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**CHILDREN IN THEIR LEARNING ENVIRONMENTS:
theoretical perspectives**



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Laura Hirsto

ABSTRACT

Hirsto, Laura

Children in their learning environment: theoretical perspectives

This research is a theoretical analysis of the learning environments in which the personal world view of children develop at the beginning of their school careers. This project started as an empirical study, but in the process it became clear that in order to understand and interpret the results, a coherent theoretical framework should be elaborated.

The main focus in this series of studies has been on the home environment of 7-8-year old boys and girls in the context of child-rearing practices at home (Hirsto 1998, 2001a, 2001b). The first study concerned parental roles in child-rearing and child-rearing practices of boys and girls. The second study surveyed teachers' representations of their pupils home environment. These two studies are briefly reviewed here.

The learning environment is seen as a socialisation environment in which children are in continuous interaction. The starting point for the study was Bronfenbrenner's (1979) ecological model and the theory of pragmatic constructivism (Rauste-von Wright & von Wright 1994; Rauste-von Wright 1999a, 1999b; von Wright 1996a, 1996b).

The socialisation environment of children is analysed on the basis of ecological contexts, which have been defined by Bronfenbrenner (1979), Bronfenbrenner & Morris (1998) and Hurrelmann (1988). These models were elaborated by adopting the concept of the endosystem, which is considered to represent a person as an open, systemic whole. "Open" refers to the nature of people as intentional doers, who seek stimulation and feedback on their actions, and "systemic" to the fact that different levels (hormonal, motoric, psychological) are in continuous interaction and affect each other. The personal world view (see Rauste-von Wright 1979, 1986) is defined here as part of the endosystem, and is both empirical and theoretical in concept. On the one hand, it directs the actions and interpretations of a person in certain contexts, and on the other, it is a tool for conceptualising and understanding other people's actions. The concept of the self is central to the personal world view. Thus, people's beliefs about themselves and about their relations with the environment are thought to affect their actions. The concept of the self is approached from the perspective of G.

H. Mead (1934/1972), who suggests that it develops thought social interaction. This is the context in which boys and girls are also thought to construct their views of themselves.

Home and school collaboration is considered here as a means of integrating learning environments in which the child is in continuous interaction. This in turn may contribute to the construction of a coherent personal world view.

The main results of the earlier studies are discussed in the context of the theoretical framework.

KEYWORDS: personal world view, learning environment, socialisation processes, school beginner, ecological model, bioecological model, endosystem,

TIIVISTELMÄ

Hirsto, Laura

Lapset oppimisympäristöissään: teoreettisia näkökulmia

Tutkimus on teoreettinen analyysi koulunaloittajien maailmankuvan oppimisympäristöstä, ja siihen vaikuttavista tekijöistä. Tutkimus alkoi empiirisenä tutkimuksena, mutta työn edetessä tuli selväksi, että tulosten ymmärtämisen ja tulkitsemisen kannalta oli kehitettävä yhtenäinen teoreettinen viitekehys.

Keskeisenä perspektiivinä on ollut 7-8-vuotiaiden kotikasvatus, jonka tutkimisesta prosessi lähti liikkeelle. Ensimmäisessä empiirisessä tutkimuksessa tutkittiin vanhempien toteuttamaa kotikasvatusta (Hirsto 1998, 2001a), ja toisessa tutkimuksessa kartoitettiin opettajien näkemyksiä ensimmäistä luokkaa käyvien oppilaiden kotikasvatuksesta (Hirsto 2001b). Näiden tutkimusten keskeiset tulokset on tutkimuksessa raportoitu lyhyesti.

Oppimisympäristön käsite ymmärretään tässä laajasti sosialisatioympäristöjen kautta. Sosialisatioympäristöjä on analysoitu ekologisten ympäristöjen perusteella. Taustalla on Bronfenbrennerin (e.g. Bronfenbrenner 1979, Bronfenbrenner & Morris 1998) ekologinen ja bioekologinen malli, Hurrelmannin teoria (1988) sekä pragmaattinen konstruktivismi (Rauste-von Wright 1999a, 1999b; Rauste-von Wright & von Wright 1994; von Wright 1996a, 1996b).

