Chapter 68 Pedagogies in Early Childhood Education

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Abstract In our introduction to the section on early childhood pedagogies, we point out and discuss some key features of the represented approaches: Fröbel, HighScope, Developmentally Appropriate Practice (DAP), Waldorf, Cultural-Historical, Montessori, and Reggio Emilia. Each approach is briefly located in a cultural and historical frame. We then analyze and critically discuss the leading metaphors of the reasoning behind these approaches.

Keywords Pedagogy • Fröbel • HighScope • Developmentally Appropriate Practice (DAP) • Waldorf • Cultural-historical • Montessori • Reggio Emilia • Metaphor • Play • Learning • Development • History

68.1 Introduction

In this introductory chapter, we will highlight some distinctive features of the seven pedagogical approaches that follow: Fröbel, HighScope, Developmentally Appropriate Practice (DAP), Waldorf kindergarten, Cultural-Historical approach, Montessori, and Reggio Emilia. The chapter is structured in two sections. In the first section, we give a brief summary of the tradition of these pedagogies, that is, how long history they have and if there is a recognized first, formative text. We also locate the traditions geographically. The first section ends with a brief reflection on the pedagogies in terms of play. In the second section of the chapter, we discern a number of distinguishing features of the pedagogies through analytically attending to how the objects of study are constituted in language, particularly through metaphor. Identifying key metaphors in the presentations leads to us pointing out some problematic features and giving some critical reflection on the pedagogies presented.

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68.2 Pedagogies When, Where, and for Whom?

A first observation when reading the presentations that follow is that, with the exception of two, all these approaches are primarily focused on children 3–5 or 6 years of age. The exceptions are DAP, that builds on the premise of adapting to the child's development and where no particular age span is mentioned, and Reggio Emilia. This is worth to ponder over, since today many children around the world participate in early childhood education and care programs from infancy or at least as toddlers. What does it mean for these youngest children if the programs are premised on older children?

Of the pedagogies presented, the one with the longest tradition is the Fröbel pedagogy. It has a history of approximately 160 years. As implied by the name, it has a "founding father" and fundamental texts in Friedrich Fröbel's (1782–1852) own writings. Two other approaches with long histories are Montessori and Waldorf. Both these are about a hundred years old. They also share a founder, Maria Montessori (1870-1952) in the first case and Rudolf Steiner (1861-1925) in the latter. Both these traditions have been rather consistent in approach over time, as clarified by the following presentations. Also the Cultural-Historical approach has a recognized originator, in this case in the writings of Russian psychologist Lev Vygotsky (1896–1934) in the 1930s. The basis for these pedagogies differs (see the individual chapters). Another pedagogy that was founded as part of rebuilding, in this case, Italy after the second world war is Reggio Emilia. It became widely known outside its native country in the 1980s in relation to children's art making. The pedagogy of HighScope has a 50-year history. It was developed in relation to a particular research study, the Perry Preschool study, looking at the effects of preschool education for later schooling. Theoretically, its basis is founded on the work of Swizz psychologist Jean Piaget (1896-1980) whose work became widely known at this time. Also DAP has a basis in Piaget's theory of child development. DAP has a 30-year history.

Looking at the origins of these pedagogies, we can see that there is a dominance of Europe (four), with two from the USA and one from Russia. Why the dominance of Europe? Today, early childhood education is much developed and spread in this part of the world. Historically, preschool (early childhood education) is inherently related to other important social movements with a strong tradition such as women's liberation and social justice. We also observe that the European-based pedagogies are to a large extent formed on philosophies, while the US pedagogies are based on developmental theory, in these cases Piagetian theory. Also the Russian pedagogy, the Cultural-Historical approach, is based on developmental theory, Vygotsky's theory.

The notion of play has been fundamental to the understanding of children and early childhood education for a long time. However, despite the centrality of play in contemporary curricula, this part of early childhood education is not a major part of the presentations of the following pedagogies, particularly the question of how play and learning are related – if at all – is not extensively analyzed and discussed (for examples of this contemporary debate, see Brooker et al. 2014; Pramling Samuelsson and Fleer 2009). However, Fröbel pedagogy contains notions of playcare and playing games, and his follower Henriette Schrader-Breymann puts three notions at the center: play, learn, and work. The Montessori pedagogy does not focus on play, instead focusing on children's work. Waldorf emphasizes the importance of toys made by hand from natural materials and spells out movement, imagination, and play as important features of the approach. In the HighScope pedagogy, the concept of plan-do-review is central. Particularly the middle part leaves space for the children to play what they have planned. Pretend play is here an important feature. DAP pedagogy mentions play in three ways: children's need to play, play as a facilitator of learning, and play as learning. In Reggio Emilia, children are seen as competent in building their own culture. As for Cultural-Historical pedagogy, play in relation to creativity was a major concern for its founding theoretician, Vygotsky (1930/2004), among other things, emphasizing the experiential foundation of playing.

