

The Content and Implementation of Shared Professional Knowledge in Early Childhood Education

RESEARCH ARTICLE

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Abstract

Drawing on the sociocultural view, shared knowledge is regarded as a basis for interdependent working and multi-professional learning in early childhood education. Shared professional knowledge can be seen as a central element in successful collaboration facilitating individual and collaborative professional learning. This study aims to investigate the content and implementation of shared professional knowledge in an early childhood context. Video-taped data were collected using a stimulated recall method from the two participating teachers. The results show that the content of shared professional knowledge was related to two areas in the teachers' professional knowledge: *professional self* and *professional tasks*. In addition, the shared professional knowledge varied according to the teachers' work contexts. This study offers new knowledge on early childhood education practices and teacher education, considering multi-professional collaboration, and shared learning.

Keywords: Professional knowledge, workplace learning, teacher development.

Introduction

As the special issue of *Early Years* (2/2015) highlighted, various forms of workplace learning have been an under-researched area in the professional development of early years pedagogues, internationally. Compared to more formal educational processes, these less regulated co-operative practices can offer significant possibilities for early years pedagogues to participate in joint learning of their professional knowledge and skills (Loewenberger Ball, Ben-Perez and Cohen 2014; Venninen, Leinonen, Ojala and Lipponen 2012). In order to maintain and increase the quality of educational practices, it becomes essential to share pedagogical knowledge and know-how within a co-workers collaboration, in order to enhance joint professional learning (e.g., Ponte and Twomey 2014). Professional development that makes use of teacher collaboration is more successful in promoting quality in teaching and caring practices (e.g., Hattie 2012). In order to flourish, the shared learning processes also require a supportive environment: trust, motivation, commitment, and positive willingness to develop (Papatheodorou and Moyles 2009). As a result, collaboration among teachers and educators also promotes meaningful workplace improvement (Barnett and Mahony 2007). An individual's task in collaboration is not merely to master the knowledge or method of his or her own work, but also to improve the knowledge and know-how of others (Hakkarainen, Lonka and Lipponen 2004). This shared approach emphasizes joint practices as a basis for the collaborative learning of educators. During the past decade, interest has increased in creating opportunities for teachers to work together on improving their practices (Collinson and Fedoruk Cook 2004). Views expressed in recent literature state that, in order to have an effective (lasting) impact, professional development should be ongoing, interactive and based on both theory and practice (e.g., Dalli 2011; Winton, Snyder and Goffin, 2016). However, studies related to educational knowledge-sharing (Hou, Sung and Chang 2009) and

the crafting of working tasks are still rare in early childhood education (Ryan and Whitebook 2012). Detailed case studies are recommended in order to gain a deeper understanding of the knowledge sharing processes and their contexts (Fullwood, Rowley and Delbridge 2013). Officially, in early childhood education, there is an increasing emphasis on multi-professional and inter-agency collaboration (Wood and Bennett 2000; Ojala and Venninen 2010). In Finland, this approach has been emphasized in the national early childhood curriculum guidelines (2004), (e.g., Ministry of Social Welfare and Health 2002, 18). However, research shows that a great variety exists among preschools and day-care centers in these respects (e.g., Karila and Kinos 2012). Differences and dilemmas have been illuminated between professional discourses and different versions of professional knowledge (Frost and Robinson 2007; Rose 2011; Venninen et al. 2012). The research also shows that early childhood education communities differ in how conscious educators are as regards the culture affecting their work environment (Alasuutari and Markström 2011; Huijbregts, Leseman and Taveccio 2008; Karila 2008; Onnismaa and Kalliala 2010; Vandenbroeck 1999). Accordingly, the research exposes the need for investigating shared professional knowledge in an early childhood educational contexts (e.g., Ugaste and Niikko 2015). The purpose of this study is two-fold: first, to clarify what constitutes the shared professional knowledge of early childhood teachers, and second, to present how this knowledge is implemented in early childhood practices.

Sociocultural view on shared professional knowledge and learning

This study is based on a sociocultural view, in which learning takes place in social interaction influenced by other individuals, significant or capable others environments, and

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cultures (e.g., Kelly 2006). It is through reciprocal interaction in their workplaces that educators construct their professional knowledge and understanding (e.g., McCormack, Pancini and Tout 2010). Thus, the knowledge of individuals and institutions is constituted and maintained through constant mutual participation and contribution to work activities (Rogoff 2003).

Workplace learning is not only focused on professional practices, but also on the worker's self, identity and agency (Eteläpelto 2008; Wenger 1998). Both these affect how individuals experience their opportunities to learn and participation in learning in work contexts (Paloniemi, Rasku-Puttonen and Tynjälä 2010.) The emphasis in work learning is on the relational *interdependency* of an individual teacher, and his or her socially negotiated practices (e.g., Lave 1993). In collaboration, knowledge becomes a tool for professional development, and this constant social interplay between knowledge and the processes of knowing makes new understandings possible.

When an educator creates his/her professional knowledge, the process occurs both collectively and individually. This mutual knowledge has been described in many ways: e.g., *shared information or common ground* (Clark and Schaefer 1989), Cooke, Salas, Cannon-Bowers and Stout (2000) use the terms *shared knowledge and shared understanding*. Shared understanding among team members is an important factor for team performance (Stout, Cannon-Bowers and Salas 1996), facilitating successful collaboration (Teasley and Roschell 1993). In literature, knowledge sharing is referred to as a part of continuous learning which occurs through interaction among co-workers (Sandhu, Jain and Ahmad 2011), enabling individuals to develop shared awareness of the progress made and the goals (Wang and Noe 2010). Thus knowledge sharing can also be described as a “description of members’ behavior

in teams” (Xiang, Lu and Gupta 2013). However, producing shared knowledge often occurs through informal and daily discussions in the workplace (Bakker et al. 2006).