Ympäristön systeemistä ja hierarkista jaottelua on laajennettu endosysteemin käsitteellä. Endosysteemi edustaa ihmistä avoimena ja hierarkkisena systeemisnä kokonaisuutena. Avoin merkitsee sitä, että ihminen nähdään aktiivisena ja intentionaalisenä. Hierarkkinen ja systeeminen tarkoittavat puolestaan sitä, että ihmistä voidaan tarkastella monella tasolla, solutasolta kokonaistoiminnan tasolle, mutta tasoja ei voida erottaa, vaan ne ovat jatkuvassa interaktiivisessa suhteessa toisiinsa.

Maailmankuvan käsite (e.g. Rauste-von Wright 1979, 1986) on osa endosysteemiä. Maailmankuva ymmärretään tässä psykologisena sekä teoreettisena että empiirisenä käsitteenä. Toisaalta se ohjaa ihmisen toimintaa ja tulkintoja, ja toisaalta se auttaa käsitteellistämään ja ymmärtämään ihmisten toimintaa tietyissä konteksteissa. "Minä" (the self) katsotaan kes-

keiseksi osaksi maailmankuvaa, joten yksilön uskomukset itsestään ja suhteestaan muihin ja ympäristöön katsotaan vaikuttavan yksilön toimintaan. G. H. Meadin (1934/1972) teoriaan pohjautuen minän katsotaan syntyvän sosiaalisessa vuorovaikutuksessa. Siksi myös tytöt ja pojat konstruivat näkemystään itsestään sekä ihmisenä että sukupuolensa edustajana sosiaalisessa vuorovaikutuksessa.

Kodin ja koulun yhteistyö katsotaan lapsen kannalta mahdollisuudeksi integroida oppimisympäristöjä toisiinsa. Täten se voi myös osaltaan mahdollistaa yhtenäisen maailmankuvan muodostumisen.

Kahden empiirisen liitetutkimuksen keskeisiä tuloksia tarkastellaan kehitellyn teoreettisen viitekehyksen kautta.

ASIASANAT: maailmankuva, oppimisympäristö, sosialisatioprosessit, koulunaloittajat, ekologinen malli, bioekologinen malli, endosysteemi

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I INTRODUCTION

THE STARTING POINT FOR THE STUDY

This work is a continuation of my studies on the learning environment of 7-8-year-old children, taken from two perspectives (Hirsto 1998 or 2001a, and 2001b). My goal was to survey some aspects of this environment among Finnish children, that have recently entered the school. FIGURE 1 presents the broad perspective of these two studies.

