

# ***COLLABORATION OF CHILDREN DURING SPONTANEOUS ACTIVITIES – EXPLORATIONS OF CHILDREN’S ACTIVITIES WITHIN A RELATIONAL AND SYSTEMIC PERSPECTIVE***

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## ***INTRODUCTION***

Recent research concerning peer interaction and collaboration suggests that young children’s social understanding is remarkably complex, even quite early in the pre-school years. This seems to be evident especially in children’s conflicts, or events in which children express different needs or goals and emotions (Dunn 1994; Rourke 1999). The idea that social conflict plays a special role in the development of children to understand other people, themselves, and their social world more generally is taken up in number of different theoretical developmental childhood researchers (Erikson 1959; Piaget 1932, 1965).

From the point of view starting the collaboration, initiatives and disagreements are the critical incidents. Initiatives could be seen as the first signs of reorganization of collaboration. They are interpreted as invitations to reciprocal behaviour. The first of the purposes of the current study was to describe the forms of organizing collaborations, initiatives, and social routines in children’s groups. The second purpose was to examine the forms of conflicts and their resolutions during the collaboration.

## ***THEORETICAL FRAMEWORK***

The theoretical focus of the paper is based on *relational-systemic* and *sociocultural* theories and an integrative, the situative, view will be discussed. Peer-collaboration is defined as a co-ordinated activity during which participants collectively process and solve problems towards a joint and shared outcome. Collaboration involves at least two participants; each of them is an open, dynamic, self-organizing system. Thus each individual is not an insular, singular unit, but a relational being that processes and acts constantly in relation to the internal and external context. Each participant brings to a social game a range of potential actions, realizes one such action pattern within the game, and in doing so, creates an often salient context for the other to perceive, detect, process and respond. The actions may change with time, as the range of activities infants may perform in the first year increases due to their emergent capacities for cognitions and actions. (Holt & Fogel 1993.) After Graue & Walsh (1998, 11-12) also contexts are relational. They shape and are shaped by individuals, resources, intentions, and ideas in a particular setting, within a particular time. They are not static. Instead the contexts are fluid and dynamic, constantly reconstituting them within activity. They are social, reflecting and framing interaction (Wertsch 1985).

The particular relationship contexts in this paper will be peer relationships and within these relationships the focus lies on collaboration. Collaboration between children is fundamentally *social* in nature. They encompass motivational and affective factors as well as communicative and expressive behaviour. They depend on the dynamics and the mutually regulated behaviour. At the same time, collaboration is also

fundamentally *cognitive* in nature. It requires planning of behaviour around the goal, adopting goal-regulated strategies and monitoring goal-directed behaviour. (Brownell & Carriger 1998.)

The benefits of peer collaboration can be seen in the co-construction of knowledge realised by the collective sharing of ideas and views between the participants. From this perspective social and verbal interaction as well as other semiotic tools embedded in the learning situation are important resources for the construction of shared understanding. Collaboration helps to create an outcome that no single person could achieve. Research on the influence of peer collaboration and social interaction on cognitive development has suggested that it facilitates cognitive development. By coordinating responsibility for planning and organizing a task, children have opportunities to specify their knowledge. On the other hand, changes in competence may be limited to particular arrangements of children's ability levels. (Gauvain & Rogoff, 1989; Tudge, 1992.)

The research in the earlier studies on collaboration of children was mainly "outcome" oriented using experimental designs with pre-test and post-test in which children were randomly assigned to individual or collaborative problem-solving situations. In recent orientations the focus is shifted to reveal how children collaborate and how those activities serve as the basis of their cognitive development. (Bearison & Dorval, 2002.) The research has, also, concentrated predominantly on school-aged children. In this paper, the main focus will be on how small children initiate, share and maintain the collaboration. The paper will examine the results of collaboration as they manifest as common *social routines* (Corsaro, 1997). The social routine is defined as a stable set of activities, artefacts, values, and concerns that children produce and share in interaction with peers. Earlier research has stated that children make attempts to gain control and to share that control with each other. (Corsaro 2000.)