Shared professional learning should lead to both visible changes in practice (e.g., Billett 2008) and within the individual’s thinking about the practice (e.g., Kelly, Berry and Battersby 2007). However, these kind of developmental processes are slow and gradual, requiring constant effort by the teacher to re-examine their understanding (Peterson and Baker 2015; Vosniadou 2003). This is because the practical knowledge underpinning an educator’s work is often messy (Berry, Loughran, Smith and Lindsay 2009) and lacks clear distinctions e.g., between different types of knowledge (theoretical and practical) in deliberative professional practices (e.g., planning, evaluating, and decision-making) (Eraut 1994; Author 2005). The research literature highlights teachers’ professional knowledge as personal, integrated, and socially distributed (Putnam and Borko 1997; Knight 2002), with a large and important tacit dimension (Eraut 2007, 2000). This tacit dimension can be found “in both individual and collective practices in versatile, implicit, informal, and unintentional ways ...[and] its complexity and ambiguity are generally acknowledged” (Toom 2012).

Research questions

The current study aims to explore:

- (1) What constitutes the shared professional knowledge of early childhood teachers?
- (2) How is shared professional knowledge implemented in early childhood practice?

Methods

This qualitative research interpreted the studied phenomenon through the understanding that teachers raised (Denzin and Ryan 2007). The interpretive approach views human interaction as meaningful and real, worthy of respect, and reveals how a common and intersubjectively shared understanding may be achieved. (Vannini 2009.) In order to progress from these complex phenomena and questions to answers, we used a case study approach (Yin 2014); an approach suitable for research in real-life context (Cohen, Manion and Morrison 2007).

In order to explore what constitutes preschool teachers' shared professional knowledge, we emphasize the importance of the daily context (e.g., Van Oers 1998). We particularly studied teachers' shared professional knowledge in two contexts: in-teaching (situations with children) and out-of- teaching contexts (professional interactions without children, i.e. team meetings).

Data acquisition and analysis

Two, experienced preschool teachers participated in the study. Both teachers worked in a preschool group with 20 children and with a team of two colleagues. The first author and the teachers planned together the situations to be recorded on video. Parents gave their written consent. Data acquisition consisted of two phases: (1) video-taped situations based on in-teaching and out-of- teaching contexts,(2) stimulated recall- interviews based on the

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videoed in- and out-of- teaching situations (*str*-interview) (Lyle 2003; Newhouse, Lane and Brown 2007).

The *str*-interviews were conducted the day after the recorded interaction. The teacher was asked to look at the video before the interview, and to pay attention to knowledge sharing both in social interaction with children and colleagues. It was agreed that both the teacher and the researcher could stop the video for discussion. Given that the teacher did not notice a certain interaction, the researcher could ask a question related to the action visible in the recordings. For instance the following questions were asked: ‘What did you think about during that situation? What were you thinking about when you decided to do this?’. The purpose of the “what” question was to elicit teachers’ reflections, enabling the researcher to follow the thought- process. The premise for this kind of inquiry is to achieve understanding about the individuals’ beliefs of what knowledge is and, how one comes to know (Hofer 2004). The video material consisted of twenty recorded units, from in-teaching- and out-of-teaching situations constituting a total 8 hours 46 minutes and from *str*-interviews a total 9 hours 10 minutes.

In order to gain understanding of the data, all interviews were read multiple times and analyzed as a whole. The analysis was processed with a comparison to the theories of learning, collaboration (e.g., Eteläpelto 2008) and teacher knowledge (e.g., Elbaz 1983; Conway and Clark 2003) using a deductive coding scheme (Miles and Huberman 1994). Content analysis was used as a tool to describe the substance characteristics (Neuendorf 2002) and to identify relationships among teachers’ knowledge. The analyses were conducted in two phases: (1) to determine the content of the shared knowledge, we identified broad categories of shared professional knowledge, (2) we analyzed the *str*-interview data in terms of in-teaching and out-of-teaching situations.

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Analysis was initiated by coding and interpreting the teacher's expressions. Codes were then grouped into categories, which were used to organize and sort the codes into meaningful clusters (Patton 2015). The quotations presented in the results chapter are translations from the Finnish transcriptions. Trustworthiness was addressed by using peer debriefing (Marshall and Ross man 2006) through ongoing data chats. Inter-rater agreement of the coding was enhanced through the data chats between the researchers. Respondent validation was also carried out (Maxwell 2013) with participants. Ethical guidelines were followed in the data collection, analysis, and archiving and the anonymity of the teachers' were assured.

Findings

The findings of this study were related to the personal knowledge of teachers' and to their professional knowledge consisting of various tasks in teaching. These two major categories of shared professional knowledge were interpreted from early childhood teacher's interviews. Table 1 presents these major content categories with several sub-categories under each of them in their two contexts:

Table 1. The content of shared professional knowledge in two contexts

Note: Insert Table 1. approximately HERE

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As Table 1 shows, the data consisted of 473 analyzed teacher statements divided in the two major categories of shared knowledge: professional self (23%) and professional task (77%). The category of professional self with its sub-categories shows how the processes of learning to teach and educate are deeply personal matters including emotions and personal characteristics and values that are inexorably linked to teachers' identity and being. From this personal frame teachers adapt and develop their shared and negotiated knowledge and work practices. The category of professional task with its sub-categories shows the formation of a shared knowledge practices and their negotiations within an interplay between external and internal forces in the two investigated contexts.

Professional self

In theme I, teachers shared their emotions, personal characteristics, and professional values. Teachers spoke about their emotions and personal characteristics most often during the in-teaching context, which emerged during the daily practices as they focused their attention closely on the children.

