“Professionalization of Teachers by Using Video-based Cases”

Cooperation Project:
University of Tübingen
Catholic Federal Study Group for Adult Education
funded by the Federal Ministry of Education and Research
Contents

- Current professional situation of teachers in the adult education in Germany
- Presentation of the training concept
- Expected yield of the training concept/ learning with video-based cases
- Findings on the acceptance and impact of the learning with video-based cases and the whole training concept
Current Professional Situation of Adult Educators (based on various sector statistics)

• High number of teachers and trainers working in several institutions and/or part-time jobs
• Precarious and unstable employment of the teachers
• High number of across beginners with different professional backgrounds
• Specific teaching experiences and competencies that have to be dealt with in continuing training offers
Professionalization of Teachers by Using Video-based Cases

Positions & Beliefs

Motivational orientations

Selfregulative abilities

Professional competency of teachers and trainers

Professional knowledge

Content knowledge
- Knowledge about fields, contents and subjects

Pedagogical content knowledge
- Knowledge about teaching specialized contents

General pedagogical knowledge
- Knowledge about didactical concepts

Professional skills

Temporal
- Use of the learning time

Concerning the contents
- Presentation of contents

Social
- Management of learning groups

Case-based learning is expected to serve as a bridge between „knowledge“ and „skills“

Baumert/Kunter 2006
Professional Competency of Teachers and Trainers can be characterized

• by one’s ability „to make adequate use of a broad, scientifically sound and thus in many ways abstracted knowledge in concrete situations, or vice versa: to recognize in such situations which elements from the pool of knowledge might be relevant“ (Tietgens, 1988, p. 37)

• by one’s ability to adopt multiple perspectives on single issues (Nittel, 2000)
Competency to Diagnose Pedagogical Situations

3 cognitive components quantitatively and qualitatively measured:

- the ability to depict pedagogical situations
- the ability to adopt teacher and learner perspectives
- the ability to apply theoretical knowledge

These dimensions can be seen as central criteria to focus on to improve professional performance of teachers (Schrader & Hartz, 2003).
Concept of Learning with Video-based Cases

- In the discussion in Educational Science, case-based learning is expected to foster analytic and problem-solving competencies and other higher level cognitive competencies related to reflection, and to provide a realistic picture of the complexity of learning and instruction (Lundeberg, 1999; Merseth, 1999).
- In the project, selected every-day educational processes are video-taped. The cases used are authentic, routine classroom situations that are not previously known to the learners.
- The cases consist of about 10-15 minutes of video recording.
- The video cases are integrated into a computer-supported learning environment and complemented by different kinds of additional instruction described in detail below.
Professionalization of Teachers by Using Video-based Cases

Learning Environment

multiple perspectives

conceptual knowledge
Professionalization of Teachers by Using Video-based Cases
Anfangssituationen


1) Sachlogik: Inhaltsgestaltung und -aneignung
2) Soziologik: Gruppenzusammensetzung und -entwicklung
3) Psychologik: Einzelpersonen und ihre Veränderungen


Alle vier Dimensionen im Auge und im Sinn zu haben, d. h. mit den Rahmenbedingungen und den Inhalten und der Gruppe und der Vielfältigkeit der Einzelnen umzugehen, das erst ist sinnvolle Gestaltungs- und Steuerungsleistung und macht produktives Lehren und Lernen möglich. Die vier Dimensionen stetig zu balancieren, ist eine schwierige Aufgabe.
Central Research Question

• How does computer-supported case-based learning influence the acquisition of competency to diagnose pedagogical situations?
# Design of the Training Concept

<table>
<thead>
<tr>
<th>Test stage</th>
<th>Pre-test and orientation</th>
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| Introduction| Introduction to working with cases  
Theoretical foundation of case-based learning |
| Pretest     | Case-based pre-test for measuring analytical competency  
questionnaires on different control variables |

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<th>Training period</th>
<th>Input and training</th>
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<tr>
<td>Input</td>
<td>Presentation of didactic theories, knowledge test</td>
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<td>Training</td>
<td>Work on 3 training cases</td>
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<th>Test stage</th>
<th>Post-test and reflexion</th>
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| Posttest   | Case-based post-test on analytical competency and knowledge test  
Control measures: questionnaires |
| Reflexion  | Discussion about the case work in small groups  
Feedback  
Subjective yield of the training concept  
Action options for practice |
First Findings Regarding Acceptance and Effect

Random Sample:
• Eight training sessions with about 10-15 participants each (N=100)
• Adult educators and trainers but with different professional qualifications and acting in different fields

Methods:
• Questionnaires on different control and process variables to measure the acceptance of the training concept
• As well as logfile protocols regarding the use of the case-based learning environment, and audio-video records of the training case sessions in the small groups
• Analysis of the competency increase based on the written case analyses
  → Quantitative + qualitative score = total score of competency to diagnose pedagogical situation
• In addition two knowledge tests to evaluate the available knowledge before and after the training period
Feedback Regarding the Work with the Cases
- In the participant’s opinion, the video cases illustrate everyday teaching/learning situations realistically (about 80 %)
- The participants think that they will be able to perceive teaching events in a more differentiated way thanks to the work with the video cases (76,9%)

Feedback Regarding the Use of the Concepts
- Presented concepts were considered helpful for analysing and interpreting the cases (69,2 %)
- The individual yield depended on the degree of the penetration of the theoretical concepts, about half of the group asked for further thematization including illustration by examples

Feedback Regarding the Use of Multiple Perspectives
- Presented perspectives were seen als helpful to take the sight of the actors in the cases (72 %)
- If perspectives were taken, this was more often the case for the perspective of the teachers (39,1 %) than for that of the learners (21,7 %)
Effects on the Competency to Diagnose Pedagogical Situations

3 cognitive components quantitatively and qualitatively measured:

– the ability to depict pedagogical situations

– the ability to adopt teacher and learner perspectives

– the ability to apply theoretical knowledge
Ability to Depict Pedagogical Situations

- General trend towards detailed reproduction
- Light increase in schematic and categorical thinking, a little less single phenomena put into sequence

![Bar graph showing changes in ability to depict pedagogical situations.](Image)

- Middle proportional values related to line sums:
  - Pre: 56.6%
  - Post: 48.8%
  - Pre detailed: 20.3%
  - Post schematic: 26.2%

- Statistical significance:
  - Pre detailed: $P = 0.069$
  - Post schematic: $P = 0.044$
Ability to Take on Multiple Perspectives

- In total a low rate of perspective taking
- Tendential decrease in perspective taking in the post-test analyses compared with the pre-test analyses

P = 0.354
Ability to Apply Conceptual Knowledge

- Increase in the amount of theoretical relations within the post-test analyses
- Huge number of relations to the concepts mediated within the training
- Fragment-like relations with low linking to the case

Middle proportional values related to line sums

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P < 0.001
To summarize one can say that

• Competency to diagnose pedagogical situations can be fostered by the way the learning with cases is conceived, especially in the dimensions of theory relations and case description, not so much regarding the adoption of multiple perspectives

• Learning with video-based cases can be used as a method to built a bridge between professional knowledge and professional skills and serve to improve the professionalism of teachers and trainers in lifelong learning processes
Thank you for your attention!