The presented pedagogies differ in what they see as the goal of early childhood education, that is, what it will give children participating in the program. HighScope has a detailed curriculum with 58 key developmental indicators from eight domains that the child's learning should be directed toward. The Cultural-Historical approach highlights the making and use of visual models for developing higher-order thinking in the child. The Reggio Emilia approach has no set curriculum and does not include academic skills such as reading, writing, and counting, but emphasizes documentation for making visible children's learning. Goals of DAP are for the child to develop responsibility, self-reliance, and self-regulation (see also Wineberg and Chicquette 2009). Montessori pedagogy focuses on academic contents (geometric blocks are central), but also nature in the form of animals and plants, and changing seasons. In Fröbel pedagogy, mathematics (with blocks), moral, and free thinking are emphasized. Waldorf pedagogy is focused on freedom and to prepare the child for the world, school, and future life. Sensitivity and goodness are goals of learning. Being a child in these different pedagogical approaches clearly makes him or her a participant in rather different domains and forms of knowledge. In order to gain a deeper insight into distinguishing and shared features of these seven pedagogies, in the next section of this chapter, we will investigate how the key features of these are constituted through its central metaphors.

68.3 Constituting Learning and Educational Practice in Metaphorical Terms

Phenomena such as learning and development are not there to be seen as such. We have to infer these processes on the basis of different observations and representations. How we represent what these phenomena are is contingent on what theoretical language we use. We cannot simply compare linguistic representations with these phenomena. Rather, we have to constitute learning, development, and related

phenomena in language. Speaking about such abstract matters makes metaphor and other forms of figurate language come to the fore. A metaphor is an utterance that conveys something in terms of something else that it in a literal sense is not. For example, to say that "Now I see your point" is metaphorical, since what someone means by what they say is not something (a point) that in a literal sense can be seen. Ocular metaphors are common when speaking about understanding and knowledge: "a clear idea," "to be illuminated by knowledge," and "to have a vision of a different society" are some examples (cf. Rorty 1979). Metaphor can be conceived – in metaphorical terms – to be a multifunctional tool (Pramling 2006), that is, people do many different things with metaphors. Furthermore, with time and use, prevalent metaphors tend to become "invisible" as metaphors and are conventionalized into eventually being inscribed in lexicons as (more or less) literal meanings (Zittoun and Cerchia 2013). There is thus a metaphorical nature of our language.

One function filled by metaphor is to make graspable what is for some reason difficult to conceive. In the chapters on pedagogies, we find metaphors being used to reason about, for example, learning, development, the child, the adult/teacher, teaching/instruction, and culture. For instance, in the chapter on Developmentally Appropriate Practice (DAP), a common metaphor for learning is employed: learning as constructing. "Construction" is a metaphor used in the tradition of Piagetian developmental psychology, that DAP is based on. Sanders and Farago (Chap. 71, this volume) argues that "the child must construct its understanding of the world by interacting concretely and actively with it" (p. 7), something also referred to as "discovery learning" (ibid.). The metaphor of construction is also employed by Epstein and Schweinhart when presenting HighScope (Chap. 70, this volume), arguing that "Children will construct their own learning if allowed to do so" (p. 1). In their presentation of Waldorf, Frödén and von Wright (Chap. 72, this volume) suggest that "[t]he role of the kindergarten is not to deliver knowledge" (p. 6). They also cite Burnett (2011, p. 84), who states that children in this form of kindergarten "don't learn about bread making, they make bread for people to eat, and do this slowly, dreamily and repeatedly, as part of a yearly rhythm" (cited in Frödén and von Wright, Chap. 72, this volume, p. 14, italics in original). The first quote, arguably, conflates knowledge with information. Information can be delivered, but knowledge always implies some form of sensemaking of the learner (Bruner 1990). The second quote makes a distinction that, in our view, is difficult to maintain. Contrasting "learning" with "making" implies that learning is not related to what the child does, and when the child is engaged in meaningful activities, he or she does not learn. The concept of learning appears to be in need of theoretical conceptualization in this pedagogy. Other metaphors for learning are increased discernment (Marton and Tsui 2004), changed participation (Lave and Wenger 1991), and appropriation of cultural tools and practices (Tomasello 1999).