Emotions and personal characteristics

During the hectic action of teaching, the teachers became occasionally confused by their emotions toward their colleagues. These sentiments were portrayed with a shade of bewilderment, in the midst of the brief and sudden incidences, with children around and time passing. Teachers revealed that opportunities are rare for clarifying questions about their colleagues' surprising behavior or their collaboration. Teachers found that if there was no time for shared discussions, it was possible to easily forget an incidence, and in this way essential

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questions accumulated. During the out- of- teaching context(mutual interaction between colleagues) some emotions and questions were aroused, especially if the teachers felt they had not been answered or listened to. This was indicated in the colleagues' behaviors and their discussions together about the practices. It was shown in the way they glanced at each other, had periods of brief silence, or shared their points of view. This implicit intersubjectivity emerged as an important factor, either causing more questions or satisfaction as regards the relational collaboration.

' It must be my personal thing, I am giving positive feedback constantly, I don't even register it actually, but it is so important to me, that I am wondering why they did not say anything to me '.

Professional values

Teachers spoke about their professional values, which were related to personal working manners and to views of intersubjectivity between colleagues. Intersubjectivity was described as joint practices based on both pedagogical values and the needs of the children. The teachers considered pedagogical values as the basis of early childhood education. Related to professional values the teachers differed in the way how they emphasized pedagogical values during teaching. One teacher highlighted a more individualistic flexibility and pedagogical consideration in challenging and demanding educational situations with a child or children..

Well, to hold on something like "rule", but nobody has been hurt, nothing has been broken and no one has been punched, nevertheless of these things ... to hold on so tightly something like toilet or dressing oneself "rules", hey come on, one can tack a little, these routes are not so straight that one could just chug directly like a motorboat ..one should think one's action a bit more.

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While the other teacher highlighted more the importance of the pedagogical values as shared between colleagues; she expected the team to act more according that what had been agreed.

During teaching, teachers felt that they expressed professional values through and with their personal working manners, linking these to the teaching profession. The significance of child-specific observations affecting teachers' actions and adaptation, were often described as central to their profession. During intensive interaction child-centered working-manners, such as positive feedback and individual support, were highly valued.

' Every now and then I wonder how one can be so tired after work, but when you interact with children, all the time switched-on, especially when you have this kind of challenging mates...so what to grasp, what to lift, what behavior to turn off and how and when... '

Relational interdependency between colleagues, especially related to the professional values that the educators adhere to were seen as an essential role, enhancing the quality of outcomes in shared educational practices.

' You should agree where everyone is to comment (children playing), it's important to agree that this method is important, and that how much we can help those children with this, especially those who are alone and don't have the negotiation- and play skills '.

In the out- of- teaching context, child-centered pedagogy and caring were the values appreciated and maintained. The shared base of pedagogical values, enhancing daily practices, was elusive and challenging to make evident. Both teachers emphasized shared participation and the explication of values and questions in teamwork. Here the teachers' views differed, because one teacher particularly reflected on how interdependency can

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become an unpleasant barrier when sharing, especially, with challenging subjects. She specifically stated that team members have a professional responsibility to open up and question the pedagogical bases of daily practices for mutual discussion and evaluation.

Professional tasks

Knowledge of professional tasks

In theme II., teachers shared their knowledge and negotiations of professional tasks. They expressed their beliefs about teaching and caring, how they implemented teaching, and the ways they evaluated both teaching and decisions.

During teaching both teachers focused their attention on the children. Teaching was described as an intensive situation, on which teachers try to maintain the balance between giving attention to an individual child and conducting the whole group. In these teaching situations teachers described how intertwined and implicit the nature of collaboration was with other colleagues, who were expected to be attentive and alert to what was going on.

‘ It’s important, that other adults are present so they know what has happened. You can’t comment or tell anything to the child, if you haven’t been present knowing what has happened to the child or between child and teacher ’.

Child observations were noted several times as a basis for implementation and instruction, i.e. what the children needed, how to address their abilities and individual development.

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‘ For example, when you discuss with parents, the knowing originating from child-observations – child’s social skills and behavior within peers - you’ll find better connection to the knowing that parents have ’.

Child-observations were regarded also as important tools for receiving information such as the child’s social competencies. Teachers gathered knowledge of the children’s academic abilities for planning further teaching and for decision making situations during teaching. These two sources of child-specific knowing were at the core of the professional tasks affecting decision- making, teaching outcomes (e.g., implementation, individual support, and tailor made decisions), and evaluation.

Sharing decision making with colleagues while teaching occurred mostly in problematic situations or those situations causing uncertainty. Decisions described during the in-teaching context were mostly either rapid interpretations, intuitive decisions with a short reflection or instant responses in the form of a routinized action with situational awareness. Deliberate, analytic reflection was conducted during the time spent observing children’s play and learning.

When describing their experiences of professional learning, teachers realized how it occurred during their practice. Most of all they remembered concrete occasions with children. In the act of teaching, they focused their attention on the children and on the ways they reacted, learned, and behaved.

‘ It felt good, wow, that they speak with each other about this kind of thing, that they continued having conversation, it was a highlight ’.

Through these learning experiences the teachers connected their feelings about learning from the children and their own teaching to events which they were able to evaluate and re-

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examine. These meaningful events offered experiences of educational successes and motivation to carry on, but also provided insights and opportunities to change their way of teaching.