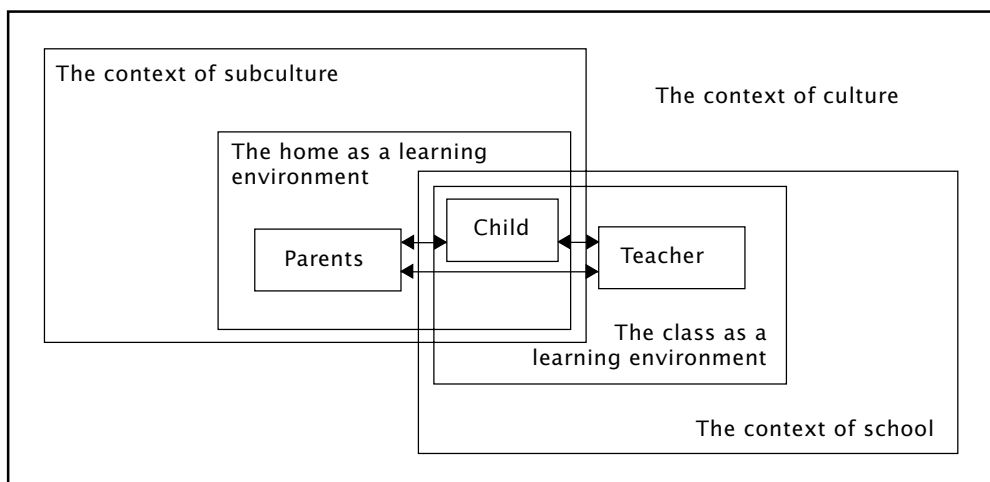


FIGURE 1. A SYSTEMIC VIEW OF A CHILD'S LEARNING ENVIRONMENT

The theoretical basis of the two empirical studies was built on Bronfenbrenner's ecological and bioecological models (e.g. Bronfenbrenner 1979, Bronfenbrenner & Ceci 1994, Bronfenbrenner & Morris 1998) and on Rauste-von Wright's concepts of the "world view" (e.g. Rauste-von Wright 1979, 1986) and pragmatic constructivism (e.g. Rauste-von Wright 1999a, 1999b; von Wright 1996a, 1996b). The ecological model/bioecological model is considered from a constructivist perspective.

As FIGURE 1 shows, when we consider the learning environment of a child, we need to take into consideration the cultural contexts of the whole society as well as the subcultures of the family and the school. The development of the world view is shaped in both of those proximal and distal contexts. FIGURE 1 was constructed from the point of view of home and school relations, and thus one important socialising factor, the peer group, is not included.

MOTIVES FOR STUDYING THE LEARNING ENVIRONMENT

Why is it important to study and conceptualise the environment in which the world view of children develops? In the following sections I will consider this question from a couple of perspectives.

Rapid changes in the world

We live in a constantly and rapidly changing world. We could say that there is nothing as certain in the world as change. If we compare the society in the 50's to the so-called knowledge society of today, there are not a lot of similarities. Nevertheless, the people of today do not differ from earlier generations to such a large extent. Most researchers in genetics agree with the claim that the changes in society that are to be seen in gender roles for example, cannot be explained as genetic change. The human genotype has not changed and is not changing at the same pace as society.

If we compare the socialisation processes of today's children in the western world with that of a child in the 50's for example, we will see many differences. The amount of information that a child is exposed to nowadays differs radically from the amount in the 50's. It seems difficult to imagine a situation in which there was one children's programme per week on the radio, which many children gathered around to listen to. Uncle Markus's

children's hour was one of the longest-running programmes in Finnish broadcasting history, starting in 1926 and ending in 1956 (Ruohomaa 1996). Uncle Markus must have had an influence on the socialisation processes of his listeners. However, we need not go that far back in history to see such visible differences. The fact is that today's children are exposed to various sources that can provide them with contradictory or ambiguous information.

From the point of view of the school, the situation seems analogous. Schools have lost their monopoly of knowledge, as Antikainen (1993, 122) puts it.

The requirements for school and learning have changed. These changes reflect the massive amount of information that is delivered through the mass media such in newspapers, on TV and radio and on the internet. All schools in the area of Helsinki city have internet connections, as do most of the schools in rural areas. Moreover, many households are also connected. Therefore, it is not as important to study and learn pieces of knowledge as it is to learn to choose the relevant pieces of information and critically reflect on their meaning.

The development of the internet has probably influenced people's world views in the same way as the invention of aeroplanes and phones did. The world can be seen as getting even smaller through the internet, as it is easier to get to know people and cultures from different parts of the world. This offers the chance to broaden the picture of gender-typical behaviour, and different kinds of world views.

Antikainen (1993, 124-126) approaches changes in demands for education from the perspective of the new competencies required in working life. Nowadays, more than earlier, it is more important to be able to apply one's acquired knowledge as well as to be able to interact and collaborate with others.

Gender roles have also gone through some changes in western societies during the last couple of decades. Men have traditionally been the only "breadwinners" in families. Women used to stay at home and take care of the children. In some families this still seems to be the case. Nevertheless, in Finnish society women are working outside of the home almost as much as men (cf. Kinnunen & Pulkkinen 1998). It is interesting to see how this

has affected the roles that mothers and fathers have in child rearing, and how teachers see the situation.

The aspects presented above are some of the features of the change that seem to be ongoing. These features are, in turn, considered to affect people's lives and their behaviour through changes in their world view.

Developmental perspectives

At the moment, children start school in Finland at approximately the age of seven. At this point, the child becomes part of a new socialisation environment. Bronfenbrenner (1979) called this change in environment an ecological transition. The child faces new challenges and demands that the new environment has set. There is a new adult, the teacher, who may become a significant other, and a new peer group. Thus, the child becomes a part of a new microsystem in which he or she is in face-to-face interaction, and is confronted with a new set of social norms.