Closely related to conceptions of learning are conceptions of development. The term development as such could be seen as a metaphor (cf. above). The word development etymologically means "unfold, unwrap" (cf. envelope: wrap up) (Barnhart 2004, p. 273). Hence, the term as such could be seen as a conventionalized metaphor, according to which this is a process of unfolding, unwrapping something that is

already there (e.g., written on a paper). From a more contemporary point of view, we can see that psychological theories differ in how the relationship between these processes is understood (see, e.g., Vygotsky 1978, on different conceptualizations, as discussed in relation to the introduction of his concept of the zone of proximal development (ZPD)). A metaphor commonplace in accounts of development is "stages" (see, e.g., Gustafsson on Montessori, Chap. 72, this volume, who also uses this in conjunction with "sensitive periods," p. 18). Arguably, the stage metaphor directs attention to "where" the child "is at," rather than how he or she is in a process of developing. A developmental stage implies something already achieved rather than a learner being in a process of continuous change. Building on the theory of Vygotsky, as we have already briefly touched upon, Veraksa and Veraksa (Chap. 73, this volume) use an interesting metaphor when discussing development. Referring to Zaporozhets, they suggest that "preschool children's development should be based not on acceleration but on amplification-that is, maximum saturation of the activities specific to preschool children" (p. 2). Finding new metaphors for conceiving important phenomena can be an incentive for new theoretical developments. A historical example is the "human as information processor" (the computer metaphor) for conceiving human psychological functioning, as constitutive of cognitive psychology in the 1960s (Leary 1990; see also, Keller 1995, for a discussion of this issue in the natural sciences).

Not only the abstract and invisible (cf. above) phenomena of learning and development are conceived in metaphorical terms. Also the participants in educational practices, primarily the child/learner and the adult/teacher, are spoken about in such terms. Different notions of the child are discussed at some length in Giudici and Cagliari in their presentation of Reggio Emilia (Chap. 75, this volume). In terms of images of the child, they write about "the cultural construct about childhood" (p. 4). They argue that several of these images present "a child described for what he doesn't have or he is not in comparison to the adult" (p. 4). Norwegian psychologist Ragnar Rommetveit (1980) has argued that much psychological research is characterized by what he refers to as negative scholarly rationalism, that is, accounts of what the child cannot (yet) do or understand. In contrast to such accounts, Guidici and Cagliari (Chap. 75, this volume) argue for a need to conceptualize the child as the "competent child" (p. 6, cf. Epstein and Schweinhart, Chap. 70, this volume). Guidici and Cagliari present this conception in the following way: "By 'competent child' we mean a child who, from shortly after birth, has available a collection of data and information saved in his mind that dialogue with new data and information he constantly receives from the outside" (p. 6). This reasoning employs many metaphors; knowledge is conceptualized as having data and information in the mind. This is in line with an information-processing paradigm of how to understand human psychological functioning (cf. above). Furthermore, information is, according to this reasoning, saved (which is also employed in the man-as-computer metaphor, see, e.g., Hunt 1971) and has information in the mind (information as objects stored in a container metaphor). This set of metaphors also presumes a dichotomous view, where knowledge (or rather information) enters the mind from outside. Several contemporary theories emphasize the need to reconceptualize learning without residing to such a dichotomous view. Two examples of such theories are variation theory (Marton and Tsui 2004) and Cultural-Historical theory (Daniels et al. 2007), arguing that such dichotomous views lead to philosophical cul-de-sacs.