Teachers focused their attention mainly on the children while teaching, thus the nature of learning became multidimensional (teacher – student - context), including also tacit knowing and awareness of colleagues. These learning situations appeared to be instantaneous during the practice itself, then re-examined later on. *Negotiation of professional tasks*

Teachers' negotiation of professional tasks consisted of their roles and responsibilities as well as negotiations of professional agency. Here the two teachers differed in the way how they expressed the role of professional agent: one teacher emphasized active role taking as a professional duty and task, while negotiating with colleagues. While the other teacher highlighted more the agentic role as democratic facilitator of shared information and planning. Roles and responsibilities were mostly described as the joint making of plans for the following week. Shared mutual trust played a crucial role both in the planning situations and in the implementation. Teachers addressed this trust as a relational interdependency between colleagues.

' Well, we have agreed, that everybody bears responsibility for certain parts of duties, so that the work will be done and not as though no one takes responsibility out of it '.

Participation, trust, and dialogue became essential in the negotiations concerning professional agency. Mostly the teachers negotiated about the practical aspects of their work.

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‘ When in discussions concerning team agreement, conversations were quite long and everyone had opinions. For example working at the coat rack helping children, ... I realized how important it is for next autumn for rules to be accurate and explicit ’.

During teaching, cooperation was evident in the awareness and clarity of the roles between co-workers. Distribution of work roles during the interaction were carried out.. Agreed working routines were treated as embedded verbal agreements of practice and were emphasized as an important agreement to be followed effectively. These routines enhanced collaboration and made the anticipation of individual support possible.

The teachers emphasized that the team should write down the goals of the education practices and methods they have agreed to use in practice. They considered that in this way educational values, the basis of practices, as shared actions (e.g., shared learning and participation of new educational method) could be better achieved. Both teachers stated that teams should also check, from time to time, whether they have worked according to these goals.

‘ If we’ll write it down here, so in that case it could be discussed, otherwise it could just stay in the air and be kind of shaky thing, that have we acted according the goal, according our agreement ’.

In the out-of- teaching context, the focus was on the practical dimensions of shared daily work, such as agreed practices and anticipation of individual support. Teachers planned the teaching, implementation, and goals of their own small group based on their practical and pedagogical knowledge.

‘ We discuss children’s learning in team meetings. We divided the subjects we’re teaching. The colleague teaching mother tongue has that information and I have emotional support. We join our knowledge gained. Difficulties children have, can be seen in both small groups ’.

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Teams shared planning-time was regarded as important from different viewpoints. Planning future practices was seen as being part of a mutual agreement to sharing information, and as a possibility to anticipate the children's needs, thus giving a feeling of clarity and certainty. Teachers also emphasized the role of mutually shared information, which was seen as a form of joint responsibility. This was assured through the individually written copies of the plans of the shared practices, and mutual agreements regarding daily work.

' It's a good thing that everyone writes down their own notes, so we remember and share things to do, so it's not just on one person's shoulders '.

Teachers felt that joint discussion brought up different opinions, which were valued. Decisions concerning practices were made within such dialogues, although the teachers were puzzled about certain aspects of the discussions, for example, the variety and quality of the amount of reciprocal interaction between co-workers. These notions of the quality of verbal and implicit interaction provoke surprise when the teachers watched the video-taped situations.

Related to the cooperation within the teams, the teachers related how conversation, and sharing feedback of one's own or a colleague's way of teaching, is done infrequently. One of the reasons for this was the small group teaching. Here the teachers' views differed, since one teacher stated that the cultural habits and ways of doing things hinder critical reflection; colleagues are cautious not to offend each other and want to keep up a positive working atmosphere. Cooperation within the community, between the day- care center as a whole, parents, and multi-professional experts in- and out- of each organization, concentrated the cooperation between colleagues (e.g., information exchange, shared methods).

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Evaluation was an important part of the shared planning time. This was needed firstly in order to develop practices, and second, to make the teacher's values as regards practice and education explicit in order to promote a shared basis for discussion.

Discussion

As presented, two areas of shared professional knowledge emerged : the shared knowledge of the professional self and the knowledge of professional tasks embedded in the joint professional practices of early childhood educators. Our results also show how shared professional knowledge had a personal tone, colored by tacit and even ambiguous dimensions. Joint practices and beliefs were expressed as important but challenging to put into words and thus elusive as regards documenting their actual meaning in everyday working practices. In line with the reasoning of research on professional knowledge (Putnam and Borko 1997; Eraut 2007; Toom 2012) our findings show that this elusive shared professional knowledge is largely embedded in the cultural habits which have an impact on relationships in the workplace. From the results, we highlight three points regarding the essence of shared professional knowledge of teachers': namely *uncertainty*, *awareness*, and *social harmony*.

First, professional knowledge was mainly shared in team meetings as negotiations through discussion. The outcome of the discussions was a joint commitment, which defined the everyday practice interdependently, as a plural subject (e.g., Gilbert 2006, 2001). However, this interdependency was also experienced with feelings of uncertainty (e.g., Munthe 2003), for example, 'Can I decide this matter on my own?'. These feelings of uncertainty were also experienced during the discussions as, 'How do I see others?, What does this mean for us?, How they see me in our shared experiences and negotiation

interactions?'. The participants considered their shared educational values as a joint basis for teaching and caring, although feelings of uncertainty were often reflected as a questions like: 'This educational practice is important to me, but do we, as a team, hold the educational values beneath the practice as shared and important?' Teaching decisions can be challenged and this seems to be an element of vulnerability in teaching (Kelchtermans 2009). On the other hand uncertainty can facilitate the reorganization of current beliefs, values, and conceptions (Jordan and McDaniel 2014) leading to teacher learning.

