

Shared sense making strategies in curriculum reform: District level perspective.

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Abstract

Curriculum reform that has an effect on the everyday practices in schools always entails translation of new ideas into new educational practices. This takes place primarily through *shared sense making*. However, our understanding of the different ways in which shared sense making is carried out is still scarce. In Finland, the district level plays an important intermediary role in orchestrating curriculum development work at the municipalities and in translating and mediating reform into school-level development work. The study explores different shared sense making strategies employed by 12 district-level curriculum reform steering groups around Finland, including participants from 54 municipalities. Three hands-on strategies of shared sense making including comparison, standardisation and transformation were identified. The results indicated that different hands-on strategies have different functions in the process of making sense of the reform objectives. To a certain extent, the strategies can be viewed as hierarchical. Overall, results suggests that district-level actors aim to foster shared sense making, however, a more intentional use of strategies is needed.

Keywords: Curriculum reform, school development, sense making, curriculum implementation

Introduction

Literature on curriculum reform suggests that gains from reforms do not usually live up to expectations, and that long-term sustainable changes are particularly hard to achieve (Fullan, 2016; Kelly 2009; Levin, 2008; Murphy, 2013; Ng 2009). The success of a curriculum reform is highly dependent on its ability to engage those involved in the shared sense making (Gawlik, 2015; Kondakci, Beycioglu, Sincar & Teyyar, 2015; Porter, Fusarelli & Fusarelli, 2015; Weick, 2005) since it, to a large extent, determines whether and how policy initiatives are translated into meaningful school practices (Luis et al., 2005). For example, when state-level conceptions of the direction of change differ from the schools', and there is a lack of successful strategy to combine them, the desired outcomes are not reached (Timperley & Parr, 2005). Shared sense making is key to promoting sustainable change, especially in complex, large-scale reforms embedded in a nested educational system, and involving several stakeholder groups. Negotiating meaning is particularly central when school development is based on the idea of curriculum as process where the main idea is not to concentrate on the learning objectives or what is written in the curriculum, but on the process of how the curriculum influences the school work (Kelly, 2004).

The district-level may play an important intermediary role (Spillane et al., 2002) in orchestrating curriculum development work at the local level and in translating and mediating reform into school-level development work. Districts' influence on the implementation processes as well as their approach to reform are shown to vary according to district leader conceptions of change process (Louis & Miles, 1990). The links between the policies and strategies enacted by reform coordinators in the district level has been a growing research interest in recent decades (Fullan & Quinn, 2016; Hightower et al., 2002; Mølsted, 2015). The focus of the research has shifted from effective

implementation (Cuban, 1984) and characteristics of successful districts (Murphy & Hallinger, 1988) towards complex and context-dependent development processes requiring shared sense-making at the district level (Boone 2014; Hargreaves 2011). However, our understanding of the different ways in which shared sense making is carried out in the district level is still emerging (Gawlik, 2015). This study aims to contribute to the literature by exploring different shared sense making strategies employed by 12 district-level curriculum reform steering groups around Finland, including participants from 54 municipalities. The groups were formed varying ways, but the primary criteria seemed was the variation and representativeness of the stakeholders' expertise needed in the curriculum making. Moreover, participation was partly voluntary (e.g. principals, teachers) and partly it was based on the position in the school system (e.g. municipality's school administration).

Finnish National Core Curriculum Reform

There are some basic features in the Finnish school system that need to be understood regarding curriculum reform and this study. In some sense, Finland represents a decentralised educational system, emphasising the autonomy of schools and school districts, relying heavily on the educational experts handling school development and implementing non-standardised, large-scale national curriculum reform (Sahlberg, 2015; Vitikka et al., 2012). Teachers and schools are highly autonomous in their pedagogical solutions and accountability is interpreted through responsibility and trust in the educational practitioners. Accordingly, Finland has not adopted, for example, the idea of accountability testing (Sahlberg, 2011), and student assessment emphasises self-assessment and avoiding having to make excluding choices early in the educational track. This is coherent with the strongest acknowledged social task of basic education that is “to promote equity, equality and justice” (Finnish National Board of Education, 2014; Salonen-Hakomäki, Soini, Pietarinen & Pyhältö, 2016).