Theoretical elaboration on the role – if any – of the adult or teacher is related to metaphors of the child. For example, if viewing the child as independently discovering and constructing his or her knowledge, as is done in Reggio Emilia and DAP, the view of the adult/teacher follows by logical necessity. In their text on DAP, Sanders and Farago (Chap. 71, this volume) reason that in this approach "emphasis is on teachers being child development specialists with child development knowledge and observation skills enabling them to respond to the needs and interests of children" (p. 25). Within this perspective, a central idea is thus to build on the needs and interests of the child. While it is arguably fundamental to connect to children's interests (this issue is, e.g., much discussed in literacy research; see, e.g., Larson and Marsh 2013), it is important to take a critical stance to this guiding principle. Whose interest is taken as a starting point? There is a great risk that only the children who actively express their interests are heard. This stance also leads to individualized accounts of learning - see, for example, "This pedagogical approach allows HighScope teachers to individualize learning for children" (Epstein and Schweinhart, Chap. 70, this volume, p. (6) – which is arguably a problem in itself if speaking about early childhood education in preschools and kindergartens, as inherently and necessarily social arenas for learning and development. Pedagogy in such environments, we argue, needs to cater for the fact that children there interact with other children and adults with a variety of experiences (Pramling 1996). Furthermore, the idea to build on the child's interest and the responsive role ascribed to the teacher in Sanders and Farago's account of DAP (see the quote above), we argue, are problematic since a fundamental point of societal institutions such as preschool and school is to introduce the child to what he or she would not likely discover in everyday life outside these institutions and develop an interest in (Luria 1976; Pramling and Pramling Samuelsson 2012; Vygotsky 1987). Making sure that all children are introduced to important forms of knowledge and domains of human experience (e.g., music, visual art, and mathematics) is how we can counteract the fact that children come to preschool and school with a great variety of repertoire of experiences. Not only, for example, children from families nurturing a musical interest should be allowed and supported in developing musical skills and interests. Building on children's interest can therefore never be the only starting point of pedagogical practices in early childhood education and care institutions.

As seems generally the nature of pedagogies, they are founded on different and sometimes, in part, incommensurable theoretical positions. We have already mentioned that DAP is founded on Piagetian developmental theory, but as Sanders and Farago (Chap. 71, this volume) clarify, it is also based on Vygotskian theory. They suggest that in DAP "learning is child-driven yet adult-guided. The teacher is there to support the process of learning that the child is experiencing but the child is the one in the driver's seat" (p. 15) and that "[a] child-centered environment leaves room for interpretation in terms of how much leaves a teacher allows children to

experience the learning environment independent from face-to-face teacher instruction" (ibid.). This "leeway" and the relationship between the child being in "the driver's seat" and "adult-guided" learning, in their terms, is arguably contingent on whether the teacher puts the emphasis on the Piagetian or the Vygotskian base, as also argued by Sanders and Farago. It may be questioned whether an environment where the teachers work from the one or the other of these points of view could be considered examples of the same pedagogy. In one case, the teacher should be responsive and follow the child, in the other, teacher mediation is key. In terms of Vygotskian theory, this distinction could, we suggest, be conceptualized in terms of the important distinction in Vygotsky (1997) between elementary and higher-order functions. The everyday ones could be discovered by the child, while the higherorder ones presume tool mediation (see also Veraksa and Veraksa, Chap. 71, this volume, on the latter).

Metaphor is not only employed by the researchers presenting their pedagogy. There are also examples in the texts of guidance for teachers on how to communicate with children in metaphorical terms. One example is found in Frödén and von Wright's presentation of Waldorf (Chap. 70, this volume). Writing about wet-onwet painting, they reason in reference to Lim (2004) that in order to "experience the 'feeling' of different colours," the teacher might "refer to the colours as different persons by saying that 'for example, 'Blue wants to play with yellow' instead of 'Let's mix colours'" (Frödén and von Wright, Chap. 72, this volume). Speaking about the nonliving in living terms, that is, animism (and the adjacent metaphorics of anthropomorphism; see Thulin and Pramling 2009), is frequently observed in teacher-child communication in early childhood education (Fleer and Pramling 2015; Pramling 2010).

As presented by Frödén and von Wright (Chap. 72, this volume), a distinguishing mark of Waldorf is that all toys are made by hand from natural materials. "The point," they explain, "is to enable the children to transform all these 'open-ended' and changeable toys imaginatively, so that they can fill different purposes in the various forms of play" (p. 12). The importance of non-predefined toys to the development of children's creativity has also been advocated by other researchers (e.g., Fleer 2010).