Second, in this study, teacher learning was situated within the practice of teaching and related to both the children's and the individual teacher's own teaching. This notion illustrating teachers' learning integrates Wagner and French (2010) finding that teachers' perceptions of the changes in the children in their care enhance their efforts towards professional development. However, these practical - though significant - learning situations appear to remain implicit between co-workers. This implicit learning may waste opportunities to facilitate a shared child-oriented perspective, i.e. a mutual view to direct the attention of adults to an understanding of the children's perceptions, experiences, and actions (see Pramling and Pramling-Samuelsson 2011). Critically reflecting on oneself with co-workers was challenging because teachers were not used to it, like the one teacher stated: ' It isn't the custom in this community to critically question ones' own or others teaching and decisions '. This raises a question if the professional practices embedded in a community maintain 'social harmony' at the expense of discursive argumentation (Anderson, Thomas and Nashon 2009), since the ability to reach goals one could not reach alone, takes a willingness to clarify and disagree respectfully (Peterson and Baker 2011). Third, this may imply that when teachers notice (e.g., van Es and Sherin 2008), they learn mainly from the children rather than from their colleagues, they learn personal knowledge about themselves, their teaching, and

children's learning. However, to construct joint learning requires sharing one's own thinking (e.g., Stoll et al 2006). 'Metacognitive awareness and analysis of one's own learning processes need to be supported by membership in a learning community' (Shulman and Shulman 2004; see also Schneider and Kipp 2015). Thus the critical reflection of teachers on their practices is an important part of strengthening their professionalism (Osgood 2006), as it provides opportunities to question and change their views and practices. Feedback from others is essential because it allows an exploration of understanding, which advances and develops the shared knowledge of a community (Hatton and Smith 1995). Related to these reasons mentioned above, is the fact that shared professional knowledge can also enhance, in addition to shared learning, one's own and collaborative job crafting, and thus promote early childhood teaching outcomes (see for example Leana, Appelbaum and Shevchuk, 2009).

We emphasize that these findings are specific to this investigation, and therefore, caution should be observed when generalizing the results to different contexts. However, it would seem that our results, occurring in the Finnish early education contexts, could somehow represent an apt description and evaluation of a shared knowledge construction possible also in other contexts.

The increased interest in the professional development of early childhood educators has many facets. Internationalized educational policy and economical discourses focus attention on the notions of accountability, standards, and best practices (Moss 2007; White 2011). We are not offering "more" education as a solution (Urban, 2012), but an insight into the characteristics of professional knowledge sharing to further educators' understanding of their views and awareness of their own professional development. Within this study we consider that the shared professional knowledge and learning in early childhood education should be focused on practice and arise from practice, and on successful occasions this

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contributes to personal and communal growth. This requires both the awareness and willingness of educators to examine their values and beliefs about teaching and care.

However, it first of all requires relational trust in order to enhance critical interaction between colleagues who are deliberately trying to find out what are the assumptions that influence the way we think and act (e.g., Brookfield 2012; Farrell 2006), i.e. structural and relational factors are required to support successful professional development. These findings emphasize that in early childhood teacher education we need to develop pedagogical, reflective practices and skills in pre-service teacher education. As far as in-service early childhood teacher development, we need to enhance more holistic perspectives to support teachers' professional learning, because learning in and from the workplace is a complex process in which learning, context, and learner are inextricably related.

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References

- Anderson, D., G. P. Thomas, and S. M. Nashon. 2009. "Social Barriers to Meaningful Engagement in Biology Field Trip Group Work." *Science Education* 93 (3): 511–534.
- Alasuutari, M., and Markström, A-M. 2011. "The Making of the Ordinary Child in Preschool". *Scandinavian Journal of Educational Research* 55 (5): 517–535. DOI: [10.1080/00313831.2011.555919](https://doi.org/10.1080/00313831.2011.555919)
- Bakker, M., R. Leenders, Gabbay, S. M., Kratzer, J., and Engelen, J. 2006. Is trust really social capital? Knowledge sharing in product development projects. *The Learning Organization* 13 (6): 594–605. DOI [10.1108/09696470610705479](https://doi.org/10.1108/09696470610705479)
- Barnett, B., and G.R. Mahony. 2007. "Reflective Practice: International and Multidisciplinary Perspectives." *Reflective Practice* 7 (4): 499–523. DOI: [10.1080/14623940600987130](https://doi.org/10.1080/14623940600987130).
- Berry, A., J. Loughran, K. Smith, and S. Lindsay. 2009. "Capturing and Enhancing Science Teachers' Professional Knowledge." *Research in Science Education* 39 (4): 575–594. DOI [10.1007/s11165-008-9095-8](https://doi.org/10.1007/s11165-008-9095-8).
- Billett, S. 2008. "Learning throughout working life: A relational interdependence between personal and social agency." *British Journal of Educational Studies* 56 (1): 39–58. DOI: [10.1111/j.1467-8527.2007.00394.x](https://doi.org/10.1111/j.1467-8527.2007.00394.x).
- Brookfield, S. 2012. *Teaching for critical thinking: Tools and Techniques to Help Students Question their Assumptions*. San Francisco, CA: Jossey-Bass.
- Clark, H. H., and E. F. Schaefer. 1989. "Contributing to Discourse." *Cognitive Science* 13 (2): 259–294.
- Coburn, C. E. 2001. "Collective Sensemaking about Reading: How Teachers Mediate Reading Policy in Their Professional Communities." *Educational Evaluation and Policy Analysis* 23 (2): 145–170. <http://www.jstor.org/stable/3594127>.
- Cohen, L., L. Manion, and K. Morrison. 2007. *Research methods in education*. London: Routledge.
- Collinson, V., and T. Fedoruk Cook. 2004. "Learning to share, sharing to learn." *Journal of Educational Administration* 42 (3): 312–332. <http://dx.doi.org/10.1108/09578230410534658>.
- Conway, P. F., and C. M. Clark. 2003. "The journey inward and outward: a re-examination of Fuller's concerns-based model of teacher development." *Teaching and Teacher Education* 19: 465–482. doi:10.1016/S0742-051X(03)00046-5.
- Cooke, N. J., E. Salas, J. A. Cannon-Bowers, and R. Stout. 2000. "Measuring Team Knowledge." *Human Factors* 42 (1): 151–173.

