Triggering practice of teaching: Student teacher learning of action-oriented knowledge during teaching practice

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Introduction

- Student teachers should adopt reflective skills and action-oriented knowledge as well as practical capabilities during teacher education for their professional work as teachers (Kansanen et al., 2000; Toom et al., 2010; Mena et al., 2012)

- Teaching practice as a significant context for student teacher learning (e.g. Toom et al., 2014; Saariaho-Räsänen et al., 2015)
  - analysis and reflection of practice (Dewey, 1933; Rodgers, 2002) as tools in construction of teacher’s action-oriented knowledge (Eraut, 1995; Fenstermacher, 1998; Mena, 2011; Toom, 2012; Verloop et al., 2001)
  - relevant structure and pedagogy to support learning from practice (Husu, Toom, & Patrikainen, 2008; Leijen et al., 2012)
  - collegial resources, theoretical tools

- Video learning during teaching practice as an opportunity to foster teacher learning (Connell, 2009; Feiman-Nemser, 2001; Flores & Day, 2006)
Aims and research questions

- This study aims to gain a better understanding on the meaningful critical incidents in practice and the characteristics of student teachers’ action-oriented knowledge that they cultivate.

- Research questions
  1. What kinds of classroom events do the student teachers define critical for their learning?
  2. What kind of action-oriented knowledge do the student teachers generate when reflecting on the critical events?
  3. To what extent does the quality of the reflected critical events have effect on the quality of student teachers’ action-oriented knowledge?
Participants and data

• In total, 82 pre-service teachers from Finland (Universities of Turku and Helsinki)
• Different teacher education curricula (primary teacher students, subject teacher students)
• Pre-service teachers’ video recorded lessons from teaching practice
  – pre-service teachers identified a challenging and an empowering critical event (cf. Tripp, 2012) from the lesson
  – In total, 160 critical events were identified based on lesson videos
  – The events were analysed by utilising the framework of instructional core
• Str interview data (5176 thought units) were analysed by utilising the framework of action-oriented knowledge
Data collected using the procedure of guided reflection (ACTTEA 2012-2015)

VIDEOTAPELED LESSON
- Classroom events

VIDEOTAPEING
- Done by student teacher at classroom
  - Focus on teacher’s action

INDEPENDENT REFLECTION
- max 2 days

WRITTEN REFLECTION IN POFO/REPORT
- All the end

Incident

Incident

Incident

2 CRITICAL INCIDENTS:
- Positive, empowering
- Challenging, difficult

Classroom events chosen by the student teacher according to her/his aims for teaching practice

A) INDEPENDENT REFLECTION
B) PEER REFLECTION
C) REFLECTION WITH SUPERVISOR

What happens during the lesson?
What are the most important incidents (2) for you during the lesson?
Why?

What happens in this incident?
Why is this incident important and meaningful?
What is the more general meaning of this incident in a wider context?

What will you do with that you have understood?

What happens in this incident?
Why is this incident important and meaningful?
How has this incident affected to your thinking and actions?
What is the more general meaning of this incident in a wider context?
What will you do with that you have understood?
Instructional core framework utilised in the analysis of videoed critical events

Figure 1: Framework for analysing challenging and empowering events (cf. Herbart, 1835, Kansanen & Meri, 1999; Toom, 2006)
The framework of action-oriented knowledge utilised in the analysis of str-data  
(Mena & Clarke, 2015; Toom, 2012; Fenstermacher, 1994)

<table>
<thead>
<tr>
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<th>Definition</th>
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<tr>
<td><strong>Recalls</strong></td>
<td>direct reproductions of what has been experienced, that is to say, images from the lesson as recalled from memory</td>
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<td><strong>Appraisals</strong></td>
<td>constitute evaluations or value judgments of the action that is being recalled.</td>
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<tr>
<td><strong>Rules or practical principles</strong></td>
<td>Methodological strategies that student teachers extract from their experiences</td>
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<tr>
<td><strong>Artefacts</strong></td>
<td>instruments and physical supports teachers envisage from what they have experienced</td>
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<tr>
<td><strong>Practical justifications</strong></td>
<td>Teachers give practical arguments for their claims based on their experiences</td>
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<tr>
<td><strong>Theoretical justifications</strong></td>
<td>Teachers give theory-related arguments for their claims based on their experiences.</td>
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Results (1): Quality of meaningful events

Altogether, 160 meaningful events were identified from videos:
- 57% (f=91) to didactical relation
- 39% (f=62) to pedagogical relation, and
- 4% (f=7) were related to content relation
### Results (2): Qualities of action-oriented knowledge

<table>
<thead>
<tr>
<th>Thought units in str (f=5176)</th>
<th>Example</th>
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<td><strong>Recalls</strong></td>
<td>14% (f=756) “I changed the classroom distribution twice”</td>
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<td><strong>Appraisals</strong></td>
<td>28% (f=1450) “The round of questions was difficult because the students had not reviewed the contents”</td>
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<td><strong>Rules or practical principles</strong></td>
<td>15% (f=764) “It is important that pupils understand the story plot by associating each character with a single attribute”</td>
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<td><strong>Artefacts</strong></td>
<td>10% (f=495) “I would repeat the explanation at least twice: one at the beginning of the class and another one once they have done the exercises”</td>
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<td><strong>Practical justifications</strong></td>
<td>29% (f=1491) “I called the pupil by name during the lesson, because it was the only possible way to gain her attention.”</td>
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<td><strong>Theoretical justifications</strong></td>
<td>4% (f=220) “I asked questions related to the math task, because I know that it is one way to guide pupil within her zone of proximal development.”</td>
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</table>
Results (3): Relations between the qualities of critical events and the qualities of AOK
Conclusions and discussion

• Student teachers reflected mostly on the incidents focusing on the didactical relation, which is at the core of teachers’ work in the classroom interaction

• In student teachers’ action-oriented knowledge,
  – the appraisals and practical justifications were emphasized
  – theoretical justification and artefacts were least represented

• Student teachers’ reflection on
  – didactical and pedagogical relations triggered all types of action-oriented knowledge, especially practical justifications and appraisals
  – didactical and pedagogical relations triggered surprisingly small amount of rules and artefacts
  – content relation did not trigger artefacts and theoretical justifications

• When guiding student teachers’ reflection it is necessary
  – to guide them systematically towards elaboration of practice instead of mere evaluation of it
  – to support them to understand and conceptualise practice
Thank you for your attention!

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