Different metaphors for "the same thing" will sometimes be problematic. At the same time, if taking a theoretical position where language is seen as constitutive (Taylor 1985/1999), it could be argued that different metaphors for the same terms constitute the object referred to as different kinds of objects, rather than providing different perspectives on the same thing (as if the reference was language independent and constant). One example concerns the use of the term culture. In their presentation of DAP, Sanders and Farago (Chap. 71, this volume) first present an underlying metaphor of culture as "the individual is situated within a web of concentric circles in which historical events, societal changes, institutions, and interpersonal interactions interact to influence development of the individual," and later adding that DAP is now also informed by Rogoff's theorizing from a sociocultural theoretical point of view. According to the latter, culture and participant are seen as mutually constitutive rather than the individual being influenced by culture (as an

external force and/or container within which the learner exists; see also, Cole 1996, for an elaborated discussion between these two metaphors of culture, and van Oers 1998, on the related issue of how to conceptualize context). Sanders and Farago (Chap. 71, this volume), perhaps in an attempt to relate these two different concepts of culture, suggest the following, and somewhat opaque, metaphor, "Akin to layers of an onion, culture is the interconnected and overlapping element central to the individual: a way of doing and being" (p. 12). It may be argued that theoretical consistency is pivotal to scientific explanation, but that educational practice can, and perhaps should, build on different perspectives. However, since we argue that language is constitutive, how teachers act in relation to children in early childhood education will be contingent on, among other things, how they perceive the nature of children's learning and what, for example, culture means.

A clear example of how metaphors constitute educational practice is given in Frödén and von Wright's chapter (Chap. 72, this volume) on Waldorf. They write about "[t]he daily rhythm" of the child's life in kindergarten as consisting of "various periods of contraction and expansion in order to provide a balance between movement and rest and in order to create different moods during the day's activities" (p. 9), which is referred to in terms of another pair of metaphors, "breathing in and breathing out" (ibid., italics omitted). In clarifying this metaphor, Frödén and von Wright give the example of "the teacher tries to create a celebratory, yet meditative and ceremonial mood at a yearly festival" with the aim "to bring about inner stillness and a sense of awe and wonder (breathing in)" in contrast to outdoor activities that are "to be characterized as joyful, exciting and full of bodily movements (breathing out)" (pp. 9–10). As here exemplified, it could be argued that the metaphors employed in reasoning about education practice are constitutive, that is, have material consequences for how practice is organized.

Since we argue (see also, above) that language is constitutive rather than simply and in a clear-cut manner refer to external objects, there can be no neutral description. Metaphors and other forms of language "do" argumentative work. We perspectivize phenomena through how we constitute them. This feature of language practices is what Mehan (1993) refers to as the politics of representation. Some metaphors may, for example, imply that a certain understanding or developmental process is natural (growth, breathing, or maturation). A clear example of a reasoning that, through employing an asymmetric pair of metaphors implies that the proposed approach to early education is the sound one, is given in the presentation on HighScope when Epstein and Schweinhart (Chap. 70, this volume) suggest that on the basis of Piagetian theory, "the acquisition of knowledge" is seen "as being childdriven rather than adult-imposed" (p. 5). The metaphors used do not simply make a distinction; they also do argumentative work through connotations. In contrast, imagine if the previous quote had made a distinction between "child driven" and "adult driven," rather than "adult imposed." The word "impose," according to common lexicon, means "to force someone to accept" and "to establish or create (something unwanted) in a forceful or harmful way" (Merriam Webster Dictionary, m-w. com). The curriculum of this approach is also said to be "tailored to the child, rather than insisting the child be molded by the curriculum" (ibid.).

A central tenet of HighScope is what is referred to as "plan-do-review" (Epstein and Schweinhart, Chap. 70, this volume, p. 10). In one regard, this pedagogical principle is analogous to the development in children of making plans as presented in Veraksa and Veraksa (Chap. 73, this volume) from a Cultural-Historical perspective. The latter presents a pedagogy based on children making and using visual models to play, carry out, and reflect on actions. Their presentation highlights how a Cultural-Historical approach "links the formation of higher mental functions with mastering certain forms of mediation" (p. 14). There is a risk, we argue, that if, in contrast, outlining pedagogy on the individual child's exploration (as, for instance, in Reggio Emilia), the child will not appropriate insights that carry beyond the present and concrete here and now. But arguably, it is the ambition of any educational institution to contribute with insights, skills, and/or knowledge that carries beyond the here and now. This is an important part of what constitutes an education.

In conclusion, through our attention on some of the metaphors used in the presentations of the different pedagogies, we have pointed at some inherent tensions (and potential problems in these accounts), including:

Natural – cultural Individual – social Receptive – proactive Building on the child's interest – make the child interested in new things and domains Development – learning

Here and now – anticipating future actions

The pedagogies presented in the following contain diverse and thoughtful approaches to early childhood education and care practices. They all provide distinct voices on important issues concerning children's learning and development and how we support these processes. According to variation theory (Marton and Tsui 2004), only what varies can be discerned and thus learned. Having these different voices on early childhood education and care is therefore much informative as to how stakeholders in different societies have conceptualized and historically argued, and today argues, for how to best cater for the growth of children.

