

# **Introducing the “Green Sheet” on the course “Toxicology and Drug Safety”**

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## **Background**

In the dynamic landscape of education, effective feedback is a cornerstone of student learning and development (Rienecker et al., 2015). Recognizing the value of formative feedback, this project introduces a valuable tool known as the "Green Sheet" or feedback log (Ellegaard et al., 2018). Here, we examine a format for facilitating formative feedback which consists of written dialogues between feedback-giver and receivers. This tool can serve as a structured means for students to actively engage with the feedback process, fostering a deeper understanding of their work and promoting continuous improvement. Formative feedback is an efficient way of stimulating and enhancing student learning (Black, 2015; Dolin et al., 2018; Rienecker et al., 2015; Shute, 2008).

My teaching is on the course "Toxicology and Drug Safety" which is part of the MSc Programme in Pharmacy or Pharmaceutical Sciences and an elective course of the MSc Programme in Medicinal Chemistry and MSc Programme in Pharmaceutical Sciences. The course is structured with lectures, theoretical exercises, and a written assignment. For the assignment, students can choose one case from a selection of 4 or 5 cases. The lectures are based on textbooks, lecture notes, and scientific papers, with the topics of the cases aligning with the lecture topics. The written assignment consists of two levels and is performed in groups of 3-4 students. In level 1, the group works on the case, producing a 5-page

document. Afterwards, there is a one-hour peer review/supervision meeting with the case teacher. While students cannot change anything in level 1, they should apply the feedback received to level 2, which is another 5-page section of the case. There is approximately 4 weeks between deadline of level 1 and 2. The purpose of the assignment is to train students in collecting and evaluating peer-reviewed scientific data related to drug toxicology and safety, as well as performing a benefit-risk evaluation. The results are reported as a case report.

I have been one of the case teachers in 2021 and 2022. In those years my experience was that my feed-back was not always very structured and I was missing a tool to make sure that I covered all the aspects of the feed-back. I also experienced a great variety between the groups on how well prepared they were for the feed-back session. Therefore, I thought it would be beneficial and relevant for the students and me to have a Green Sheet so the students have written down prior to the feedback session what they would like me to focus on. Further, they should write down if they have used my feed-back and how they have used it for level 2 of the case. Or if they haven't used it and why. By delineating the areas of focus in advance, students guide instructors to provide targeted and relevant feedback. The intention is that the feedback should align with individual student needs, contributing to a more personalized and impactful learning experience. The Green Sheet can foster a sense of accountability among students. As they document how they have incorporated previous feedback into subsequent assignments, they actively participate in their own academic growth, demonstrating a commitment to continuous improvement.

The purpose of the study was to introduce the Green Sheet to enhance student reflection, encourage targeted feedback, and promote accountability. Further, for me as a teacher the purpose also to give a tool to ensure that I have covered all aspects of feedback to the assignment.

## **Intervention**

The Green Sheet used for this intervention was taken from (Ellegaard et al., 2018) and modified with some sub-categories (Appendix 1). It is a

way of formalizing the space for reflection and decision-making in a table in which the teacher writes their feedback in one column, the student records their reflections in another column, and later, in a third column, notes the decisions made in response to implementing the feedback. The sheet serves as an ongoing overview of feedback and reflections (Ellegaard et al., 2018)

## Results

**Pre-submission:** Before submitting the assignment, all 9 groups (each group consisted of 3-4 students) completed the Green Sheet by identifying specific elements they would like me to focus on during the supervision meeting. This process empowers students to take ownership of their learning goals and to seek guidance in areas they find challenging.

**Feedback:** I filled out the second column with feedback. Trying to be as specific as possible e.g. this is good because....or this could be improved by ....because..... I emailed the Green Sheet to the students before our one hour supervision meeting so they had time to think about if we should focus on special parts of it.

**Supervision meeting:** At the 9 supervision meetings, we used the Green Sheet as a structured template. I asked all the groups if we should focus on special parts of it, but all groups answered that they would like to go through it from the top. It was a great help for me to have a template for the supervision meetings to ensure I remembered everything and we were aligned. Focusing on the points that the students have written and my own points.

**Post-feedback Reflection:** After receiving feedback, students revisit the green sheet to document the insights gained during the supervision meeting. This reflection includes a summary of key feedback received, areas where the feedback was implemented, and an exploration of any challenges or differing perspectives.

## Evaluation

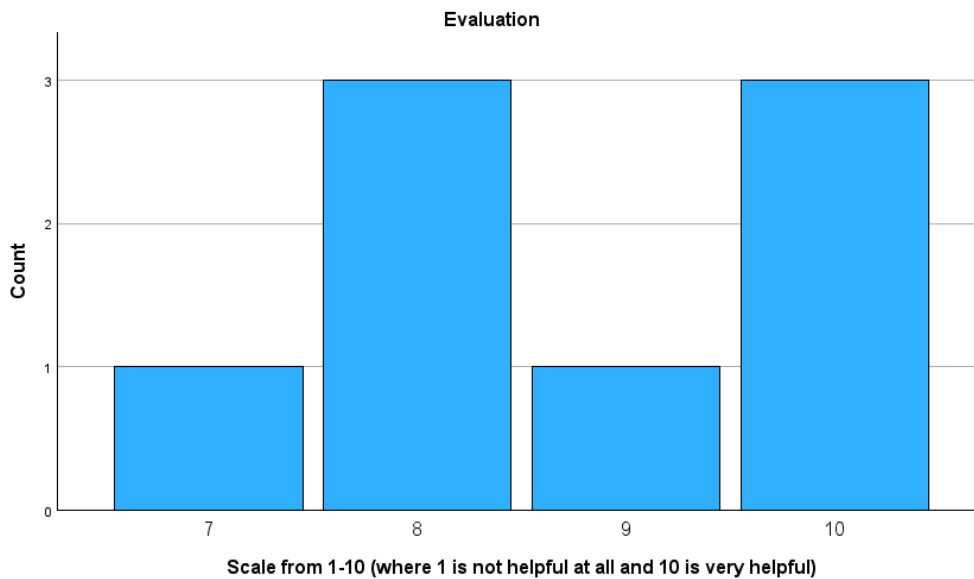
Eight out of nine groups completed the online questionnaire with the following questions:

- Was the green sheet helpful on a scale from 1-10 (where 1 is not helpful at all and 10 is very helpful)?

How was the green sheet helpful/not helpful?

- Suggestions for improvement of the green sheet?

The results on the evaluation based on the 1-10 scale are shown in Fig. 1. One group graded 7, three groups 8, one group 9, and three groups 10. No groups graded below 7, resulting in a median of 9.



**Fig. 1.** Results from evaluation of the Green Sheet.

The comments from the students on how the Green Sheet was helpful/not helpful were the following:

“It was very helpful to obtain an overview of different parts of the assignment that we needed to focus on. Furthermore, it was very

helpful for this type of setup where the assignment consists of two levels.”

“The green sheet was a very good tool to use as we got more involved in what our supervisor to focus on when correcting our assignment. “

“This evaluation form was really good. It allows the group to reflect on what they would like feedback on during the different points. It's great that it was divided into subpoints (content, references, layout, language, etc.), which makes it easy to navigate. While working on the assignment, questions often arise about whether the way one is writing the assignment is correct, and the form is really helpful because you can write it down and get feedback on it later.”

“We got feedback from the level 1 questions and avoided those mistakes in the level 2 questions. Additionally, we could adhere more to relevant content and academic writing style. “

“The green sheet was a very good tool to use as we got more involved in what our supervisor to focus on when correcting our assignment.”

“It was helpful as the different parts of the sheet invited you to reflect upon what has been written in the assignment/case. Furthermore, it was nice to use as a conversation sheet when we had the feedback meeting.”

“The green sheet was helpful as it had different topics that we could get feedback on. I also think it was great that we could let you know what areas we especially wanted feedback on instead of only receiving a general feedback.”

“We think the green sheet was a great tool.”

The following comments on improvements were received:

“A minor improvement could be adding a box called "other", where the students can provide areas that they would like feedback on that doesn't fit in any of the boxes.”

“A suggestion could be to change the layout format to landscape, that way there is a little more space for writing and it might create a better overview. Another suggestion might be to include a box at the end of the sheet, where the groups can take notes when for the feedback you provide.”

## **Discussion**

Before I started teaching on this course, formative feedback was already part of the course because it is an efficient tool to stimulate and direct student learning (Rienecker et al., 2015), and thus helps students reach the intended learning outcomes of the course. Introducing the Green Sheet made the process of formative feedback a continuous improvement loop. When reflecting on the students' evaluation and my own experience, I believe it was a success to introduce the Green Sheet to the case work on the course "Toxicology and Drug Safety." At the supervision meeting, many of the groups said that they preferred this type of feedback between teacher and students compared to the student peer review process. Several students said that they had mainly bad experiences with student peer review. It is well-known that there is a difference in how skilled (or diligent) students are at providing feedback to each other, and some students may therefore feel that they have put more effort into it than others (Mathews, n.d.). The Green Sheet empowers students to actively engage with the feedback process, promoting self-awareness, and providing them with a structured tool to drive their own academic development. Teachers benefit from the Green Sheet as it streamlines communication and ensures that feedback is aligned with student expectations. This efficiency allows for more effective use of instructional time during supervision meetings. I will introduce the Green Sheet to the other case teachers on the course and hopefully, next year it will be part of the Toxicology and Drug Safety Course.

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## Appendix 1: Feedback sheet for Skin Cancer Drug Case 2023

	<b>The Groups actions (I)</b> This field is for the group. Please fill out and include it as an editable word document when you hand in level 1 of the case so we can use it at our supervision meeting in <b>week 41 or 43</b> .  Here the group should reflect on what they would like to have feedback on. A good idea is to look back on previous assignments and forward to the next assignments:	<b>Feedback (II) Catharina</b> This field is for the teacher  The feedback will relate to the content of the report, but will focus on those aspects that are central to the aims of the course	<b>The Groups reactions (III)</b> This field is for the group. Please fill out and hand in together with level 2 of the case. Here the group describes how they have reacted to and used the feedback. The aim of this is to reflect on <i>what is good feedback</i> and for the teacher to adjust the form of his/her feedback.
<b>Formalia</b> (Pages, references, group no, figure and table legends)			
<b>Layout and overview</b> (Easy to follow lay-out, easy to find all answers, link throughout the case Balance between figures and tables)			



<p><b>Content</b>                  (All the questions answered, documented by literature references, amount spend on each question sufficient, knowledge from several articles and condense it)</p>			
<p><b>Literature</b>                  (Literature relevant, newer literature, redundant literature. Articles, reviews, and guidelines or homepages and “newspaper” articles)</p>			
<p><b>Language</b>                  Concise, well-augmented discussions, repetitions, level customized to the reader                  Appropriate use of technical terms</p>			