However, the basis of the school education is centrally regulated; all of the districts and schools have to apply the national core curriculum, which is the foundation of the Finnish educational steering system. Core curriculum describes general goals, core contents, principles, and guidelines for basic education; however, locally it is also a tool for schools and teachers to develop their own pedagogical praxis. The core curriculum reform is led by the Finnish National Board of Education, an independent governmental agency that is responsible for planning, organising, and implementing the curriculum reform and inviting stakeholders to participate in the work. The national core curriculum is reformed approximately every 10 years (Finnish National Board of Education, 2016). In the current core curriculum from the year 2014 the national goals of education are stated as: *“growth as a human being and membership in society, requisite knowledge and skills and promotion of knowledge, and ability, equality and lifelong learning”* (Finnish National Board of Education 2014). Main pedagogical ideas are promoting student participation, meaning that students must be included into designing both the learning environment and contents taught. There is also a strong emphasis on collaborative classroom practices as well as collaboration between teachers. This means that students’ role in the school and classrooms is changing to more active and for example, the quiet and strictly organised classroom is no longer the ideal condition for learning. Integration across school subjects is one of the most demanding goals in the new curriculum requiring new methods of teaching and also constant negotiation about the themes of integration in the school level. It combines subject-based and competence-based learning by focusing on developing generic competencies in addition to subject contents (Finnish National Board of Education, 2014; Vahtivuori-Hänninen et al., 2014). The core curriculum provides grounding for district-level curriculum development work. The local curricula are constructed by the education providers, generally as a joint curriculum in a municipality or district.

The district level curriculum reform work is typically orchestrated by steering groups consisting of municipal actors and educational practitioners from the schools (Sahlberg, 2015; Vitikka et al.,

2012). Hence, school district-level stakeholders play a central role in interpreting, integrating, and transforming the general goals of the core curriculum. They are also expected to facilitate learning at the local level, for example, by supporting collaboration between schools. Studying the school district-level curriculum reform process is particularly interesting in the Finnish context, where stakeholders at the district levels are autonomous in terms of resourcing and deciding about the methods of developing the school system, based on the general goals set by the national core curriculum.

Shared sense making

Taking up large-scale curriculum reform calls for new collective learning from all of those involved in the reform. Accordingly, implementing any educational reform always entails translation of new ideas into new educational practices (Coburn, 2005; Domina et al., 2015). This can be viewed as a socio-cognitive approach to policy implementation (Coburn, 2005; Spillane, Reiser, & Reimer, 2002) emphasising interpreting, adapting, or transforming policy messages in a process that is influenced by participants' cognitive effort as well as the social and structural conditions (Coburn, 2001; Spillane, 1999). Especially in the reforms where the aim is to facilitate collective learning and develop the whole system, the process of policy implementation should be understood as a two-way interaction, shaping and shaped by the mediator (Dale, Engelsen & Karseth 2011; Mølsted, 2015; Spillane et al. 2002). Shared sense-making is at the core of this process.

Making sense of the changes proposed by the reform and turning them into meaningful development work calls for processing and framing new information together, and using it to determine future actions and behaviours, in a way that is meaningful for those involved (Evans, 2007; Weick, Sutcliffe, & Obstfeld, 2005; Hargreaves, Lieberman, Fullan & Hopkins, 2009).

Accordingly, *shared sense making* refers to constructing a collective understanding of the meaning for reform, its significance and implications through dialogue and negotiation (März & Kelchtermans, 2013; Lutzenberg, Imants, Van Veen & Carpay, 2009; Pietarinen, Pyhältö & Soini, 2016). Hence, collective sense making entails finding answers to such questions as; what does reform mean to us, do we find the reform objectives meaningful, significant, and worth striving for, and if so, what kind of change does it provide?

Shared sense making, particularly in large-scale curriculum reform, entails building bridges between old and new understanding and across the levels of the educational system, resulting in re-interpretations and novel understanding about the reform under construction. Actors in different levels of the system draw on their existing knowledge and experiences to interpret new approaches. This may lead to multifaceted and sustainable new ideas of how to develop education. However, access to knowledge and opportunity to make interpretations and convey them from one system level to another also creates power relations (Coburn 2005), usually means more power to those in the higher levels of the system. Moreover, actors in different positions in the educational system may reconstruct policy messages in ways that either reinforce preexisting practices or lead to new approaches and change (Coburn, 2001a; Guthrie, 1990; Jennings, 1996; Shifter & Fosnot, 1993; Smith, 2000; Spillane, 1999). Interpretations and differing prior knowledge may also result in discrepancies between the levels, and hence different answers to the questions presented above. Moreover, it can lead to active resistance of the reform if the aims are considered counterproductive for what the reform stakeholder considers desirable in terms of school development (Lutzenberg et al., 2009).

