The results of this study indicate that TAP identifies subject-specific deficiencies. Students participating in mathematics tutorials noticed shortcomings in comprehensive and clear presentation. By

Before the evaluation process begins, the lecturer provides an anonymized report by email. During a follow-up meeting, lecturer and evaluator together develop ideas to respond to the feedback and to improve the course.

To conduct TAP, the lecturer ends the session and leaves the room. An external evaluator asks the students to comment on which aspects of the classroom teaching facilitate or impedes their learning process. In small-groups, the students discuss these questions and record their results in writing. Subsequently the evaluator collects these arguments and clarifies vague statements. Later the evaluator categorizes students’ feedback. The lecturer receives the feedback in an anonymized report by email. During a follow-up meeting, lecturer and evaluator together develop ideas to respond to the feedback and to improve the course.

Step 1: Data Classification as Crucial Element

Student feedback is categorized by a classification system (Hawelka, 2017).

Table 1 Classification System

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Subcategories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interaction</td>
<td>3</td>
</tr>
<tr>
<td>Task understanding</td>
<td>0</td>
</tr>
<tr>
<td>Motivational regulation</td>
<td>5</td>
</tr>
<tr>
<td>Cognitive learning strategies</td>
<td>4</td>
</tr>
<tr>
<td>Regulation of learning</td>
<td>3</td>
</tr>
<tr>
<td>Resources</td>
<td>2</td>
</tr>
</tbody>
</table>

This system has proven to be reliable, valid and comprehensive (Hawelka & Hiltmann, 2018).

Step 2: Analysing Critical Feedback

Table 2 shows the critical feedback per course in the different subjects as well as the differences between the subjects.

- **Mathematics**
  - Presentation: 3
  - Student involvement: 2
  - Classroom management: 1
  - Task understanding: 0
  - Motivational regulation: 0
  - Cognitive learning strategies: 2
  - Regulation of learning: 3
  - Resources: 1

- **Seminars in educational science & psychology**
  - Presentation: 2
  - Student involvement: 1
  - Classroom management: 0
  - Task understanding: 2
  - Motivational regulation: 3
  - Cognitive learning strategies: 4
  - Regulation of learning: 5
  - Resources: 0

As a consequence it was hypothesized that (critical) student feedback varies between different subjects and TAP can also identify subject-specific weaknesses in courses beyond individual requirements.

In this case, TAP could be a reasonable instrument to identify subject-specific training needs.

Study

There is some evidence that epistemological beliefs are domain-specific and influence educational strategies (Green & Hood, 2013). As a consequence it was hypothesized that (critical) student feedback varies between different subjects and TAP can also identify subject-specific weaknesses in courses beyond individual requirements.

In this case, TAP could be a reasonable instrument to identify subject-specific training needs.

Method

**Sample**
- \( N = 20 \) Tutorials in mathematics (58 small-groups)
- \( N = 20 \) Seminars in education science & psychology (71 small-groups)

**Data Collection**
- winter term 2016/2017 & summer term 2017

**Data Analysis**
- Classification of critical feedback
- Weighted by number of groups
- Frequency distribution, central tendency, measures of dispersion
- Differences between subjects (Mann–Whitney U test)
- effect size (r)

Results

Figures 4 - 9 show the frequencies of critical feedback per course in the different subjects as well as the differences between the subjects.

- **Tutorials in mathematics**
  - Presentation: \( p = .001 \), \( r = .55 \)
  - Student involvement: \( p = .004 \), \( r = .45 \)
  - Classroom management: \( p = .002 \), \( r = .37 \)

- **Seminars in educational science & psychology**
  - Presentation: \( p = .003 \), \( r = .32 \)
  - Task understanding: \( p = .04 \), \( r = .20 \)
  - Motivational regulation: \( p = .001 \), \( r = .25 \)

Interpretation and Conclusion

The results of this study indicate that TAP identifies subject-specific deficiencies. Students participating in mathematical tutorials noticed shortcomings in comprehensive and clear presentation. By contrast, students take part in seminars in educational science and psychology who wish to experience more autonomy, and identify shortcomings in interestingness and elaboration. Besides they are more dissatisfied with the learning material and literature. Both groups wish to have more support in task understanding. These findings demonstrate TAP’s usefulness for target-group oriented planning and training design in university teaching. An examination of conditions specific to other subjects was beyond the scope of this study. Moreover further work is required to evaluate the effects of trainings based on these results.

Literatur