

# The role of student workshops in creating instruments for students – The example of the Teachers' Feedback Practice Questionnaire

Peng Diya<sup>1</sup>; Fejes József Balázs<sup>2</sup>; Vigh Tibor<sup>2</sup>

<sup>1</sup>Doctoral School of Education, University of Szeged, Szeged, Hungary;

<sup>2</sup>Institute of Education, University of Szeged, Szeged, Hungary

## ABSTRACT

The aim of our research is to develop a self-report student questionnaire about teachers' feedback related to motivation to learn. The Teachers' Feedback Practice Questionnaire is based on Hattie and Timperley's (2007) feedback model and Koenka and Anderman's (2019) principles regarding the motivational impact of teacher feedback. It includes seven subscales: task-focused, specific, self-referenced, self-regulation, normative feedback, feedback for next steps, and feedback about personal aspects. The development process consists of four stages: creating initial items, conducting student workshops, expert validation, and pilot study with students. This paper focuses on student workshops to highlight the benefits of involving students in the development process. The research questions of the workshops explored the alignment of the questionnaire's feedback types with students' perceived and reported classroom experiences; assessed to what extent students interpreted the questionnaire items relating to the feedback types in accordance with the researchers' intentions; and determined the appropriateness of the language of the student questionnaire. It was found that the self-regulation feedback subscale was not entirely consistent with students' reported experiences; therefore it was removed. Findings revealed that some students tended to conflate task-focused feedback with specific feedback. To address this, we implemented targeted item-wording revisions to enhance the conceptual clarity between these two subscales. Our results confirm that involving students in the questionnaire development process can contribute the cognitive and ecological validity of a new instrument as well as to the clarity of the wording of items.

## KEYWORDS

*feedback practice, self-report student questionnaire, questionnaire development, ecological validity, cognitive validity*

## INTRODUCTION

According to achievement goal theory, one of the predominant frameworks for examining learning motivation (Urdu & Kaplan, 2020), feedback has a crucial role in students' motivation to learn (Ames, 1992). However, the number of empirical studies that focus on the mechanisms of this relationship is relatively low. One of the barriers to exploring this link is the lack of appropriate instruments that measure how teachers provide feedback to create a favorable motivational climate. This research aimed to design a new self-report student questionnaire about teachers' feedback practices to address this research gap. A distinctive feature of this research was to prioritize students' viewpoints and experiences to gain a deep insight into the characteristics of teacher feedback, which may have an important role in the classroom's motivational climate.

In addition, students' perspectives seemed to be essential to ensure the ecological and cognitive validity of the questionnaire; therefore, they were involved in the questionnaire development process, which consisted of four phases: (1) the creation of initial items; (2) workshops with students; (3) expert validation; and (4) a pilot study with students. This paper focuses on the student workshops. To strengthen the generalizability of the instrument, Chinese and Hungarian students participated in two workshops.

### BACKGROUND OF THE INSTRUMENT

To develop a new instrument which assesses teachers' feedback related to students' motivation to learn, we integrated Hattie and Timperley's (2007) model of feedback and Koenka and Anderman's (2019) summary of research

focusing on the relationships between feedback and motivation.

Hattie and Timperley's (2007) model is one of the most widely used frameworks for research on teachers' feedback (Lipnevich & Panadero, 2021). The model outlines a hierarchical structure of feedback, focusing on task, process, self-regulation strategies, and self. It emphasizes the importance of task-focused feedback, and underscores specificity and clarity in pinpointing areas of improvement while discouraging normative comparisons among peers.

Koenka and Anderman's (2019) literature review offers feedback strategies for instructional practice that are effective for enhancing motivation. The main features of teachers' feedback that strengthen students' motivation are specific, task-focused, and self-referenced feedback, which also supports students in identifying the next steps for their continued improvement. Normative feedback and personalized feedback about the person should be avoided.