There is evidence that the extent to which educational practitioners in the grass root level of education, such as teachers and principals, engage with curriculum reform and actually implement

the changes is determined by their opportunities not only to engage in shared sense making but also by the quality of the sense making process (Coburn, 2005; Nordholm, 2015; Priestly, 2012). Our recent study, for instance, showed that activities enabling shared sense making contributed both to the perceived school-level and society-level impact among stakeholders involved in the construction of the core curriculum (Pietarinen, Pyhältö & Soini, 2016). Moreover, it seems that there are core concepts as well as relations between core concepts that are more focal as an object of sense-making than others. For example, we found that values, principles and practices concerning student assessment and its consequences must be negotiated between the educational practitioners involved in order to build shared understanding of the curriculum reform (Soini, Kinossalo, Pietarinen & Pyhältö, 2017). The quality of the sense making process determines which issues are taken under negotiation, and become objects of re-construction and transformation in making sense of the reform.

In large-scale reforms, which aim toward learning and development of the whole system (Fullan, 2003), school district-level stakeholders play a central role in interpreting, integrating and transforming the general goals of the core curriculum and facilitating learning in and between the schools. They are expected to not only make sense of the reform goals but also link the processes in the different levels of the system and create learning conditions for others (Crossan, Lane & White 1999; Porter, Fusarelli & Fusarelli, 2015). Hence, districts may play an important role facilitating meaningful change in the reform (Berends et al., 2002). However, district level actors may also create chaos by colliding innovations and piecemeal reform, or imposing too much order and thus preventing creativity and sustainable solutions (Fullan, 2003), and instead of development ends up only delivering the national curriculum (Dale, Engelsen & Karseth, 2011; Mølsted, 2015.) To avoid this policy implementation at the district level should be understood as a two-way interaction,

shaping and shaped by the mediator in the process of shared sense making (Spillane, Diamond, Burch, Hallett, Jita and Zoltners 2002).

Shared sense making can occur in different forms, i.e., different strategies can be employed to build collective understanding of the reform at hand. We define *shared sense making strategies* as the means employed to build shared understanding of meaning and significance of contemporary reform, and its implications for school. However, these strategies are not always intentional or systematic, and they can be more or less clear in terms of goals. They comprise the more or less systematic and intentional ways to build shared understanding of the reform, i.e., the hands-on strategies of local curriculum work. The curriculum reform stakeholders, as well as other stakeholders and schools, are likely to utilise different hands-on strategies to gain a better understanding of the reform of the nature of their current and future relationships, and of the overall context of restructuring (Denis et al., 2009) the curriculum. The different type of shared sense making strategies are also likely to be employed for different purposes in the course of the reform work. Such strategies can, for example, entail comparing the old and new curriculum and drawing on prior experiences and knowledge of similar processes as well as the building of connections. It has been suggested that particularly strategies that enable stakeholders to engage in transformative, collaborative learning promote innovation in terms of curriculum (Hargreaves & Fullan, 2012; Little, 1999; Spillane & Callahan, 2000; Stosich, 2016;). On the other hand, it has also been shown that the curriculum reform stakeholders may also apply avoidance of critical learning characterised by open-ended and problematising discussion, as a strategy to reduce the complexity of curriculum reform work (Nordholm, 2015).

2. Aim of the study

This study aims to gain a better understanding of what happens in the process of curriculum reform at the district level by examining the case of reforming Finnish national school curriculum. The hands-on strategies used at the district level for processing the big ideas of the reform as part of the local curriculum work were explored. The shared sense making process carried out was examined: 1) by analysing the collaborative construction of understanding on the curriculum reform carried out by the groups orchestrating the curriculum work at the district level and 2) by determining the kind of hands-on strategies employed by the coordinating groups in building an understanding of local curriculum work.

3 Study design

3.1 Methodology

The study represents a constructivist approach building upon the premise of a social construction of reality (Berger & Luckmann, 1966; Searle, 1995) and claim that truth is relative and that it is dependent on one's perspective. This means that the importance of the subjective creation of meaning is emphasized (Miller & Crabtree, 1999, p. 10) and the systematic exploration of meanings as well as researchers' interpretations on them are in the core of analyses. Study draws on a qualitative case study tradition, in a sense that the focus of the study is to answer "how" questions; there is no manipulation in terms of the behavior of those involved in the study or contextual conditions, and rather the phenomenon and context are seen as intertwined (Yin 2003). Constructivist case study approach provides tools for researchers to study complex and socially constructed phenomena within their contexts. The focus of the study is on the process of sense making at the district level that is intertwined with the national characteristics and traditions of the Finnish educational system.

