Different ways of giving meaningful feedback

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Feedback is recognized as an effective tool for learning (Hattie and Timperley, 2007; Phillips and Johnson, 2022). It plays a key role in academic supervisorstudent relationships with the purpose of "enabl[ing] [students] to appreciate standards" of conducting research, "improv[ing] their skills" in both methods and writing, "deepen[ing] their understanding" of the project and context, and giving them "a sense of achievement in what they have accomplished" (Taylor et al., 2019). In a broader sense, feedback is information given on the performance of a student used as the basis for improvements. In this work, I briefly discuss what makes feedback in supervisor-student relationships meaningful and review different ways of feedback. In this context, I discuss, in particular, supervision scenarios in which there are multiple supervisors responsible for a graduate student.

Goodwin and Miller (2012) summarize in the title of their article that "Good Feedback Is Targeted, Specific, Timely". Students often criticize feedback "lacking specific advice on how to improve" (Carless et al., 2010). They may be lost when given too many remarks having to identify the essential points on their own, or find it frustrating when they have to wait too long for feedback on a submitted work (Taylor et al., 2019, p.134). Feedback is crucial to motivate students to continue with their research (Odena and Burgess, 2015), and negative feedback can severely erode the confidence of the student (Lee and Kamler, 2008) hampering progress and innovation. Therefore, feedback should also be constructive and positive (Taylor et al., 2019, p.137).

A key component of the process of successful feedback is making sure that both supervisor and student understand the feedback in the same way and agree on (some of) the conclusions and derived plans for moving forward (Taylor et al., 2019, p.136-37). Feedback can be viewed as a sustained dialogue (Carless et al., 2010) and evaluating previous feedback sessions in the next feedback session can help ensure that students respond to feedback (Taylor et al., 2019, p.138). Whether feedback is successful with respect to its purpose strongly depends on the way feedback is given.

Writing is not only a major aspect of academic scholarship: it helps to articulate thoughts, reflect upon own ideas, and present ideas to others (Taylor et al., 2019, p.128). Therefore, feedback is most often given on the basis of a written document submitted by the student. Taylor et al. (2019) outline components of a successful oral feedback session with pre-submitted

text. They argue that oral feedback should focus on "the salient points [...] as opposed to relatively minor ones" whereas minor points may often be sufficiently addressed by written comments. Most importantly, feedback in all forms should encourage students and praise success and credit where this is due.

The optimal way of giving feedback is dependent on personal preferences as has to be negotiated between the supervisor and the student which might have conflicting preferences. Ways of giving feedback may be distinguished by the type of performance the feedback is given on (written plan/report/presentation/code, social behavior in the work environment, oral presentation), by form (oral or written¹), by the level of detail (essential research concepts or spelling mistakes), by setting (formal or informal), by visibility (private and confidential or public and open), or by the number of participants (one-to-one or group).

Some personal preferences of supervisors and students may be incompatible. Dysthe et al. (2006) remark that under a single supervisor, students depend on a single person which may lead to imbalance issues between authority and independence. It can therefore be beneficial to involve multiple supervisors. In situations with multiple supervisors, one-to-one meetings can be complemented by group meetings. However, multiple supervisors may have conflicting opinions among each other. To avoid additional time spent on communication, a clear structure and responsibilities have to be set for group meetings. Dysthe et al. (2006) present a case study on multi-voiced supervision in which they combined student group sessions without supervisors, group sessions with multiple supervisors and students, and one-to-one individual supervision sessions. They find that group supervision is most suited for "enculturation into the thinking and discourse of the discipline" and that one-to-one supervision "provides the necessary quality assurance".

In the following, I will present and reflect on three situations from personal experience and discuss them in the light of (Dysthe et al., 2006) and the mentioned characteristics of meaningful feedback. The situations have in common that I (S1) shared the supervision of a Master's student with another supervisor (S2).

Situation 1. In a feedback session, S1, S2, and the

¹Feedback also can be given consciously or unconsciously by non-verbal communication (e.g. smiling, gesticulation, situational behavior). However, such modes are unsuited to delivering specific, unambiguous feedback. A detailed discussion is omitted.

student discuss the research plan submitted by the student. S2 disagrees with a method suggested by the student and S1. A longer discussion develops about the possible choices for methods in which mainly the two supervisors participate.

One of the key benefits of multi-voiced supervision is that the student is exposed to different views and the discussion culture and typical arguments and methods in the research field. This widens the student's perspective, can provide context and deeper understanding, and may unveil follow-up research questions. However, the supervisors have to involve the student to assure that the student understands and follows intellectually. Most importantly, the session should end with a clear action plan with a proposed time schedule. To resolve dead-locked situations, it may be important that one supervisor is assigned the role of the main supervisor. To provide evidence in case of a future dispute, it is advisable to document the feedback session and its conclusions in written form.

Situation 2. In a meeting in S2's office, S1, S2, and the student step together over the program code submitted by the student. The student fails to follow simple instructions on the spot on what code to type to correct the faulty program.

The unequal setting in S2's office, with a two-to-one ratio of supervisors to students, and the detailed inspection of the student's work in an oral session, creates a situation in which the student is intimidated. Such situations also create a high threshold for sharing own ideas. Detailed feedback is better delivered in written form with subsequent time for the student to reflect on the comments. In an oral feedback session, the focus should be shifted to discussing the most prominent aspects vital for the development of the student and the project, and the feedback should be constructive (provide reasons and context rather than simply telling the student what to change). Finally, multi-voiced feedback seems to be the wrong choice altogether for this feedback session with the goal of quality assurance (programming as a methodological tool used for the research project).

Situation 3. In a one-to-one meeting, the student asks S1 a technical question about writing. S1 recommends the common practice in the field. In an informal talk among supervisors, S1 and S2 discover that the same question and answer had already come up in an earlier meeting between S2 and the student.

In a setting with two supervisors, it might be unclear to the student which supervisor has which competencies and responsibilities. S2 might have failed to assure that the student understands the initial feedback. On the other hand, the supervisors may have failed to coordinate feedback and avoid giving feedback on the same text. The situation may have

been avoided by setting clear responsibilities and rules for supervision. For example, S1 gives feedback on written submissions with a focus on quality assurance, while discussions involving S2 focus on brainstorming and the development of new ideas to continue the project after certain milestones have been reached.

In conclusion, feedback involving multiple supervisors can help increase the quality of a project and widen the perspective of students. In a flexible setting, a student may have the chance to mainly seek feedback from the supervisor with the best matching personal preferences. Multi-voiced feedback may come at the cost of additional time and effort for communication and can lead to situations where feedback is contradictory if the process of giving feedback is not well-structured and based on formal and mutually agreed upon rules. Multi-voiced feedback sessions in a group setting cannot replace one-to-one feedback sessions which are better suited for specific, targeted feedback. One-to-one feedback in both oral and written form is better suited for feedback with the main goal of quality assurance.

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