- Dalli, C. 2011. "A curriculum of open possibilities: a New Zealand kindergarten teacher's view of professional practice". *Early Years* 31 (3): 229 – 243.
DOI:10.1080/09575146.2011.604841
- Denzin, N. K., and K. E. Ryan. 2007. Qualitative methodology. (Including Focus Groups). In *The SAGE Handbook of Social Science Methodology*, edited by W. Outwaite, and S. P. Turner, 578–595. London: SAGE Publications Ltd.
<http://dx.doi.org/10.4135/9781848607958.n32>
- Elbaz, F. 1983. *Teacher thinking: A study of practical knowledge*. London: Croom Helm.
- Eraut, M. 2007. "Learning from Other People in the Workplace." *Oxford Review of Education* 33 (4): 403–422 . DOI:10.1080/03054980701425706.
- Eraut, M. 2000. "Non-formal learning and tacit knowledge in professional work." *British Journal of Educational psychology* 70 (1): 113–136.
- Eraut, M. 1994. *Developing Professional Knowledge and Competence*. London: The Falmer Press.
- Eteläpelto, A. 2008. "Perspectives, prospects and progress in work-related learning." In *Emerging perspectives of workplace learning*, edited by S. Billet, C. Harteis, and A. Eteläpelto, 223–247. Rotterdam: Sense.
- Farrell, T. S. 2006. "Reflective Practice in Action: A case study of a Writing Teacher's Reflections on Practice". *TSL Canada Journal* 23 (2): 77–90.
- Frost, N., and M. Robinson. 2007. "Joining Up Children's Services: Safeguarding Children in Multidisciplinary Teams, *Child Abuse Review* 16 (3): 184–199. DOI:10.1002/car.967.
- Fullwood, R., J. Rowley, and R. Delbridge. 2013. "Knowledge sharing amongst academics in UK universities." *Journal of Knowledge Management* 17 (1):123–136. DOI 10.1108/13673271311300831.
- Gilbert, M. 2006. "Joint Commitment and Obligation." Chapter 7 in *A Theory of Political Obligation: Membership, Commitment, and the Bonds of Society*, 126–164. Oxford Scholarship Online. DOI: 10.1093/0199274959.001.0001
- Gilbert, M. 2001. "Collective Preferences, Obligations and Rational Choice." *Economics and Philosophy* 17 (1): 109–119.
- Hakkarainen, K., K. Lonka, and L. Lipponen. 2004. *Tutkiva oppiminen: Järki, tunteet ja kulttuuri oppimisen sytyttäjänä* [Investigative learning: Intelligence, emotion and culture rousing learning]. Helsinki: WSOY.
- Hattie, J. 2012. *Visible Learning for Teachers: Maximizing Impact on Learning*. London and New York: Routledge.
- Hatton, N., and D. Smith. 1995. "Reflection in teacher education: Towards definition and implementation." *Teaching and Teacher Education* 11 (1): 33–49.
- Hofer, B. 2004. "Epistemological Understanding as a Metacognitive Process: Thinking Aloud During Online Searching." *Educational Psychologist* 39 (1): 43–55.
http://dx.doi.org/10.1207/s15326985ep3901_5.
- Hou, H-T., Y-T. Sung, and K-E. Chang. 2009. "Exploring the behavioral patterns of an online knowledge-sharing discussion activity among teachers with problem-solving strategy." *Teaching and Teacher Education* 25: 101–108.
doi:10.1016/j.tate.2008.07.006.
- Huijbregts, S.K., P. P. M., Leseman, and L. W. C. Taveccio. 2008. "Cultural diversity in center-based childcare: Childrearing beliefs of professional caregivers from different cultural communities in the Netherlands". *Early Childhood Research Quarterly* 23 (2): 233–244. doi:10.1016/j.ecresq.2007.10.001