The empirical design draws also on the focus group research, which is 'a research technique that collects data through group interaction on a topic determined by the researcher' (Morgan, 1996, p.

130). It has proven to be beneficial in producing scientific knowledge and understanding the dimensions of 1) helping expert groups, such as the steering group, identify the ways to meet its goals, 2) identifying and testing strategies for increasing engagement and promoting learning of those involved in development work and 3) developing the criteria and process steps for proceeding in the aimed direction (e.g. Morgan, 1996; Krueger & Casey, 2015; Chioncel, Van Der Veen, Wildemeersch & Jarvis, 2003). Accordingly, aiming to understand the process of shared sense making in expert groups that have a temporally rather similar object of the developmental work, i.e., making sense of the national core curriculum collectively, and further, orchestrating the curriculum process at the district level, the focus group approach, was a suitable methodological approach.

3.2 Participants

Data were collected from 12 groups around Finland responsible for orchestrating curriculum reform work at the district level. The steering groups involved participants from 54 municipalities. The municipalities varied in size and in terms of location (rural/urban) and they were situated all over the country. The groups (n=12) presented different methods of carrying out the local curriculum process in Finland, varying from collaboration between several neighbour municipalities to carrying out the reform work within the municipality or the city. Accordingly, the selected sample of the district-level curriculum reform steering groups municipalities, encompassed about 17% of Finnish municipalities (n= 54/320¹). Hence, the sample adequately represented not only the different types of municipalities in Finland, but also the variation of carrying out the local curriculum process at the district level. Accordingly, the sample can be considered ecologically valid in presenting the

¹ The municipalities were sampled on the basis of the national statistics gathered by Statistics Finland (2013).

contexts, coalitions and means of interpreting and orchestrating large-scale educational reforms at the district level in Finland.

The steering groups involved chief education officers, principals, primary and secondary school teachers, special education teachers, early childhood educators and youth workers. Therefore, the sample also sufficiently presented the main education stakeholders of the school districts. The groups were of various sizes (varying from 3–20 stakeholders) reflecting the [ecology] of the organisation of reform work. The coordinating groups were in the same phase of their local curriculum process; they were in the beginning of the process, reading the core curriculum document very carefully, trying to grasp the main ideas and starting to develop local interpretations and instructions for schools.

3.3 Data collection

The group interviews were conducted during spring 2015. The semi-structured theme interview embodied questions on three main themes: 1) *large-scale curriculum reform and school development*, 2) *organisation and implementation of the local curriculum process*, and 3) *ownership and agency in terms of ongoing curriculum reform*. In addition, there were background questions on the steering group's working history and justifications for the developed structure to carry out local curriculum work (see Appendix 1). The interview protocol aimed at gaining an understanding of different means and dimensions of orchestrating the local curriculum work. This part of the study focused on exploring educational practitioners' shared sense making process over curriculum reform. The interview protocol was validated by the members of the research group before the interviews.

The interviews were conducted by two senior researchers during the steering groups' meetings. All members of the steering groups were invited for a group interview and participation was voluntary. The participants were informed about the study and their rights as informants before

the interview. None of the steering group members declined to participate in the interview. Each interview took between 60 and 90 minutes to complete. The interviews were digitally recorded and transcribed into text files by a trained research assistant.

3.4 Analysis

The group interviews were qualitatively analysed for content. The analysis comprised two complementary phases. The analysis was conducted by using the ATLAS-ti programme. At first, all the text segments in which the participants referred to the *process through which they have constructed shared understanding of the core curriculum* were coded into the same category (primary coding). Accordingly, the selected episodes included collaborative elaboration that provided insights into the aim and function of the new core curriculum. This entailed episodes in which the participants described developing new understanding together to complement existing knowledge and beliefs, resulting in either the maintenance or alteration of the existing views of the core curriculum. To ensure the reliability of the primary coding, the disagreement analysis was conducted for the whole data by another senior researcher. The disagreement rate was less than 3%, hence showing that the developed criteria for identifying shared sense making episodes were adequately specified.