The theory on social learning and collaborative activities has been widely elaborated within the research field of educational psychology. Especially the interest in culture-cognitional relations has led to the re-emergence of wide range of constructs like cultural psychology, situated cognition, distributed intelligence and zone of proximal development. While in these efforts there is to be seen movement towards richer interpretations of culture in cognitive development, the conceptual work is only beginning to seriously inform empirical analyses. (Saxe 1994.) The problem in researching the collective processes of intelligence and collaboration, in general, is that the phenomena are more linked to interrelational than individual processes.

In this article I will mainly refer to three wide orientations: **systemic-relational and socio-cultural theories**. These three theories all stress in varied ways the meaning of collaborative aspects. Also the **situative factors** have surfaced in recent research and learning has been increasingly understood situational (e.g. Greeno 1998). Development and growth should according to the situational theories be understood as a contextual action tied to the situations. In principle it is rather easy to agree with this principle but its meaning for research and pedagogical practice is considerably more complex and challenging.

Various **systemic theories** base themselves on a view derived originally from biology where human action is seen to have a systemic nature. Mental action, which

traditionally has been thought of as a quality of an individual, like consciousness or learning, cannot according to systemic theories be explained by detaching the individual from her surroundings. For example, learning is inevitably social from its nature. In learning, the re-organising of the whole system, here meaning both the individual and his environment, is needed, thus leaving the process impossible to explain through them separately as individual “processing” or as an effect caused by the “influence” of surroundings. (Järvillehto, 2000; Soini, 1999.) In learning research the systemic orientation has increasingly been used as a paradigmatic point of view although the empirical research has confronted problems and lack of tools on systematic methodological development. The central point of view in research concerning learning from systemic theory emphasizes the argument that knowledge, in general, is an internal relation between the human being and her world. The subject and the object are not distinguishable, but are related in the process of learning (Lindahl & Pramling, 2002).

**Relational theories** see the concept of relation as the most important unit in the analysis of development. According to the traditional view an individual has relationships which are seen as qualities, a status or like objects – separate individuals. Development is something that takes place to an individual as processes within the mind. According to relational theories the previous is not true and development takes place in relation to others and the society. (Fogel, 1995; Thelen, 1989; Thelen & Ulrich 1991.)

**Sociocultural perspectives** to learning and thinking stress the role of collaborative interaction in the movement from interpersonal to intrapersonal functioning (Vygotsky, 1978; Wertsch 1985;1991). Within this approach the construction of knowledge takes place through participating in activities guided by adults or more competent peers in socio-cultural environment. The socio-cultural view on development builds itself originally on Vygotski and the theory of cultural history based on his work. According to the school of cultural history the development of a child can be best understood by examining a child’s participating in cultural activities and her collaborative action with others. The main goal of socio-cultural tradition has been the research of psychological phenomena within their cultural contexts and the process of change and development. The unit of analysis goes beyond an individual and concentrates on the individual as a part of social action. (Wertsch, 1985; Valsiner, 1987; Rogoff, 1990, 2003; Tudge 1992; Hakkarainen, 2002.) The original research of Vygotski on the dependence of development on the historic-cultural forms was carried out as early as in the 1930’s. After Vygotsky, the social situation of development is always a relational construct in which characteristics of the child combine with the structure of social interaction to create the starting point for a new cycle of developmental changes which will result in a new, and higher, level of development and a new relevant social situation of development. (Cole, 2003). Presently the modern socio-cultural research tradition based on Vygotski means for example developmental research being carried out in various cultural societies – day-care centres, peer groups, school classes and at home with parents - concentrating on everyday activities.

Many similarities can be found in systemic, relational and socio-cultural theories. In recent years similarities concerning the shift of attention from individual performance into the analysis of construction of common activity have been found in great

quantity. These different views have been combined into a large theoretical schema called **the situated learning theory**. The situative perspective shifts the focus of analysis from individual behaviour and cognition to larger systems that include behaving cognitive agents interacting with each other and with other subsystems in the environment (Greeno, 1998). This can be seen for example in studies concerning learning in such a way that learning is viewed as social practices combined to specific situations, where the attendants gradually become active participants of the society. Learning is created rather through participation instead of individual knowledge. (Greeno, 1998; Lave & Wenger, 1991.) The most important factors concerning development and learning of the child become her social relationships and peer situations where she engages in participatory activities, exchange of views, critique, and argument, conflict solving and forming of new ideas.