The pedagogical approaches introduced in this chapter and presented more extensively in the following chapters are more or less specific about how they conceptualize children's learning and teachers' role in this process. Still, if we take modern psychology as a base for pedagogy, any approach will have to be related to interaction and communication (Sommer 2012), a perspective challenging some of the earlier approaches since these notions were not obvious in earlier early education. Today, early childhood education is clearly related to the teacher's role, since he or she in most countries has a curriculum that guides the activities with children. This fact challenges the teacher to be both child centered and to take the child's perspective (Sommer et al. 2010). This further means that both the child and the teacher interchangeably will be the one initiating and leading an activity (Siraj-Blatchford et al. 2010). Based on empirical research, Doverborg et al. (2013) summarize some key findings on developmental pedagogy in terms of (i) being both

goal oriented and child centered simultaneously, (ii) teachers recognizing the importance of and entering into negotiations of meaning with children, (iii) using naturally occurring (or designed) variation as a source for learning, (iv) working from local toward expansive language, (v) challenging and supporting children, and finally (vi) having an idea about what it means to be knowledgeable in a field of knowledge and how to develop it further in young children.

Our final conclusion is that all these positions are valid, but since children's development, learning, or growth (or whatever term we want to use) is a complex matter and many stakeholders have an interest in early childhood education - children, parents and their employers, politicians, teachers, and "society" - it is important not to simplify the matter. A common way of simplifying the world is to constitute it in terms of dichotomies and then take a stance for one or the other position. However, we suggest that, for example, teachers need to be both receptive and proactive; both build on children's interests and introduce children to new domains and topics so that they can develop new interests. Managing such tensions in interacting with children, we argue, is pivotal to the professional task of the preschool teacher (for an elaborate discussion, see Pramling Samuelsson and Pramling 2011). What the advocates for all the different pedagogies presented in this volume appear to agree on is that early childhood education matters. How to best make it a rewarding experience for children (and others concerned) should be the common goal for further theoretical debate. It is important that this debate is based on empirical research.

References

Barnhart, R. K. (Ed.). (2004). Chambers dictionary of etymology. Edinburgh: Chambers.

- Brooker, L., Blaise, M., & Edwards, S. (Eds.). (2014). The Sage handbook for play and learning in early childhood. London: Sage.
- Bruner, J. S. (1990). Acts of meaning. Cambridge, MA: Harvard University Press.
- Burnett, J. (2011). Carolyn's voice. In R. Parker-Rees (Ed.), Meeting the child in Steiner Kindergartens. An exploration of beliefs, values and practices (pp. 81–93). New York: Routledge.
- Cole, M. (1996). *Cultural psychology: A once and future discipline*. Cambridge, MA: Belknap Press.
- Daniels, H., Cole, M., & Wertsch, J. V. (Eds.). (2007). *The Cambridge companion to Vygotsky*. New York: Cambridge University Press.
- Doverborg, E., Pramling, N., & Pramling Samuelsson, I. (2013). *Att undervisa barn i förskolan* (Teaching children in preschool). Stockholm: Liber.
- Fleer, M. (2010). *Early learning and development: Cultural-historical concepts in play.* Cambridge: Cambridge University Press.
- Fleer, M., & Pramling, N. (2015). A cultural-historical study of children learning science: Foregrounding affective imagination in play-based settings (Cultural Studies of Science Education, 11). Dordrecht: Springer.

Hunt, E. (1971). What kind of computer is man? Cognitive Psychology, 2(1), 57-98.

Keller, E. F. (1995). Refiguring life: Metaphors of twentieth-century biology. New York: Columbia University Press.