- Husu, J. 2005. "Analyzing teacher knowledge in its interactional positioning". In *Teachers professional development in changing conditions*, edited by D. Beijaard, P. C. Meijer, G. Morine-Dershimer, and H. Tillema, 117-131. New York: Springer.
- Jordan, M. E., and R. R. McDaniel Jr. 2014. "Managing Uncertainty During Collaborative Problem Solving in Elementary School Teams: The Role of Peer Influence in Robotics Engineering Activity". *Journal of the Learning Sciences* 23 (4): 490-536. DOI:10.1080/10508406.2014.896254
- Karila, K., & J. Kinos. 2012. "Acting as a professional in a Finnish early childhood education context." In *Early Childhood Grows Up*, edited by L. Miller, C. Dalli and M. Urban, 55-69. Springer: Netherlands.
- Karila, K. 2008. "A Finnish viewpoint on professionalism in early childhood education." *European Early Childhood Education Research Journal* 16 (2): 210-223. DOI: 10.1080/13502930802141634.
- Kelchtermans, G. 2009. "Who I am and how I teach is the message: self-understanding, vulnerability and reflection." *Teachers and Teaching: theory and practice* 15 (2): 257-272. <http://dx.doi.org/10.1080/13540600902875332>.
- Kelly, P. 2006. "What is teacher learning? A socio-cultural perspective." *Oxford Review of Education* 32 (4): 505-519. <http://dx.doi.org/10.1080/03054980600884227>.
- Kelly, P., J. Berry, and D. Battersby. 2007. "Developing teacher expertise: teachers and students doing mathematics together." *Journal of In-service Education* 33 (1): 41-65. DOI: 10.1080/13674580601157687.
- Knight, P. 2002. "A Systemic approach to professional development: learning as practice." *Teaching and Teacher education* 18 (3): 229-241.
- Lave, J. 1993. "Situating learning in communities of practice." In *Perspectives on Socially Shared Cognition*, edited by L. B. Resnick, J. M. Levine, and S. D. Teasley, 63-82. Washington: American Psychological Association.
- Leana, C., E. Appelbaum, and I. Shevchuk. 2009. "Work Process and Quality of Care in Early Childhood Education: The role of job crafting". *Academy of Management Journal* 52 (6): 1169-1192.
- Loewenberg Ball, D., M. Ben-Peretz, and R. Cohen. 2014. "Records of Practice and the Development of Collective Professional Knowledge." *British Journal of Educational Studies* 62 (3): 317-335. <http://dx.doi.org/10.1080/00071005.2014.959466>.
- Lyle, J. 2003. "Stimulated recall: A report on its use in naturalistic research." *British Educational Research Journal* 29 (6): 861-878. DOI:10.1080/0141192032000137349.
- Marshall, C., and G.B. Rossman. 2006. *Designing qualitative research*. Thousand Oaks, CA: Sage.
- Maxwell, J. A. 2013. *Qualitative research design: an interactive approach*. Thousand Oaks, CA: Sage Publications.
- McCormack, R., G. Pancini, and D. Tout. 2010. "Learningful work: Learning to work and learning to learn." *International Journal of Training Research* 8: 40-52. DOI: 10.5172/ijtr.8.1.40.
- Miles, M., B., and A.M. Huberman. 1994. *Qualitative Data Analysis: An Expanded Sourcebook*. 2nd ed. Thousand Oaks, CA: Sage.
- Ministry of Social Affairs and Health. 2002. *Decision in Principle of the Council of State Concerning the National Policy Definition on Early Childhood Education and Care*. Helsinki: Publications of the Ministry of Social Affairs and Health. <https://www.julkari.fi/bitstream/handle/10024/113591/kasvatus.pdf?sequence=1>.
- Moss, P. 2007. "Meeting Across the Paradigmatic Divide". *Educational Philosophy and*

The Content and Implementation of Shared Professional Knowledge in Early Childhood Education

- Theory* 39 (3): 229–245. doi: 10.1111/j.1469-5812.2007.00325.x
- Munthe, E. 2003. "Teachers' workplace and professional certainty." *Teaching and Teacher Education* 19 (8): 801–813. doi:10.1016/j.tate.2003.02.002.
- National Curriculum Guidelines on Early Childhood Education and care in Finland*. 2004. Publications of the Ministry of Social Affairs and Health 2002:9. <http://www.julkari.fi/handle/10024/75535>.
- Neuendorf, K. A. 2002. *"The Content Analysis Guidebook."* Thousand Oaks: Sage Publications, Inc.
- Newhouse, C. P., J. Lane, and C. Brown. 2007. "Reflecting on Teaching Practices using Digital Video Representation in Teacher Education." *Australian Journal of Teacher Education* 32 (3): 1–12. <http://dx.doi.org/10.14221/ajte.2007v32n3.5>.
- Ryan, S., and M. Whitebook. 2012. "More than teachers: The Early Care and Education Workforce". *Handbook of Early Childhood Education*, edited by R. C. Pianta, 92–110. New York: Guilford Press.
- Ojala, M., and T. Venninen. 2010. "Developing reflective practices for day-care centres in the Helsinki Metropolitan Area". *Reflective Practice* 12 (3): 335–346. DOI:10.1080/14623943.2011.571865
- Onnismäa, E.-L., and M. Kalliala. 2010. "Finnish ECEC Policy: interpretations, implementations and implications." *Early Years: An International Research Journal* 30 (3): 267–277. DOI: [10.1080/09575146.2010.511604](https://doi.org/10.1080/09575146.2010.511604).
- Osgood, J. 2006. "Deconstructing professionalism in early childhood education: Resisting the regulatory gaze." *Contemporary Issues in Early Childhood* 7 (1): 5–14.
- Paloniemi, S., H. Rasku-Puttonen, and P. Tynjälä. 2010. "Asiantuntijuudesta identiteettiin – Anneli Eteläpellon tutkimuspolkuja." [From expertise to identity – Anneli Eteläpelto's research paths] In *Luovuus, oppiminen ja asiantuntijuus* [Invention, learning and expertise], edited by K. Collin, S. Paloniemi, H. Rasku-Puttonen & P. Tynjälä, 13–37. Helsinki: WSOY.
- Papatheodorou, T., and J. Moyles, eds. 2009. *Learning together in early years. Exploring relational Pedagogy*. London: Routledge.
- Patton, M. Q. 2015. *Qualitative Research & Evaluation Methods*. 4th ed. Thousand Oaks, CA: SAGE Publications, Inc.
- Peterson, S M., and A. C. Baker. 2011. "Rediness to change in Communities, Organizations, and Individuals". In *The Early Childhood Educator Professional Development Grant: Research and Practice* (pp. 33–59). Retrieved from: [http://dx.doi.org/10.1108/S0270-4021\(2011\)0000015006](http://dx.doi.org/10.1108/S0270-4021(2011)0000015006).
- Ponte, E., and S. Twomey. 2014. "Veteran Teachers Mentoring in Training: Negotiating Issues of Power, Vulnerability and Professional Development." *Journal of Education for Teaching* 40 (1): 20–33. <http://dx.doi.org/10.1080/02607476.2013.864015>.
- Pramling, N., and I. Pramling-Samuelsson. (Eds.) 2011. *Educational encounters: Nordic studies in early childhood didactics*. Dordrecht: Springer.
- Putnam, R., and H. Borko. 1997. "Teacher learning: Implications of new views of cognition." In *International handbook of teachers and teaching*, edited by B. J. Biddle, T.L. Good, and I. Goodson, 1223–1296. Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Rogoff, B. 2003. *The cultural nature of human development*. Oxford: Oxford University Press.
- Rose, J. 2011. "Dilemmas of Inter-Professional Collaboration: Can they be Resolved?" *Children & Society* 25, 151–163. DOI:10.1111/j.1099-0860.2009.00268.x.
- Sandhu, M. S., K. K. Jain, and I. U. Ahmad. 2010. "Knowledge sharing among public sector