The theoretical focus of the study defines also the unit of analysis: if it is the individual level or if it will be the social context of the interpersonal activity. The theoretical orientation of this paper unavoidably moves the unit of analysis from the traditional psychological level, the individual level, to the level of collaborative activities.

## **RESEARCH QUESTIONS AND METHODOLOGICAL BASIS**

The focus of this paper will be on questions like how small children co-ordinate activities and how they construct and share common culture and how they learn.

The data corpus consists of videotaped and transcribed peer interaction situations during construction activities of free play in a pre-school. The first main focus of the empirical data and the analysis will concentrate on the role of initiations and shared social routines in the collaboration process.

The empirical data were collected from pre-school context in a Finnish open day-care group. The age of children varied from 2:4 to 6:5 years. The gathering of the data concentrated in the children's free play moments. The data were divided into meaningful units called episodes and every episode was analyzed carefully using the predominated classification. All videotaped and transcribed episodes were transformed to Mpeg forms for the computer analysis.

## **RESULTS**

### ***1. Initiatives, responses and social routines in children's collaboration***

As results of analyses of children's initiatives, responses to them, and the co-regulated activity various cultural routines (Corsaro 1992) based on children's activities were found: the sociodramatic play, fictional narrative play, non-fictional discourse routines, imitation and rule plays. Children used various initiatives: the most common were active verbal initiatives. It was surprising, however, how many of the initiatives were ignored.

In the data collected by video recordings an interesting collection of children's social routines and signs of peer culture was found. The cultural routines could be divided into five different forms. In the following, the results of analyses will be discussed.

### **Imitation as an aspect of learning**

On the basis of many developmental studies the imitative pattern seems to be a powerful tool for coordinated action between young children. Eckerman and Whitehead (1999) examined children in two different cultural contexts and confirmed that young children very early in their development began to match their actions repeatedly to those of their peers. They seemed to view each other as intentional agents whose attention and behavior can be actively followed, directed and shared. Imitation can be a very successful way to communicate.

The imitative social routine or play often started in this research from a common interest which could be a toy, its characteristics or also the other child's movements or gestures. It elicited a reaction where the attention to the other child combined to the focus on child's own activity. Especially various constructive plays (e.g. lego block building) caused often imitative actions. Typically every child had his/her own construction and children were playing physically close to each other. Young children's imitation was not just copying of movements of other people, but more a reflection of the whole actions witnessed as Lindahl & Pramling (2002) also showed in their research.

### ***Example 1.***

Antti (2:5) and Fanni (2:4) are at the table building with Duplo blocks.

1. Antti: "Hey, what .. help..help.." He takes a block into his hand.
2. Fanni looks at him, but she does not take anything, nor does she talk.
3. Antti goes through the box for some blocks: "I ne-e-ed roosters ..", reaching into them. He repeats this, singing: "I ne-e-e-d roosters, lal-lal-laa-la-lal-la." (His singing is obviously directed at Fanni.)
4. Fanni is watching Antti.
5. Antti: "Help.." Now, also Fanni gets some Duplo blocks and takes out a big construction which was already in the box. Antti gets some blocks, too, singing all the time.
6. At the same time, Fanni watches what Antti is taking from the box. Antti keeps on singing.
7. Fanni sings a bit, too.

### **Sociodramatic play**

Sociodramatic play involved cooperation between at least two children, interaction between players, verbal interactions and playful acts between players. It often included certain rituals which started the play. Initiatives were usually quite active and they were also responded by active ways. Sociodramatic play was established by elaboration of plans, negotiations of rules and direct actions and roles. They usually were quite long episodes having special patterns and sequences. It began with an active invitation to the role-play ("what if") and continued with an active response to the invitation and a renegotiation of the play.