### DEFINITION OF FEEDBACK TYPES

Our proposed subscales synthesize the model of Hattie and Timperley (2007) and the principles provided by Koenka and Anderman (2019). This synthesis ensures a comprehensive approach to feedback which aligns with the nuances of different feedback models and student motivation. In the development of our scale structure, the following types of feedback were identified and integrated:

*Task-focused feedback: This is a teacher's straightforward evaluation of the learner's assignment or answer, marking it as either correct or incorrect without an in-depth explanation. This type of feedback reflects an*

*approach orientation when it is used to confirm the correctness of an assignment, while it suggests an avoidance orientation when it points out how it is incorrect.*

*Specific feedback: These are detailed and precise comments provided by the teacher to clarify why a learner's solution or answer is correct or incorrect. When feedback involves methods or strategies that should be employed, it exhibits an approach orientation, whereas it leans towards avoidance when highlighting errors or pitfalls to be overcome.*

*Self-referenced feedback: With this type of feedback, the teacher provides performance information that contrasts the learner's current performance with their previous achievement. It reflects an approach orientation when the feedback underscores improvement or adherence to past benchmarks and an avoidance orientation when it accentuates regression or deviation from previous standards.*

*Feedback for identifying next steps: This type of feedback consists of teacher recommendations to the learner for continued improvement.*

*Self-regulation feedback: This type of feedback refers to the support offered by the educator in helping the learner assess, monitor, direct, and regulate their own learning process, as well as encouraging them to invest effort into seeking and dealing with feedback information.*

*Feedback about the person: This type of feedback involves teacher's comments directed towards the learner's personal characteristics rather than towards their performance or task completion process.*

*Normative feedback: With this type of feedback, the teacher conveys data on how the learner's performance stacks up against their peers' performance. When feedback points out that the learner's performance aligns with or surpasses peer standards, it suggests an approach orientation. Conversely, when it indicates that the learner is lagging behind or deviating from peer standards, it points to an avoidance orientation.*

#### BENEFITS OF INVOLVING STUDENTS

Incorporating students' perspectives into the development of questionnaires offers significant benefits, notably in enhancing both ecological and cognitive validity. Ecological validity refers to the applicability of research findings in real-life situations (Neuliep, 2017). This type of validity is bolstered when students share their genuine experiences, thereby ensuring that the research tools are relevant and reflective of actual educational contexts. Cognitive validity, according to Lüftenegger et al. (2019), involves ensuring that students interpret the survey items as the researchers intended. To improve cognitive validity, cognitive methodologies such as think-aloud tasks, focus group interviews, probing, paraphrasing, and cognitive pretesting can be used to understand and address potential threats to validity (Karabenick et al., 2007; Koskey et al., 2010). These methods allow researchers to delve deeper into how students interpret survey items, and provide clarity on what different responses mean. Involving students ensures that the items accurately capture their perspectives and experiences. Levine et al. (2002) further illustrated the effectiveness of student focus groups in the design of questionnaires. Their work, along with that of Morgan

(1997) and Presser and Blair (1994), show that discussions among students may provide rich and insightful information for the development of an instrument. Such information is essential for creating research tools that are not only academically robust but also resonate with the student population. Woolley et al. (2004) emphasize the importance of understanding the perspectives and responses of younger respondents. This understanding is crucial for the reliability and authenticity of research findings, especially in educational settings where student feedback and perceptions can significantly influence outcomes.

Empirical studies have highlighted the significant advantages of student involvement in questionnaire development in educational research. Lüftenegger et al. (2019) engaged 16–18-year-old high school students in collaborative workshops with researchers to develop Likert-type scale items for assessing students' achievement goals. This process focused on creating items that were ecologically valid and reflective of the language and perspectives of secondary school students. The early involvement of students was found to greatly enhance the instruments' applicability and relevance, demonstrating that student participation is crucial for creating effective and meaningful research tools. Koskey et al. (2010) adopted a different approach by examining the cognitive validity of scales used in achievement goal theory. They used cognitive interview techniques to evaluate the appropriateness of specific goal structure scales. They emphasized the importance of ensuring that students understand the items as intended by the researchers. Their approach underlines the need to align questionnaire content with the cognitive abilities and understanding of the target student population, ensuring that the items are interpreted correctly. Ouimet et al. (2004) employed a multifaceted approach to enhance the validity of a college student survey.