- Larson, J., & Marsh, J. (Eds.). (2013). *The Sage handbook of early childhood literacy* (2nd ed.). Thousand Oaks: Sage.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. New York: Cambridge University Press.
- Leary, D. E. (Ed.). (1990). *Metaphors in the history of psychology*. Cambridge: Cambridge University Press.
- Lim, B. Y. (2004). The magic of the brush and the power of color. Integrating theory into practice of painting in early childhood settings. *Early Childhood Education Journal*, 32(2), 113–119.
- Luria, A. R. (1976). Cognitive development: Its cultural and social foundations (M. Lopez-Morillas & L. Solotaroff, Trans.). Cambridge, MA: Harvard University Press.
- Marton, F., & Tsui, A. B. M. (Eds.). (2004). Classroom discourse and the space of learning. Mahwah: Lawrence Erlbaum.
- Mehan, H. (1993). Beneath the skin and between the ears: A case study in the politics of representation. In S. Chaiklin & J. Lave (Eds.), Understanding practice: Perspectives on activity and context (pp. 241–268). New York: Cambridge University Press.
- Pramling, I. (1996). Understanding and empowering the child as a learner. In D. R. Olson & N. Torrance (Eds.), *The handbook of education and human development: New models of learning, teaching and schooling* (pp. 565–592). Cambridge, MA: Blackwell.
- Pramling, N. (2006). Minding metaphors: Using figurative language in learning to represent (Göteborg Studies in Educational Sciences, 238). Göteborg: Acta Universitatis Gothoburgensis.
- Pramling, N. (2010). Unearthing metaphors: Figurativeness in teacher-child talk about soil and related matters. *Early Childhood Education Journal*, 38(1), 57–64.
- Pramling, N., & Pramling Samuelsson, I. (2012). School readiness and school's readiness: On the child's transition from preschool to school. In S. Suggate & E. Reese (Eds.), *Contemporary debates in childhood education and development* (pp. 133–142). London: Routledge.
- Pramling Samuelsson, I., & Fleer, M. (Eds.). (2009). Play and learning in early childhood settings: International perspectives (International perspectives on early childhood education and development, 1). Dordrecht: Springer.
- Pramling Samuelsson, I., & Pramling, N. (2011). Didactics in early childhood education: Reflections on the volume. In N. Pramling & I. Pramling Samuelsson (Eds.), *Educational encounters: Nordic studies in early childhood didactics* (pp. 243–256). Dordrecht: Springer.
- Rommetveit, R. (1980). On meanings of acts and what is meant and made known by what is said in a pluralistic social world. In M. Brenner (Ed.), *The structure of action* (pp. 108–149). Oxford: Blackwell.
- Rorty, R. (1979). Philosophy and the mirror of nature. Princeton: Princeton University Press.
- Siraj-Blatchford, I., Sylva, K., Melhuish, E., Sammons, P., & Taggert, B. (2010). Early childhood matters: Evidence from the effective pre-school and primary education project. London: Routledge.
- Sommer, D. (2012). A childhood psychology: Young children in changing times. Hampshire: Palgrave Macmillan.
- Sommer, D., Pramling Samuelsson, I., & Hundeide, K. (2010). Child perspectives and children's perspectives in theory and practice. New York: Springer.
- Taylor, C. (1999). *Human agency and language: Philosophical papers* (Vol. 1). New York: Cambridge University Press. (Original work published 1985).
- Thulin, S., & Pramling, N. (2009). Anthropomorphically speaking: On communication between teachers and children in early childhood biology education. *International Journal of Early Years Education*, 17(2), 137–150.
- Tomasello, M. (1999). *The cultural origins of human cognition*. Cambridge, MA: Harvard University Press.
- van Oers, B. (1998). From context to contextualizing. Learning and Instruction, 8(6), 473-488.
- Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes. Cambridge, MA: Harvard University Press.

- Vygotsky, L. S. (1987). The collected works of L. S. Vygotsky, Volume 1: Problems of general psychology, including the volume Thinking and Speech (R. W. Rieber & A. S. Carton, Eds., N. Minick, Trans.). New York: Plenum Press.
- Vygotsky, L. S. (1997). The collected works of L. S. Vygotsky, Volume 4: The history of the development of higher mental functions (M. J. Hall, Trans., R. W. Rieber, Ed.). New York: Plenum Press.
- Vygotsky, L. S. (2004). Imagination and creativity in childhood. Journal of Russian and East European Psychology, 42(1), 7–97.
- Wineberg, L., & Chicquette, L. (2009). Play and learning in Wisconsin. In I. Pramling Samuelsson & M. Fleer (Eds.), *Play and learning in early childhood settings* (pp. 155–171). Dordrecht: Springer.
- Zittoun, T., & Cerchia, F. (2013). Imagination as expansion of experience. *Integrative Psychological and Behavioral Science*, 47(3), 305–324.