A qualitative metasynthesis inspired by meta-ethnography
- Classroom dialogue in mathematics

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Synthesising qualitative result

Mathematics education has benefited from qualitative methodological approaches over the past 40 years. (…) Although the number, type, and quality of qualitative research studies in mathematics education has increased, (…) little is known about how a collective body of qualitative research findings contributes to our understanding of a particular topic within the field.

In other words, there is a lack of knowledge about how to integrate or synthesize findings across qualitative studies in mathematics education in order to influence policy and practice (Thunder & Berry, 2016, p. 318).
Common components in systematic reviews

• Search strategies
• Inclusion criteria
• Relevance and quality appraisal
• Synthesis
  – aggregative
  – configurative

(Gough & Thomas, 2016)
Configuration

The action of placing study findings alongside one another in order to build up a picture of the whole, and how they relate to one another

(Sandelowski et al., 2012)
Search strategy

Research question

What are the characteristics of classroom dialogue in mathematics that involve pupils in collaborative mathematical reasoning, and what characterises the teacher’s role?
<table>
<thead>
<tr>
<th><strong>Inclusion criteria</strong></th>
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<tbody>
<tr>
<td><strong>Participants:</strong></td>
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<tr>
<td><strong>Teaching/methods:</strong></td>
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<td><strong>Result:</strong></td>
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<td><strong>Context:</strong></td>
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Relevance and quality appraisal
Meta-ethnography – synthesising qualitative results

- Meta-ethnography (Noblit & Hare, 1998) - Meta-analysis
- It is impossible to synthesize ethnographic research by focusing on empirical observations by themselves, as in meta-analysis. We must focus on the translations [interpretations] (p 31)
- (...) the ”data” of synthesis are interpretations and explanations rather than the data collected through interviews and observations (p 32)
- Fokus on concepts, themes, organizers… (p 14)
Synthesizing qualitative results – meta-ethnography

The studies can ...

• ...be about different things - little reason to synthesize
• ...be about roughly similar things – RECIPROCAL
• ...refute each other – REFUTATIONAL
• ...build a line of argument – LINE-OF-ARGUMENT

(Noblit & Hare, 1998)
Our qualitative results

- Characterise pupil’s engagement in different kinds of talks: exploratory/disputational/cumulative talk
- Identify different kinds of interactional norms that govern the conversations: social and sociomathematical
- Describe the teachers and the pupils’ different roles and changes in these roles, for example different kinds of question
- Denominate/give name to certain teacher actions that promote pupils’ participation, for example the teacher revoice, reinforce, exemplify
Our qualitative synthesis – a line of argument

Exploratory talk
Disputational talk
Cumulative talk

What characterises these kind of classroom dialogues?

What characterises the teacher’s role?

Classroom dialogue in mathematics that involve pupils in collaborative mathematical reasoning

The teacher actively supports the pupils’ participation in exploratory talk by, for instance, asking open questions, listening carefully to the pupils' ideas and make use of them in the conversation...

Unlike IRE where the teacher dominates the conversation and the pupils’ tasks are limited to providing correct (often short) answers.
Our qualitative synthesis – a line of argument

The teacher actively supports the pupils' participation in...

...the dialogue by...

...in the mathematics by...

Exemplify Reinforce Revoice (teacher actions)

Asking the pupils to
- Explain
- Motivate
- Compare etc. (teacher actions)

That is, promoting pupils’ behaviours following certain social norms

That is, promoting pupils’ behaviour following certain sociomathematical norms
Metasynthesis inspired by metaethnography

Metasynthesis – a generic term representative of a collection of methodological approaches, which represents rigorous attempts to render what exists within a body of evidence-based qualitative studies into a coherent and synthesized product (Thorne et al., 2004, p. 2)

Metaethnography – line of argument

"Often people study different aspects of a phenomena and that it might be possible to think through this to offer a fuller account of of the phenomenon by arranging the studies’ metaphors in some order that allowed us to construct an argument about what the sets of etnographies says” – a line of argument synthesis (Noblit i Thorne et al, 2004, p. 8, see also Noblit & Hare, 1998)
Generalization – the use of this knowledge

… generalization is about the potential use of a piece of research: generalization is an act, which is completed when someone can make sense of situations or processes or other phenomena with the help of interpretations, which emanate from research texts

We can compare the use of a substantial portion of qualitative research with the development of a diagnostic repertoire: interpretational tool for identifying patterns in the everyday world and making better sense of the world around us

(Larsson, 2009, p. 34)
Literature (quoted)


Further reading
