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A format for development of shared teacher knowledge in preservice teacher education
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Consecutive cycles of “whole class” Lesson Study: A format for development of shared teacher knowledge in pre-service teacher education

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Abstract

An analysis of three lesson study cycles of the same research lesson carried out by 16 pre-service lower secondary teachers. The process of lesson planning and revision is displayed and it is shown how the pre-service teachers develop knowledge about critical details of the lesson, its contents and pupils’ learning.

Research Questions

How is knowledge gained from each research lesson and post-lesson reflection incorporated in subsequent re-teaching?

What are the benefits and drawbacks of large group sizes in pre-service teacher lesson study?

Context, method and theory

In 2015, a group of 16 students attending a Danish teacher education in which Lesson Study in small groups is common, were asked to plan one research lesson collectively. The development over three cycles of a lesson plan (for a grade 8, 2X45 minutes) were subjected to document analyses. The lessons and reflections were observed by the author (note-taking and video recording). All material was indexed using Nvivo10 and subjected to praxeological analysis in the sense of the anthropological theory of the didactic (Chevalillard & Senserey, 2014).

Knowledge development

Initial task type (T) put to the pupils, anticipated techniques (τ)

T1: Who in the class is most likely to be selected to pick up milk.
T2: Investigate who of three pupils are most likely to be the one pick up milk, if they use two coins
T3: Investigate reasons (τ) for tasks and techniques.

After first revision

T1: Given one crooked die, who should do the dishes? What rules to make a fair game?
T2: What happens if two or more crooked dice are used? What rules to make a fair game in this situation?
T3: Make a combinatorial arguments to answer T2

Reorganising (accommodation)

θ1: Pupils should become of subjective beliefs about probability
θ2: Pupils become aware of combinatorial probability

θ1: Pupils become aware of subjective beliefs about probability by probability
θ2: Pupils意识到 that statistic probability decreases

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Knowledge that the lesson does not work

Conclusion from post-lesson reflection:

Lessons work very well until second die is introduced. Every pupil should have two dice of the same “crookedness” so that ICT should not be used at all.

Benefit: Greater sense of unity. Knowledge shared and common to all participants. A greater variety of aspects can be considered in advance. Lower “cost” of educator time.

Drawback: The lesson study were initially undertaken by the whole class, but as schools and executive students were chosen, others lost engagement with the process.

Concluding Remarks

 Knowledge that the lesson does not work initially are often sighted remedied with minor didactic changes, before major changes are attempted.

 A “knowledgeable other” is crucial to overcome reluctance to make major changes.

 The semi-autonomous process of lesson study need another scaffolding to engage a whole class and thus produce didactic knowledge common to all pre-service teacher students.

Background

Lesson study is usually done in small teams up to around five teachers. This is reasonable in an in-service perspective, but might be impractical (and costly) in ordinary pre-service education where one teacher educator has to manage 15 students or more. Lesson study collectively performed by greater group sizes is largely unexplored. Another issue is that literature reporting on consecutive re-teaching of a refined lesson plan is scarce, although some exist (Robinson & Leikin, 2012). The mechanism for improving instructional performance and teacher knowledge has been suggested to be rooted in the reflective practice inherent to lesson study (Warwick, Vrikki, Vermunt, Mercer, & van Halem, 2016) However, as most studies end with the first reflection session, it is difficult to gauge how the reflections impact on subsequent practice.

References


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