationships in the context of feedback processes. Especially in view of the subjectivity of feedback processes – which interactive constructivism again strongly emphasizes – such negotiation processes are essential. It is important for lecturers to recognize that they can only provide their subjective viewpoint and that learners are experts for their own learning processes, with potentially different viewpoints and opinions.

7. Limitations and Ideas for Further Research

The study focused primarily on the various forms of digital feedback during the Corona pandemic. Even though the survey questions did not explicitly ask students to specify a date in their reports, it can be assumed that most students primarily referred to experiences gained during the digital semesters, as the survey took place in 2022. Clearly, the results cannot simply be transferred to feedback experiences and situations in face-to-face semesters, so their significance and transferability is limited.

Also, the study is only based on self-reports by students. Price et al. (2010, p. 286) emphasize that it is very easy for students to assess the service of giving feedback (e.g., frequency, amount, availability, etc.). However, it becomes much more difficult when it comes to assessing the long-term impact of feedback processes on students' learning. Moreover, the understanding of good feedback may well differ between different groups of students and lecturers (Esterhazy et al., 2020). Especially regarding their role perceptions, a comparison with the experiences and views of lecturers would certainly be profitable and could contribute to a validation of the conclusions drawn from the analyses. To complement this, an empirical investigation of the communication processes themselves (e.g., through interactional analysis (Ajjawi & Boud, 2017)) could also provide

further insights into current feedback practices and could help to better understand the roles within feedback processes.

Furthermore, it is important to mention that this study concentrated on students' perspectives regarding the initiation and communication phases of feedback processes. The other phases were not included. Here, too, further research is needed to shed more light on the particularities and also the interrelationships of the various phases.

With regard to the survey design, the questionnaire study contained qualitative as well as quantitative parts. While the sample size was comparatively large for a qualitative study, the quantitative sample was rather small, so the results might not be representative. Due to the explorative nature of the research, however, this is of minor importance. Based on the results, a standardized and more comprehensive questionnaire could be developed.

The results of the qualitative analysis also bear limitations. On the one hand, the students were asked to describe only one situation that they found particularly positive and one that they found particularly negative. The evaluation and selection of the respective situations cannot be considered as representative, since it only expresses the students' personal feelings about the feedback situations that came into their mind when they completed the survey.

Individual ideas about what exactly the respective students understand by "good" feedback also play a central role. Students' reports of positive and negative feedback experiences make it clear that feedback can pursue very different goals. It is not always about promoting learning and competence development in the long term and thus contributing to professionalization. In many cases, feedback was also directly linked to performance evaluation issues. Thus, (formative) feedback partly served to ensure that work could be adjusted according to the expectations of the lecturer so that this would result in a better grade, e.g.:

> "Before the presentation, we sent the presentation to the lecturer, who then gave us feedback in a video call so that we could adjust these points before giving the presentation. This was very helpful to understand which topics were particularly important to her." (S149, Description of a positive feedback experience)

Other feedback was also used to better understand the grade given or to better assess one's own level of performance, e.g.:

> "In Greek, my lecturer corrected the homework I handed in and thus pointed out my mistakes as well as praised my good submissions. This helped me to better assess my level of performance." (S168, Description of a positive feedback experience)

As a result, different understandings of feedback become apparent. These range from the justification of a grade to corrections to the support of professionalization processes. This result is also consistent with the findings of recent reviews in which different understandings of feedback and student roles were discussed (e.g. Brück-Hübner & Schluer, 2023; Schluer & Brück-Hübner, 2024; van der Kleij et al., 2019). It is therefore always a question of what exactly is intended with feedback. The explanations about construc-

tivism foreground an understanding of feedback that aims at long-term learning and competence development in the sense of professionalization processes. Possible other forms of feedback might be better suited to increase the motivation of the learners or to improve (end-)products. However, these differences were not considered in the analysis and further research is needed.

8. Conclusion and Outlook

The theory of interactive constructivism helps us to think about feedback processes in a more student-centered way and at the same time illustrates the importance of students' active participation in feedback processes if they are to lead to long-term learning growth and competence development. The study presented in this article provides initial indications that students currently still tend to take an overly passive role (e.g. van der Kleij et al., 2019; Brück-Hübner & Schluer, 2023). It can be concluded that we need to rethink feedback processes: On the one hand, feedback would need to be more detached from the context of performance assessment, and on the other hand, students would need to be more encouraged to participate actively, e.g. by asking for feedback and discussing it with their instructors. Communication and negotiation processes are essential, especially when students' opinions differ from those of the instructors. However, this goes hand in hand with a changed understanding of roles and hierarchies and therefore requires above all a willingness on the part of lecturers to talk to students at eye level and to be open to other perspectives (see also Tai et al., 2023, p. 210). Likewise, it presupposes willingness on the part of students to be more actively involved in feedback processes.

Although research has focused on a more active student role in recent years, more work is needed in this area. In particular, conclusions derived from studies, such as the one presented in this article, need to be translated into pedagogical concepts and tested in practice, e.g. in the form of implementation studies. In addition to the changed roles and the associated challenges, the impact of new feedback cultures on students' long-term learning should be investigated.

Given the importance of feedback for learning and workload considerations by instructors (and students), it is important to use feedback processes as efficiently and purposefully as possible while minimizing feedback processes that do not serve to achieve their goals or that end up going nowhere. For this reason, the needs of the learner should be the starting point for any feedback process.

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