This transition is important for other reasons, too. For example, children begin by learning academic skills (e.g. reading skills) that they will build upon throughout their schooling (cf. Grolnick, Kurowski & Gurland 1999). They may also at this point construct inefficient interpretations of their own abilities and opportunities to learn that affect their learning processes in the future.

When children start school, part of the responsibility for their upbringing is transferred. However, school cannot take the whole responsibility, and home and school should function together. Research has suggested that home and school collaboration profits both children and schools, and that it has a positive effect on children's cognitive and social skills (e.g. Bempechat, 1992, Griffith 1996, Henderson & Berla 1994), and school achievement (e.g. Zellman & Waterman 1998, Keith, Keith, Quirk, Sperduto, Santillo & Killings 1998).

School must be seen as a great socialising force in Finnish society, because it is compulsory for every child. Research has offered evidence of different treatment for boys and girls in interaction situations in classrooms. It is suggested that boys get a greater amount of the teacher's attention and are asked more questions (e.g. Burr 1998, Garret 1987).

Pirttiniemi (2000) recently considered boys' and girls' different positions in school in Finland, and how this applies to secondary education. He found that secondary-school pupils have negative school experiences in many respects at the end of comprehensive school. This was especially true for boys in their experiences of their teachers. Boys also had more problems in their mutual relationships than girls did. The author suggests that his study supports the claim that boys are not as happy at school as girls; almost half of the boys reported that they did not like school. Differences between boys and girls were greatest in the area of social relationships, and this also affected teacher-student relationships.

Tiedemann (2000) takes the perspective of teachers' attributions of boys' and girls' cognitive resources. He studied teachers' gender stereotypes in relation to boys' and girls' achievements in mathematics. His study lent support to the hypothesis that gender stereotypes have an impact on the way teachers attribute developmental resources to boys and girls in elementary-school mathematics. This was especially true in the context of average performance, where attributions are not so obvious. Tiedemann (2000) argued that teachers more often attributed boys' success to internal, personal characteristics, and failure to external factors, whereas girls' success was attributed to external factors and failure to internal factors.

This kind of attribution may have connotations of the self-fulfilling prophecy. It has been shown in social psychological studies that teachers' expectations influence pupils' behaviour and learning (e.g. Weyant 1986). Generally, Finland is seen as an egalitarian country, where boys and girls grow up to be equal. Nevertheless, in education, boys are not doing well at school, and the numbers of students in higher education are not equally distributed. The proportion of girls is overtaking that of boys, and the fields of study are still gender-dependent. Men still form the majority in post-graduate studies. (cf. Antikainen 1993, Nevgi 1998) Therefore, it is important to consider children's learning environments in general, and the environments of both boys and girls.

Recent research (e.g. Kinnunen & Pulkkinen 1998) suggests that women and men are unequal in working life as well, but not in the same way as in education. Far more highly-educated Finnish women than men are employed on fixed-term contracts, whereas men more often have permanent positions. There are various reasons for this. First, employers are not very interested in employing a woman in her thirties, because she

is thought likely to become pregnant as soon as she gets the job. Secondly, female applicants who have children are thought to be the ones to take care them when they are ill, and therefore they will lose more working days than men in the long-run.

This study aims to further understanding of the different learning environments in which boys and girls find themselves. School and home are often considered separately, but here the intention is to consider them together. What the two have in common is the fact that the individual and his or her environment are in constant interaction. The Vygotskian approach to language and meanings demands that the whole environment in which a child is living is taken into account. Learning a language and the meanings of words is connected to the culture in which the learning is embedded, therefore the roots of gendered attitudes and personal world view must be seen in connection with learning the language (cf. Vygotsky 1931/1982).

Teacher education

One of the aims of this study is to provide empirical and theoretical material for teacher education from the areas of children's learning environments, parents' child-rearing practices, home and school relations, and children's construction of their world view.

Traditional teacher education has focused heavily on teaching and didactics. Didactics provide recipe books for teachers. The emphasis has been on classroom management and teaching methods. Teaching methods are at best concrete tools for effective teachers, but unfortunately they are often applied as such, and not questioned or problematised.