### **Narratives and the course of the play**

The third form of social routines was children's fictional narratives and the development of creative ideas. They differed from the sociodramatic play by their child-centered activity. Narratives were not a reproduction of the roles of adult's world like in role-playing activities. Besides, narratives were not based on giving and taking of roles but rather on common creation of ideas. Bruner (1990) defines narrative as structuring the experience to a narrative story. It could be also seen in the pre-linguistic stage.

**Example 2.**

Jenni (6:5), Nelli (5:7) and Joonas (5:0) are building with lego blocks.

1. Joonas: "Let's play with Legos, Nelli! (asking) ... please!"
2. Nelli: "Yes." But still concentrates on her Lego base plate.
3. Joonas: "... and not just make something!" Nelli does not answer.
4. Joonas stirs the Lego box so that some blocks fall out of it. All are intensively engaged in their work.
5. Nelli says aloud: "... that we'd build something, like a cabin..."
6. Jenni answers, looking at Nelli: "Snow cabin ... snow castle."
7. Nelli looks at Jenni happily and says: "Yes."
8. And Jenni continues: "And there's got to be room for everything."
9. Nelli: "And we'll take some cocoa there, won't we?"
10. Suddenly, Nelli says quickly to Jenni: "Lemonade!" Jenni does not seem to hear this but continues with her own doings, as does Joonas.
11. Giving Nelli a couple of Lego blocks, Jenni says: "Here are the doors for you."

**Non-fictional discourse**

Children's non-fictional discourse elicited usually in the middle of the collaboration. They could start for example during the block construction or role-play. They included tutoring, elaborative and inquiring or examining discourse. *Tutoring* discourses were typical in situations where younger and older or more competent children were constructing or planning together. *Elaborative* discourses were typically developing ideas or planning of the shared activity. *Examining* discourse could be found when children argued on or examined a special topic. They could argue about colors as in the following extract.

**Example 3.**

Ville (4:6), Jaana (3:9) and Mari (5:3) are drawing on the floor.

1. Jaana: "There are different colours for girls and boys."
2. Ville smiles but doesn't say anything
3. Jaana continues: "I will draw so..oh..This is not a very nice color."
4. Jaana shows the pen to Ville and argues: "This isn't a color of boys, isn't it?"
5. Ville: "Yes, it is."
6. Jaana: "No, it isn't."
7. Ville continues: "There are not different colors for boys and girls, all colors are the same."

**Example 4.**

Heikki (5:3), Oona (6:1) and Joonas (4:6) are constructing with blocks.

1. Heikki continues the construction with blocks and asks: "Should it be out here?"
2. Oona (6:1 yrs) responds "No, on top of this block."
3. Heikki follows this advice and puts the block there.
4. Joonas takes a small piece from the box, looks at the model and adds the piece to the construction. "Hi, was it this way?"
5. Heikki: "No, it should be put on the top of this piece."
6. Joonas (does that and says in a silent voice): "Yes."
7. Heikki: "So, this way, always the pieces go on the top of each other."

**Rule plays, games and non-play situations**

Older children in the groups often played various rule plays. According to both Piaget and Vygotsky, children's play involving rule-based board games is a leading activity and an essential prototype of their ability to recognize, comprehend, monitor, and coordinate themselves and other's intentions in maintaining mutually derived goals and rules regarding cooperative behavior. (Bearison & Dorval, 2002.) Rule play stage is a transition period from preoperational to concrete operational intelligence.

***Example 5.***

Maria (4:3) takes a chair and sits next to Saara (5:2) to watch her play a board game.

1. Saara: "I won't play with Maria!" (saying this in a humorous fashion)
2. Maria follows her seriously and quietly.
3. Saara conciliates: "Yes, Maria come here. The pieces have to be put upside down on the table..."
4. They continue the play together.

Joining the game can be happening in various ways and children use many variations of it. One part of children's spontaneous activities was also wandering and non-play. Its function was to orientate towards the playing stage and other children. Orientation is a necessary part of the beginning of a play. The joining doesn't take place necessarily very fast, but the child needs a picture and a comprehension on what is going on in a further developed game. Wandering was also very typical of children who were dependent on adults. They felt it safe to begin a game with the support of an adult.