In the second phase of the analysis, the main category was classified inductively into the three sub-categories that constituted *the hands-on strategies* employed in the shared meaning making, i.e., in translating the big ideas of the national core curriculum into the preparation of the local curriculum work:

- 1) *Comparison*, entailing reflecting aims, values and contents, contrasting the values of the new core curriculum against the previous curriculum reforms, ongoing school development initiatives and/or school legislation;

2) *Standardisation*, including analysing and identifying the challenges, possibilities and changes that the new core curriculum would formally obligate the schools to commit to;

3) *Transformation*, comprising clarifying the consequences of the reform (i.e., envisaging future school), reflecting the consequences of the planned actions, developing collective knowledge artefacts and shared practices to orientate further actions in school development work.

Also in the second phase of the coding, the disagreement analysis was conducted for the whole data. The disagreement rate was less than 2%, showing that the developed data-driven sub-categories for identifying the means to translate the big ideas into practice in the local-level curriculum process were adequately specified. Accordingly, the categories resulting from both of the content analysis phases were validated by the research group at the end of each analysis phase (Miles & Huberman, 1984; Yin, 1994). The researchers read the data carefully, constructed the categories and negotiated them in detail. In the few cases of disagreement, consensus of final categorisation was reached in a discussion between researchers. Moreover, the ecological validity of findings was tested and verified during visits of coordinating groups' meetings (spring, 2016), where researchers and educational practitioners reflected together on the results (e.g., Bryman, 2004; Creswell, 2003). Coordination groups verified the authenticity of the results and researchers' conclusions.

4. Results

The results showed that the district-level steering groups used several complementary means to process the big ideas of the national core curriculum to develop their insights at the local curriculum level. Shared meaning making was carried out by actively employing various hands-on strategies

including *comparison*, *standardisation* and *transformation*, and the different strategies were employed for partly different purposes.

Comparison as a means to construct shared meaning of the new core curriculum (f=20)

The steering groups facilitated the shared sense making at the local level by reflecting the values, the underlying learning conceptions and the contents of the new core curriculum against the previous curriculum reforms, ongoing school developments, and school legislation. The participants described building the shared understanding of the reform, both by reflecting it against the contemporary drivers of school development such as school legislation and by comparing it to the previous curriculum reforms. This enabled the group members to build context-specific interpretations of the big ideas of the new core curriculum by connecting the current reform into national development work, and into the longer-term developmental trajectories (past and future) of school development. Hence, by analysing and making shared interpretations about the objects of the core curriculum, the steering groups tried to develop their understanding of the function of the core curriculum and analysed what has changed.

(CASE P9; contrasting to the school legislation and statutes)

B1:...we had a curriculum day for the principals and the conclusion was that, unfortunately, the national allocation of lesson hours still restricts the number of subjects. And that we should have also been able to achieve larger entities regarding the contents of teaching.

(CASE P10; contrasting to the previous curriculum reforms)

C1:...Also, the earlier curriculum focused on controlling the content of a subject and going through the issues to be covered during the course. Now the focus has shifted, it has been turned upside down. This new curriculum focuses on the operating culture and methods of the school, on doing things together, and on participation.

Results indicated that the comparison was a central strategy for bridging the state-level aims and contents introduced in the core curriculum to the district-level processes, but were not in themselves sufficient for clarifying the consequences of the normative implications of the new core curriculum for district-level learning. Accordingly, the steering groups were challenged, not only to identify what has changed, but also to draw on the specifics, i.e., what should be changed and developed in the everyday life of schools.

Standardisation as a means to construct shared meaning of the new core curriculum (f=28)

The local-level steering groups also built shared understanding of the reform by analysing and identifying the kinds of obligation, i.e., the challenges, possibilities and changes, the new core curriculum would provide for all schools within the district at the local level. Groups' reflection on standardisation typically focused on modifying, compromising and balancing between the norms set by the new core curriculum, and the local district-level characteristics, opportunities and constraints.

(CASE P1, examining and identifying the possibilities)

D1: In my opinion, the core curriculum provides plenty of opportunities. I do like them, and in a way I am sure that this provincial cooperation will encourage schools and teachers and challenge them to think about their own activities and procedures... I

find that the bigger picture has changed, and of course it is difficult to suddenly start thinking about things that are not right, and how we should do things... (**A2:** Yes, it is difficult to change because...) it is difficult to change and start looking at the bigger picture, and thinking about the direction we should take.

(CASE P6, examining and identifying the challenges and changes)

F1: The next issue to be digested over the next six months is the multidisciplinary learning modules, and how to involve the pupils in constructing the annual themes of modules.