One consequence of this strong focus on didactics has been that factors that are external to the classroom have not had enough space in the curriculum. It was found in a study that surveyed teachers' satisfaction with their education among other things (Säntti 1997), that teachers felt that they needed more know-how in the area of communication and interaction skills, and that their education did not provide them with the skills to develop home and school relations or relationships with colleagues. According to Säntti (1997), the children's own perspectives and how they saw the world were not emphasised enough.

Traditionally, home and school are seen, at least in teacher education, as units separate from each other. This is understandable, because Finnish teacher education has concentrated on didactics and school learning, and has had little to do with home or other socialisation environments. However, home and school collaboration as a connection between two microsystems, may provide the means by which pupils develop a coherent personal world view.

It has been shown in social psychological studies that teacher's beliefs and expectations about pupils have had a great effect on how the pupils behave and learn. The teachers are not generally aware of these expectations, nor of the way they reveal and communicate them in interaction processes in the classroom. According to some research (see e.g. Weyant 1986), expectations about learning or achievement are based on secondary issues such as gender and clothing. A poor beginning to the school career may also have long-lasting effects on children's future success, because the teacher has already constructed a certain picture of their abilities and this affects the way he or she treats them.

THE STRUCTURE OF THE STUDY

This study started as a piece of empirical research. In the course of the project it became clear that a coherent theoretical framework would make it easier to understand and interpret the results. Thus, the empirical material and the theoretical constructs came to be in continuous interaction.

As a further perspective on the empirical studies, this one focuses on a careful theoretical analysis of children in their learning environments in which they construct their personal world view. The two empirical studies, which have been fully reported elsewhere, are briefly reviewed, and discussed in respect of the developed theoretical framework.

The structure of the study is as follows:

- 1) The theoretical framework is presented and discussed.
- 2) The empirical studies, which have been fully reported elsewhere, are briefly reviewed.
- 3) The results are discussed in the light of the elaborated theoretical framework.

Objects of the study

The personal world view of the children in the beginning of their school career is considered from the perspective of child-rearing practices concerning boys and girls. The roles that mothers and fathers have in child-rearing are also relevant in the search for a more explicit picture of the learning environment in which the personal world view is constructed. On the other hand, school is a significant socialisation institution in which children are part of the interaction. Therefore teachers' representations of their pupils home environment were also studied. Thus children's learning environment is approached here from two perspectives that represent the views of significant others. Children's own representations are not studied, but their learning environments are theoretically approached.

The goal of this study is to elaborate and discuss a theoretical framework in order to understand and interpret the learning environments of 7-8-year-old children who as is normal in Finland, have recently started school. It is suggested that the concept of the personal world view is essential to such an understanding.

These findings are discussed in the theoretical context of child development and learning. Also the role and the strategies of home and school collaboration are considered in these respects.

II THEORETICAL FRAMEWORK

THE LEARNING ENVIRONMENT AND SOCIALISATION PROCESSES

DEFINITIONS OF THE LEARNING ENVIRONMENT

The concept of the learning environment is usually associated with formal education and cognitive learning, especially in computer-based settings. This has affected its definition. Salomon (1997) summed up several common characteristics of so-called novel learning environments. According to him, such environments are based on constructivist psychological and philosophical principles. Essential to these is that they are team-based, often interdisciplinary and oriented towards the solution of complex real-life problems. Because they are defined as novel learning environments, they also utilise a variety of technological means.

Tynjälä (1999b), on the other hand, discussed the pedagogical implications of a constructivist learning environment. These include learners' previous knowledge and beliefs, attention to metacognitive skills and knowledge, discussion about and different forms of collaboration, the integration of knowledge acquisition and knowledge use, the use of multiple representations of concepts and information, and assessment embedded in the learning process.

Collins, Brown & Newman (1989), in turn, defined the characteristics of ideal learning environments. They described the four dimensions that constitute any learning environment as content, method, sequence and sociology. They write about cognitive apprenticeship, therefore it is understandable that they also defined learning environment from a formal educational point of view.