Their strategy included utilizing student focus groups, cognitive interviews, and expert survey design advice. The primary aim was to understand student interpretations of survey items, assess the clarity and specificity of the items, and determine if they accurately represented students' behaviors and perceptions. Data were gathered from focus groups, enabling the researchers to gain in-depth insights into how students perceived various survey items. This comprehensive method, which combined qualitative insights from students with expert input, significantly contributed to the survey's validity, and ensured that it accurately captured the experiences and viewpoints of the college student population.

#### RESEARCH AIMS AND QUESTIONS

The aim of the present study was to strengthen the ecological and cognitive validity as well as the language appropriateness of the Teacher Feedback Questionnaire before a pilot study. Our research questions were the following:

- (1) Do the feedback types covered in the questionnaire align with students' perceived and reported classroom experiences?
- (2) To what extent did students interpret the questionnaire items relating to the feedback types in line with the researchers' intentions?
- (3) Was the language of the items appropriate for the students?

## MATERIALS AND METHODS

### PARTICIPANTS OF THE WORKSHOPS

Two workshops were organized by the authors of this study, one in-person for Hungarian students and one online for Chinese students. A total of eight students participated in the workshops: five from Hungary; studying in grades 9–12; and three from China; studying in grades 10–11.

### GOALS OF THE WORKSHOPS

The workshops had three main aims. First, to assess the relevance and clarity of the subscales, items, and their interrelationships; second, to identify any wording that might be misleading or need to be modified to improve the ecological and cognitive validity of the scale; and third, to gain insight into how students from different cultural backgrounds understand and interpret the items and to identify any cultural differences that might affect their understanding of the items.

### INSTRUMENT

The three authors of this study independently created a list of potential items from the initial pool of 189 items. 18 items were chosen for discussion in the workshops, as shown in Table 1. The selection criteria included representativeness of the subscale's definition, diversity in

item wording, and potential for eliciting meaningful student responses. Subscale names and descriptions, along with some items, were modified for clarity and linguistic appropriateness in Hungarian and Chinese contexts.

### STRUCTURE OF THE WORKSHOPS

The workshop unfolded in three phases. These phases aimed to support the three research questions.

To check the ecological validity of the questionnaire, students' own experiences were investigated. This involved an introduction, icebreakers, and a discussion of feedback types. At the beginning of the workshop, the researchers introduced themselves, explained the goals of the research, and described how the collected data were handled. Student participation was voluntary, anonymity was granted, and data were collected for research purposes only. During the icebreaker session, the researchers gave prompts for the students to be able to share their experiences about receiving feedback. They were asked to define the meaning of feedback for themselves and to mention situations in which they usually receive feedback from their teachers. During an open discussion, students exchanged their views and personal experiences, and grouped the feedback situations according to their perceived motivational effects. To discuss different feedback types, researchers introduced the feedback types to students and encouraged them to share their own examples. This interactive approach helped students grasp the concept of different feedback types more clearly.

To investigate the cognitive validity of the questionnaire, the workshop involved a practical task of matching items to the different feedback types and an interactive discussion. Students were given a list of sample questionnaire items and the definitions of the subscales covering the feedback types. They were asked to categorize the items according to the feedback types, which were discussed earlier and were available on the paper. Initially, this task was performed individually, allowing students to interpret and reflect on each item. Then, they discussed their categorizations to check the correct matching of items to feedback types in groups, and after that, they shared their experiences concerning this task.