F2: But I think it is great that a multidisciplinary approach is expected and it involves the pupils.

F1: It is, but the practical implementation in each school and municipality needs to be worked out.

F2: Absolutely.

The participants perceived the standardisation as a two-way process. They, for instance, reflected on how local-level resources were aligned with the aims set by the core curriculum on how previously developed pedagogical practices would also serve the implementation of the state-wide educational reform. Accordingly, the shared sense making in the form of standardisation aimed to translate the big ideas written in the core curriculum to the district-level learning initiatives by balancing the fit between the objects of the core curriculum and the objects of the local developmental work that are viable for carrying out at all schools in the area.

Transformation as a strategy for constructing shared meaning of the new core curriculum (f=25)

Further investigation showed that transformation provided a strategy of shared meaning making with the steering groups. Transformation that activated and sustained professional learning in the groups entailed anticipating, structuring, considering, framing and reflecting potential strategies and consequences of the new core curriculum for the local curriculum work and everyday lives of schools. Transformation also included developing collective knowledge artefacts and practices that orientated their further actions for activating, instructing, disseminating and facilitating the curriculum work within the schools in their district.

(CASE P3, developing collective knowledge artefacts and practices)

G1: And how will they define good conditions for learning [in the classroom] in the future? Will it mean pupils sitting down quietly while the teacher talks, or will it mean active involvement; doing things together, interacting and being motivated? This is discussed there [in the new core curriculum], and discussion is good, of course, but the concept of working in peace is likely to change. And it is as you said, it depends on the teachers' attitude; should they be working in silence or should they be participating, discussing and making things happen?

G2: ... parents and pupils of two small schools come to see our school of about 150 pupils. Active participation was implemented in all classrooms, and it certainly wasn't a quiet day. At the end of the day, a few of the parents asked us if we also have quiet working time. So this talk we had earlier about the importance of getting it across to the parents that the pupils might have learnt ten times more today than they did when pupils sat down and worked with their exercise books.

(CASE P6, considering the consequences of the planned actions triggered by the new core curriculum)

H1: I would like to bring up thriving in school. I don't know if it is right to think that a good school cannot be fun, and thinking about whether it is even possible to have pleasant schools, and will the activities there be purposeful. But I believe that if we make schools more comfortable and fun and activities more purposeful, then we will improve our results. Thinking about it through a graph, if we have thriving in school on the x-axis and purposeful activity on the y, and we slightly increase the thriving and purposeful activity, then we will see that the area in the graph will increase to the power of two, meaning better results. That is what I believe.

H2: And thinking about unleashing creativity: we have been quite careful with that when running schools: We have kept going with the old models, and if anyone has tried something different, it has pretty much been frowned upon rather than encouraged.

H3: Another issue is actually making the objectives of the curriculum crystal clear. We talk about the objectives listed in the curriculum, and how there are so many that it is impossible to implement everything in the 230 lessons, or whatever the number is at the end of the document, that there is no time to do everything. I'm wondering if we should take all the objectives in the curriculum, or if we should be taking them from somewhere else. Is it possible that the objectives inside our heads are in fact more extensive than the ones in the curriculum...?

Creating new knowledge through the shared meaning making that questioned current pedagogical practices and approaches to learning at the school level was also perceived as being crucial for activating district-level learning. Particularly, the transformative strategy activated and sustained professional learning in the steering groups, and further, facilitated shared knowledge creation.

5. Discussion

Methodological reflections

The validity and reliability of the qualitative study was increased by taking account of the criteria of *trustworthiness* in qualitative research (Lincoln & Guba, 1985). More specifically, the *replicability* of the study was increased by structuring the interview instrument thematically (see Appendix 1) that was further applied with the similar protocol in all steering group interviews, i.e., focus groups of this study. The proactively planned fieldwork protocol included several phases. First the study was introduced to the steering groups, during the interview the groups were allowed sufficient time in different sized groups and participants were encouraged to share their own views with others. In the end of the interview, a brief summary was offered to ensure that the new knowledge constructed in the group discussion was perceived similarly between the researchers and informants and among the informants. Accordingly, by standardising the fieldwork procedures, the *credibility* and *dependability* of the study were increased. (Chioncel et al., 2003. Morgan, 1996; Krueger & Casey, 2015; Shenton, 2004.)