However, it is not enough to provide pupils with a constructivist learning environment. Learners, in their history of learning, develop persistent beliefs, habits and styles related to learning activities that may not be functional in such an environment (cf. Simons 1993). Simons (1993) argues that it is not easy for teachers to change a traditional approach into one that stresses learner activities that they cannot entirely control. It may be hard to believe that learners can learn constructively if you give them adequate opportunities combined with a learning-to-learn approach. Therefore, teachers themselves must be provided with educational opportunities.

It is important to embed constructive learning in a total instructional design (Simons 1993, 310). Resnick (1998) takes it a little bit further in suggesting that learning environments should be embedded in learning organisations, which in turn are embedded in nested learning communities.

In conclusion, the essential characteristics of constructivist learning environments are 1) the individual's active role in constructing meanings (e.g. Rauste-von Wright 1999a, 1999b; Resnick 1998; Simons 1993; Tynjälä 1999a), 2) a real-life setting or problem (e.g. Honebein, Duffy & Fishman 1993; Salomon 1997) and 3) social interaction (e.g. Collins, Brown & Newman 1989; Salomon 1997; Tynjälä 1999a, 1999b). The view of construction of meaning is based on constructivist epistemology, in which knowledge is seen as something to be constructed instead of something to be passed on. Therefore, the learner's earlier knowledge and beliefs should be taken into consideration. Demands for real-life settings arise from considerations of situated knowledge and problems of transfer. A real-life setting provides a complex situation in which learning can take place so that empirical and theoretical information are integrated. In this respect, Rauste-von Wright (1999b) has described the learning process as constant interaction between goals/aims, realisation and evaluation.

The role of social interaction in constructivist learning environments is defined differently in the different varieties of constructivism (see e.g.

Phillips 1995). For example, radical constructivists see no role for social interaction in learning, since the construction of knowledge takes place inside the person's head. At the other end of the continuum is social constructionism, where all learning and construction of knowledge is seen to take place in social interaction.

Another perspective on defining the learning environment is offered by Wilson (1995). He states that, at minimum, it contains "the learner and the setting or "space" wherein the learner acts – using tools and devices, collecting and interpreting information, interacting perhaps with others, etc.". This could be considered a starting point in the present study. Here "the endosystem" represents the learner with certain genetic and species-specific attributes. The "space" is considered to be constructed by ecological socialisation environments.

Starting from this minimum definition enables us to see the learning environment more broadly than in traditional theories of cognitive learning or learning in formal settings. However, it is not suggested that formal learning environments should be replaced by natural environments, but rather that they should be seen as embedded in the totality of the child's learning environment.

The learning environment is considered here from the point of view of pragmatic constructivism, according to which an individual is seen as an active constructor of his or her reality. This is explained in further detail in the next section.

THE CONCEPT OF THE LEARNING ENVIRONMENT IN THIS STUDY

The learning environment in its broad sense is taken here to be formed by the socialisation environment. Socialisation environments are often categorised as primary or secondary. The family is then regarded as the primary environment for the child, because it is the first and often the most important. School is another important socialisation environment that, together with early-childhood care institutions, is considered to be secondary. It nevertheless differs greatly from these other institutions. Other socialisation agents include early educational institutions, peer groups and the mass media.

Systems theory

The systemic way of viewing the child's learning environment is based on the idea that the whole is more than the sum of its parts. The learning environment should be seen as a complex system, which is composed of subsystems that are related to each other. One view of the child's learning environment is presented in FIGURE 1. According to that view, the cultural context provides the basis for the child's learning environment, of which the subsystems of the subcultures in which home and school are embedded are integral parts.

A systemic approach is commonly used in studies of human development (see e.g. Magnusson & Stattin 1998; Thelen & Smith 1998; Lerner 1998). Thelen & Smith (1998) emphasise the dynamic nature of systems theory. According to them, traditional systems theory was based on an assumption that systems seek a state of equilibrium. However, nowadays organisms are also seen as being active in the search for stimulation, and they should thus be considered open systems with dynamic stability.