To examine the language appropriateness of the questionnaire items, an open discussion was held at the end of the workshop. This discussion included discussing items that might be controversial and asking students to provide suggestions for improving the wording or modifying the language of the items.

## RESULTS

### ECOLOGICAL VALIDITY

The analysis of students' perceived and reported classroom experiences revealed differences in the interpretation of feedback types and the frequency of their application in teacher practice. Both Hungarian and Chinese students perceived that their teachers widely used normative feedback; they provided a lot of own experiences on peer competition and grading practice. Students were able to provide specific examples for task-focused feedback and feedback about the person, showing they had a grasp of these concepts. However, when it came to specific, self-regulation feedback, and feedback for identifying next steps, students provided fewer examples, although they recognized the importance of these feedback types. Understanding self-regulation feedback turned out to be a

| Subscale                             | Item  |
|--------------------------------------|---|
|                                      | <i>When providing feedback, my teacher ...</i>  |
| Task-focused feedback                | ... offers information about whether my answer/solution was right or not.               |
|                                      | ... informs me about the correctness of the answer/solution I gave.                     |
| Specific feedback                    | ... gives a detailed explanation why my answer/solution is not OK.                      |
|                                      | ... offers me specific information about the correctness of my answer/solution.         |
| Self-referenced feedback             | ... points out when my performance is better than before.                               |
|                                      | ... compares my present performance to my previous one.                                 |
|                                      | ... informs me when I performed worse than before.                                      |
| Feedback for identifying next steps: | ... conveys to me what I should change to improve my answer/work.                       |
|                                      | ... informs me about how to improve my answer/work.                                     |
| Self-regulation feedback             | ... teaches me how to assess my performance by myself.                                  |
|                                      | ... supports me in how to monitor my learning process.                                  |
|                                      | ... supports me in how to seek information related to my performance.                   |
| Feedback about the person            | ... emphasizes my personality (personal characteristics) and not my actual performance. |
|                                      | ... focuses on my intelligence and not on my actual performance.                        |
|                                      | ... informs me 'how I am' rather than 'how I perform'.                                  |
| Normative Feedback                   | ... points out when my performance is better than that of other students.               |
|                                      | ... makes it clear when my performance is weaker than that of my peers.                 |
|                                      | ... informs me how I perform compared to my peers.                                      |

Table 1 – Items used in workshops.

major challenge. Students struggled to provide relevant examples for this type of feedback; they often associated it with activities like peer assessment or self-evaluation. For instance, Chinese students described scenarios where teachers involved them in peer assessment or encouraged them to evaluate their own performance. Therefore, we decided to remove the self-regulation feedback.

#### COGNITIVE VALIDITY

To examine students' interpretation of the questionnaire items that covered the different feedback types, we quantified how correctly students matched the items to the subscales and analyzed their justifications. In terms of assigning items to subscales, in most cases students matched the items and the corresponding subscales correctly. Both Hungarian and Chinese students had consensus on 14 items, while 4 items caused some disagreements. This result indicated an overall understanding among students but also highlighted areas that needed further clarification. Students found it difficult to differentiate between the items of task-focused and specific feedback, suggesting some overlap in their understanding of these concepts. Therefore, we made some revisions and made a clearer distinction between the items of task-focused feedback and those of specific feedback.

#### LANGUAGE APPROPRIATENESS

The analysis of students' suggestions for modifying the wording of the items revealed that while most items were understandable to students, certain terms relating to task-focused and specific feedback, such as 'task' and 'correctness', were often misunderstood. This highlighted the need for a careful consideration of the language and terminology to ensure clarity and avoid misinterpretation. To address this issue, we added 'only' to task-focused feedback and 'in detailed' to specific feedback.