Moreover, all representative group interviews and the cross-checking of the data analysis were conducted by two authors of this paper for optimising the power of the *[researcher] triangulation*, and further, increasing the *confirmability* and *transferability* of the results (e.g., Shenton, 2004). More specifically, the two moderators of the discussion, who ensured that the members of the steering groups cover each of the research questions comprehensively, asked for clarification and triggered further discussion related to the particular theme under collective reflection. The risk for the dominance or passivity of some participants, and further, ending with the collective aspiration

toward unanimity while ignoring the information inconsistent with the dominant views of the group (i.e., 'groupthink'), was prevented by monitoring the stakeholders' participation in the discussion. Reversing, when needed, back to the previously presented or passed perspectives that were expected to be crucial for capturing the variety of the educational stakeholders' views in the shared sense making process (Chioncel et al., 2003; Morgan, 1996; Krueger & Casey, 2015).

The views of the focus groups as well as their process is highly contextualised in the specific conditions of Finnish curriculum reform, therefore the results are not applicable as such, but must be considered in the light of the contextual features. The researchers are also a part of the Finnish context and this gives advantages to qualitative approach by helping to understand and interpret groups' discussions. However, it may also produce some blind spots to the analyses.

Theoretical reflections

Shared sense making in terms of goals of the reform is often put forward as the key for educational innovations to take root on the school level (Pyhältö, Pietarinen & Soini, 2012; Coburn, 2005; Hargreaves & Fullan, 2012; Weick, 2005). Shared sense making in terms of the educational reform is not self-evident or easy, actually, the lack of it is often recognised as a reason for reform failure. Moreover, sense making is crucial at every level of the school system, as the reform proceeds. In this study, we aimed to contribute to the understanding about the shared sense making at the district level acting as a sort of mediating level in the reform process. We were interested in what actually happens; hands-on strategies of sense making used by the curriculum reform steering groups of the district level.

The steering groups were, at the beginning of the implementation process, trying to make sense of the objectives of the reform and build a collective understanding of the new core curriculum and its potential implications at the local level. Our results show that even though an extensive variation between the municipalities in terms of location, resources and the form of which the local curriculum work is organised, all of the local steering groups carried out intentional shared sense making to some extent. They also used different hands-on strategies of shared sense making. The groups typically employed more than one strategy, however, not all of them utilised all of the strategies. Three hands-on strategies of shared sense making including comparison, standardisation and transformation were identified. The results suggested the standardisation (i.e., *what should and can be changed at the local level*), provided a route for movement from the comparison (i.e., *what has changed in the written core curriculum*) to the transformation of big ideas into school development activities (i.e., *what we should and could learn in this curriculum renewal process*).

The results indicated that different hands-on strategies have different functions in the process of making sense of the reform objectives. The first strategy of *comparison* was used to map the recent school developments and locate the reform in this more broadly. In addition, comparison was also utilised to temporally locate the reform in the continuum of school development by building connections between the past and the future. This served as a strategy to build bridges between prior knowledge and understanding and the suggested changes that reform suggests (Coburn 2005). By comparison, groups got access to the social capital in the steering group by activating and making the participants' prevailing understanding of school education and reforms and development work explicit. Hence comparison, even though a seemingly simple and obvious strategy, is in fact a fundamental basis of learning together. Comparison also enabled informed goal setting and more awareness of the specific role of the district level in the process by helping to identify the

connections between levels of the educational system or even put the reform in perspective with changes in society and the world.

The *standardisation*, on the other hand, provided a concrete frame of reference for the reform, including analysing the demands of the new core curriculum in light of the resources at hand. It can be seen as an experiment of thought in which a group's members held the new curriculum to the fire by discussing their consequences and aiming for calibration of an existing situation and possible futures. It is also a bargain of what is the minimum that every school and teacher has to apply in the reform goals and what has to be left aside because of the resources or other contextual matters. Standardisation as strategy serves meaningful contextualisation. However, it may also reflect power relations when the district level acts as a gatekeeper or judge of what is possible at the local level (Coburn 2005). Some reform ideas may be abandoned without wider discussion with stakeholders outside the steering group on this point.

Both comparison and standardisation are in line with the idea of education as a dynamic and open system, constantly balancing between internal and external regulators and managing tensions between maintaining and renewing (Luttenberg, Carpay & Veugelers, 2013). They reflected their struggle to build cohesion between changes in the world and society and the aims of national education development and integrate the major ideas of the core curriculum into everyday life in schools. The *transformation* as a shared sense making strategy, on the other hand, takes shared sense making one step further, by concentrating not just on how to cope with the immediate reform demands or do what should be done, but also by calling for the additional value of the reform. The transformation as a strategy aims at having had a profound and lasting impact on the school level, and bringing something new, and exceeding the minimum expectations set by the core curriculum. That is facilitating new learning.