- employees: evidence from Malaysia.” *International Journal of Public Sector Management* 24 (3): 206–226.
<http://dx.doi.org/10.1108/09513551111121347>.
- Schneider, A., and K. H. Kipp. 2015. „Professional growth through collaboration between kindergarten and elementary school teachers.” *Teaching and Teacher Education* 52, 37–46. <http://dx.doi.org/10.1016/j.tate.2015.08.006>.
- Shulman, L. S., and J. Shulman. 2004. “How and what teachers learn: a shifting perspective.” *Journal of curriculum studies* 36 (2): 257–271. DOI: [10.1080/0022027032000148298](https://doi.org/10.1080/0022027032000148298).
- Stoll, L. , R. Bolam, A. McMahon, M. Wallace and S. Thomas. 2006. “Professional Learning Communities: A Review of the Literature.” *Journal of Educational Change* 7, 221–258. DOI 10.1007/s10833-006-0001-8.
- Stout, R. J., J. A. Cannon-Bowers, and E. Salas. 1996. “The role of shared mental models in developing team situational awareness: Implications for training.” *International Journal of Training Research* 2, 86–116.
- Teasley, S. D., and J. Roschell. 1993. “Constructing a joint problem space: The computers as a tool for sharing knowledge”. In *Computers as cognitive tools*, edited by S. P. Lajoie, & S. J. Derry, 229–258. Hillsdale, NJ: Erlbaum.
- Toom, A. 2012. “Considering the artistry and epistemology of tacit knowledge and knowing.” *Educational Theory* 62 (6): 621–640.
- Ugaste, A., and A. Niikko, A. 2015. “Identifying the problems that Finnish and Estonian teachers encounter in preschool.” *European Early Childhood Education Research Journal* 23 (4): 423–433. DOI: 10.1080/1350293X.2015.1087137.
- Urban, M. 2012. “Researching Early Childhood Policy and Practice. A Critical Ecology”. *European Journal of Education* 47 (4): 494–507.
- Vandenbroeck, M. 1999. *The view of the Yeti: Bringing up children in the spirit of selfawareness and kindredship*. The Hague: Bernard Van Leer Foundation.
- Vannini, A. 2009. “Interpretative Theory”. In *Encyclopedia of Communication Theory*, edited by S. W. Littlejohn and K. A. Foss, 558–563. Thousand Oaks: SAGE Publications, Inc.
- van Es, E. A., and M. G. Sherin. (2008). ‘Matematics teachers’ “learning to notice” in the context of a video club.’ *Teaching and Teacher Education* 24 (2): 244–276.
- Van Oers, B. 1998. “From Context To Contextualizing.” *Learning and Instruction* 8 (6): 473–488.
- Venninen, T., J. Leinonen, M. Ojala, and L. Lipponen. 2012. “Creating Conditions for reflective Practice in Early Childhood Education”. *International Journal of Child Care Education* 6 (1): 1 – 15.
- Vosniadou, S. 2003. “Exploring the relationships between conceptual change and intentional learning.” In *Intentional conceptual change*, edited by G. M. Sinatra, P. R. Pintrich, 377–406. Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- Wagner, B. D., and L. French. 2010. “Motivation, Work Satisfaction, and Teacher Change Among Early Childhood Teachers”. *Journal of Research in Childhood Education* 24:152 – 171. DOI: 10.1080/02568541003635268
- Wang, S., and R. A. Noe. 2010. „Knowledge sharing: A review and directions for future research.” *Human Resource Management Review* 20, 115–131.
doi:[10.1016/j.hrmr.2009.10.001](https://doi.org/10.1016/j.hrmr.2009.10.001).
- Wenger, E. 1998. *Communities of Practice: Learning, Meaning, and Identity*. Cambridge: Cambridge University Press.

The Content and Implementation of Shared Professional Knowledge in Early Childhood Education

- White, L. A. (2011). "The Internationalization of Early Childhood Education and Care Issues: Framing Gender Justice and Child Well-Being. Governance. *An International Journal of Policy, Administration, and Institutions*, 24 (2): 285–309.
- Winton, P. J., P. A. Snyder, and S. G. Goffin. 2016. "Beyond The Status Quo: Rethinking Professional Development for Early Childhood Teachers". In *Handbook of Early Childhood Teacher Education*, edited by L. J. Couse, and S. L. Recchia, 54–68. New York, NY: Routledge.
- Wood, E., & N. Bennett. 2000. "Changing theories, changing practice: exploring early childhood teachers' professional learning." *Teaching and teacher education* 16 (5–6): 635–647.
- Xiang, C., Y. Lu, and S. Gupta. 2013. "Knowledge sharing in information system development teams: examining the impact of shared mental model from a social capital theory perspective". *Behaviour & Information Technology*, 32 (10): 1024–1040. DOI: 10.1080/0144929X.2012.745901
- Yin, R. K. 2014. *Case Study Research. Design and Methods*. 5th ed. Thousand Oaks, CA: Sage.