#### CONCLUSION

Our work summarized a specific phase of a questionnaire development process in which students were involved. Results of student workshops were used to modify the initial items and subscales. The self-regulation feedback subscale was removed, and some items were modified as students did not understand some expressions, or they could not match the items to the corresponding subscales. The problems with the items were similar in both the Chinese and the Hungarian groups, which suggests that weaknesses of the instrument were not culture-specific. These interactive sessions were instrumental in refining the questionnaire and adapting it to the everyday experiences of secondary school students. In conclusion, student participation in the development of the questionnaire, significantly improved the ecological and cognitive validity as well as the language appropriateness of the questionnaire.

#### ACKNOWLEDGEMENT

Project no. 138400 has been implemented with the support provided by the Ministry of Innovation and Technology of Hungary from the National Research, Development, and Innovation Fund, financed under the FK\_21 „OTKA” funding scheme. The research was supported by the ICT and Societal Challenges Competence Centre of the Humanities and Social Sciences Cluster of the Centre of Excellence for Interdisciplinary Research, Development and Innovation of the University of Szeged.

József Balázs Fejes are members of the New Tools and Techniques for Assessing Students Research Group.

#### TABLES AND FIGURES

*Table 1* – Items used in workshops.

#### REFERENCES

- Ames, C. (1992). Achievement goals and the classroom motivational climate. In *Student perceptions in the classroom* (pp. 327–348). Lawrence Erlbaum Associates, Inc.
- Hattie, J., & Timperley, H. (2007). The Power of Feedback. *Review of Educational Research*, 77(1), 81–112. <https://doi.org/10.3102/003465430298487>
- Karabenick, S. A., Woolley, M. E., Friedel, J. M., Ammon, B. V., Blazeovski, J., Bonney, C. R., Groot, E. D., Gilbert, M. C., Musu, L., Kempler, T. M., & Kelly, K. L. (2007). Cognitive Processing of Self-Report Items in *Educational Research: Do They Think What We Mean?* *Educational Psychologist*, 42(3), 139–151. <https://doi.org/10.1080/00461520701416231>
- Koenka, A. C., & Anderman, E. M. (2019). Personalized feedback as a strategy for improving motivation and performance among middle school students. *Middle School Journal*, 50(5), 15–22. <https://doi.org/10.1080/00940771.2019.1674768>
- Koskey, K. L. K., Karabenick, S. A., Woolley, M. E., Bonney, C. R., & Dever, B. V. (2010). Cognitive validity of students' self-reports of classroom mastery goal structure: What students are thinking and why it matters. *Contemporary Educational Psychology*, 35(4), 254–263. <https://doi.org/10.1016/j.cedpsych.2010.05.004>
- Levine, R., Huberman, M., & Buckner, K. (2002). The Measurement of Instructional Background Indicators: Cognitive Laboratory Investigations of the Responses of Fourth and Eighth Grade Students and Teachers to Questionnaire Items. *Working Paper Series*.
- Lüftenecker, M., Bardach, L., Bergsmann, E., Schober, B., & Spiel, C. (2019). A citizen science approach to measuring students' achievement goals. *International Journal of Educational Research*, 95, 36–51. <https://doi.org/10.1016/j.ijer.2019.03.003>
- Lipnevich, A. A., & Panadero, E. (2021). A Review of Feedback Models and Theories: Descriptions, Definitions, and Conclusions. *Frontiers in Education*, 6. <https://www.frontiersin.org/articles/10.3389/feduc.2021.720195>
- Morgan, D. L. (1997). Focus Groups as Qualitative Research. *SAGE*.
- Neuliep, J. W. (2017). Survey Research and Ecological Validity. In *The International Encyclopedia of Intercultural Communication* (pp. 1–5). John Wiley & Sons, Ltd. <https://doi.org/10.1002/9781118783665.ieicc0112>
- Quimet, J. A., Bunnage, J. C., Carini, R. M., Kuh, G. D., & Kennedy, J. (2004). Using Focus Groups, Expert Advice, and Cognitive Interviews to Establish the Validity of a College Student Survey. *Research in Higher Education*, 45(3), 233–250. <https://doi.org/10.1023/B:RIHE.0000019588.05470.78>