Prior research shows that the reason why the school reforms tend to be ineffective is that reforms are expected to provide high-quality learning, but it is not considered to be a primary strategy in conducting the development process. Moreover, this is the reason why research-based knowledge of powerful learning environments is rarely translated into a primary implementation strategy of educational reform. Our results suggested that transformation as a hands-on strategy included an effort towards new, meaningful learning in terms of the aims and objectives of the curriculum. However, the comparison and standardisation may constitute a basis for transformation; i.e., comparison and standardisation may provide preconditions for transforming general aims into locally understandable and feasible objectives. Without building a map for the reform via comparison and standardisation, transformation that calls for engaging local educational stakeholders in the collective learning process may be impossible. At the same time, if comparison and standardisation dominate the shared sense-making, something that might be a seed for some entirely new learning may be lost along the way.

Implications to designing and leading the curriculum reform

Local curriculum work is always embedded in the complexity of a nested educational system facilitating sustainable school development, it seems fundamental to be able to connect the new core curriculum to other drivers of education, and as part of the continuous process of school development. Overall, the results indicated that the use of different kinds of hands-on strategies in shared sense-making enable building alignment between the levels of the school system, seeking synergies and overcoming the obstacles of school development. However, the strategies of shared meaning making are complementary rather than contradictory. They form an integrated whole and serve different causes. To a certain extent, the strategies seem hierarchical, as if presuming one

another; to get to the new learning and actual transformation of the big ideas of the reform into practical development work, comparison and standardisation are required. In designing and leading the effective curriculum reform, there should be enough time not just for sense making but also varying strategies to deal with the reform, and advancing to transformative and collaborative phases that facilitate learning.

The results also imply that hands-on strategies are not always intentional or even acknowledged by the actors of the reform process. However, by identifying the hand-on strategies, they can be evolved as ‘a toolkit of sense making’ that is intentionally utilised for different purposes, depending on the situation and task at hand. More intentional use of strategies could facilitate a meaningful shared sense making that engages the participants, and hence, transforms the ‘messy everyday school development practices’ toward a more explicit and systematic means of promoting professional learning in curriculum reform. The districts’ role in the large-scale reforms might be creating conditions to meaningful learning between levels by inviting stakeholders from the state, district and local level to a planned and intentional shared sense-making process, utilising strategies identified in this study and, further developing them to meet the need of the current curriculum reform.

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APPENDIX 1

CURRICULUM REFORM IN DISTRICT LEVEL	
Theme	
Background questions	Is everyone present? We'll deal with the local process a little later, but can you explain briefly how the group working on the curriculum has been created?
Objectives General objectives	<p>If you think about comprehensive school in Finland, how do you see it at the moment?</p> <p>What are the key challenges in its development? Which things do you feel are in good order?</p> <p>In what direction is the comprehensive school developing?</p> <p>You are in the process of reforming the curriculum. How do you think the curriculum of the comprehensive school should be reformed? Why?</p> <p>In your opinion, what kinds of things in the operation of the school should be changed in particular? Why?</p> <p>What do you think about this new national core curriculum?</p>

	<p>How do you feel the work concerning the national core curriculum has been carried out?</p> <p>How have teaching organisers and operators participated in the work on the national core curriculum?</p>
<p>The process</p> <p>The phases of the curricular work</p>	<p>How has the work on the curriculum been organised?</p> <p>What are the phases through which the work on the curriculum has proceeded?</p> <p>What kinds of things have sparked the most discussions within your group?</p> <p>What has worked out well in your work? Why? Where do you think you have succeeded well?</p> <p>What challenges have you faced? Why?</p>
<p>Implementation</p>	<p>What are the next steps in the work on reforming the curriculum?</p> <p>What does its success require?</p>
<p>Operation</p>	<p>What things do you especially aim to influence in this work on the curriculum? Why?</p> <p>What is hampering/facilitating the realisation of this?</p> <p>How do you wish the new curriculum would be visible in the daily life of the school?</p>
<p>Converging assessment of the significance of the work on the national core curriculum</p>	<p>In your opinion, what is the significance of the work on reforming the curriculum?</p> <p>Finally, think about things you feel you have been able to influence.</p>

IN THE END: Would you wish to add or comment on anything? Do you feel some important issue has not been discussed?

Thank you for the interview!