***2. Conflicts during the collaboration***

The collaboration included also many conflicting episodes. Children usually choose resolutions strategies which helped to continue the collaboration instead to finishing it.

***Example 6.***

Two boys Janne (5:6 yrs) and Heikki (5:4 yrs) and one girl Heli (5:6 yrs) are sitting on the table and starting to build from legos. The teachers give them the instruction and a model to look at.

1. Janne advises Heli: "You cannot put it that way. Look, this way." And Janne puts the block on the ground.
2. Heikki stares on the construction and says energetically: "No, but something here in the back side and something here in the front side."
3. Janne asks: "Oh – should it?"
4. Heikki: "Yes it should be done, just look!" And points at the model with his finger.
5. Joonas looks at the model and mumbles something.
6. Heli: "This long one doesn't belong there." Takes it off and puts back to the box.

A small pause when all children are looking the model and thinking.

All episodes including disagreements involved questions. The function of those questions seemed to be in evaluating the process of construction. The disagreements were then followed by questions asking for support for further actions. In all, it appears that disagreements and their resolution have an important role in collaboration. Disagreements can direct the children's attention to review their ideas

and solutions in order to construct a shared understanding. The most common conflicts were not the verbal disagreements as in this example, but they most often concerned possessions – usually toys or equipments – or behavioral control, e.g. a child's actions, including intrusions in territory. In the resolutions of conflicts children used strategies which assured the continuing interaction.

## ***DISCUSSION***

The routines are activities, through which culture is generated, acquired, maintained, and refined (Corsaro 1992). Sociodramatic play could be seen as preschool literacy related activity. Sociodramatic play also shows how, in Vygotsky's terms, children themselves raise the demands which create a zone for proximal development. They often go beyond the current contextual frame and in "what if", appropriate the surrounding world and make unexpected, creative transformations. The development of the role play requires intersubjectivity and shared understanding between players.

The meaning of imitation raised the question of its role in the learning process. Children imitate others in order to make sense of other people's actions. Children also imitate what interests them and they vary their actions as they find it interesting. (Lindahl & Pramling, 2002). The results confirmed the earlier research (e.g. Tomasello et al 1993, Eckerman & Whitehead 1999), where toddlers seemed to view each other as intentional agents whose attention and behavior can be actively followed and shared. The imitation was a strategy to communicate and engage in cooperative coordinated activity. The importance of the imitation in the development and learning would be worth re-evaluating.

The study of children's spontaneous interaction, early learning and collaboration needs a more dynamic and integrative theoretical and methodological orientation. According to the sociocultural, systemic and relational approaches, the nature of an individual's activity and cognitive performance should not be isolated from the social and cultural contexts. Considerations of the more dynamic relationship between individual and environment have led to the situative views of learning which focuses on the development of participation in social practices rather than on individual's knowledge (Kumpulainen, van der Aalsvoort & Kronqvist, 2003).

Considering early learning child's own activity plays an important role. Learning doesn't start in a vacuum. The child has previous experiences and knowledge, he has practiced various facilities. To learn new things a child needs experience, peers and a connection to an adult supporting him. An illusion in learning arises from the idea that a child can learn by listening. Ingrid Pramling (1990;2003) has found that pre-school tuition still is based on such learning views that are not characteristic of pre-schoolers' actions – for example of listening and producing. A child's world is formed of things he is interested in. It is difficult for a child to picture learning process as just sitting and thinking. To his comprehension learning is closely connected with doings.

Adult's point of view on the peer culture of children always remains that of an outsider. However, it is possible to understand at least to some extent this unique culture. This requires sensitivity, careful listening to children's stories and attentive observation of children activities. Early childhood educator's task is to help and give opportunities for children to find ways to collaborate, communicate, share and

negotiate. To be “social” in a traditional sense always needs the development of individuality. The individuality grows and the self exists in relations with others and, thus, development takes place within the system of relationships.

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