The view of the learning environment used in this study is broadly based on Bronfenbrenner's (1979) ecological model, which was used as the starting point for the research. It has been applied in holistic approaches to parents' child-rearing practices and to teachers' representations of their pupils' home education. Here, an attempt is made to incorporate further development of the ecological model, the bioecological model, as far as it concerns the child's learning environment. The ecological model has been explained more fully in earlier studies (Hirsto 1998, 2001a), therefore it is only briefly described here.

Ecological theory of human development

A systems approach is also at the heart of Bronfenbrenner's (1979) ecological theory of human development, in which he analysed human beings' distant and proximal living contexts or settings from the developmental point of view. His aim was to emphasise the meaning of context in human development. At the time he characterised much contemporary developmental research as the study of development-out-of-context (Bronfenbrenner 1979, 21).

Like Thelen & Smith (1998), Bronfenbrenner sees human beings as active by nature. The impact of systems theory in his ecological model is evident

in its emphasis on interaction between proximal and distal contexts and the human being. However, Lerner (1998) suggests that this view of interaction between systems is inadequate, because interaction connotes two independent entities that merely multiply in their effects on behaviour. He feels that the concept of fusion should be used instead, because it implies a reciprocal relation between the components of an intermeshed system. This demand fits well into Thelen and Smith's (1998) view of dynamic systems.

Nevertheless, Bronfenbrenner's ecological theory provides a clear and well-defined net of concepts for describing and understanding the effects that the environment may have on human development.

The microsystem, the mesosystem, the exosystem
and the macrosystem

Bronfenbrenner (e.g. 1979) used the concepts of the microsystem, the mesosystem, the exosystem and the macrosystem to describe proximal and distal settings of human development.

The microsystem is the immediate setting in which the child engages in face-to-face interaction. Such a setting is considered to have a direct impact on experience. According to Bronfenbrenner (1979, 22), it is essential to consider the environment as it is experienced and perceived by the child, not just its objective properties. Activities, roles and interpersonal relations constitute the elements of the microsystem. Home is often the first and most significant microsystem in a child's life, another being their day-care institution or school.

It is the existence of two or more microsystems that provides the setting for a mesosystem. Thus, according to Bronfenbrenner's definition, the interrelations between two or more settings in which a developing person is actively involved comprises a mesosystem (Bronfenbrenner 1979, 25). The exosystem refers to settings in which the child is not directly involved, but in which events occur that affect what happens in the setting in which he or she is involved. Exosystems may include the parent's place of work or network of friends.

The macrosystem is the broadest ecological contextual system, and the furthest removed from the child's direct experience. According to

Bronfenbrenner (1979, 26), it refers to consistencies in the form and content of lower-order systems, that may arise through the culture or subculture in which the child is embedded.

Bioecological model

Bronfenbrenner and his colleagues (e.g. Bronfenbrenner 1992/1997, Bronfenbrenner & Ceci 1994, Bronfenbrenner & Morris 1998) have further developed the ecological model, which was criticised for not taking the individual sufficiently into consideration. Bronfenbrenner (1992/1997) admitted this weakness, but justified the original classification by strongly emphasising the individual to counterbalance the fact that the focus of developmental psychology at that time was firmly on and within the individual.

The bioecological model thus focuses more on the individual and his or her dispositions, the time dimension and the interaction between the individual and the environment. In developing his theory in order to take the individual and developmental processes better into account, Bronfenbrenner (1992/1997) based his ideas on Lewin's classical formula of behaviour ($B = f(PE)$ [Behaviour "B" is the function of the person "P" and the environment "E"]). He claimed that, Lewin had disregarded the dimension of time, and he therefore reformulated the formula in the following way: $D_t = f_{(t-p)}(PE)_{(t-p)}$, where "D" means development, and "t" and "p" refer to time or to a period of time.

The time dimension that Bronfenbrenner (1992/1997) demands is present in the formula on many levels. The concept of development is considered to be connected to time as such, but also the right-hand side of the formula – representing the individual and the environment - are considered in a certain time frame. The function also has a subindex, which suggests that the nature of the process of development is considered as changing across time.

This reformulation of Lewin's formula suggests that development is the product of the person and environment function if it is taken literally. However, Bronfenbrenner & Morris (1998) emphasise that at any given time, it is influenced by the developmental state on any given earlier occasion.

In connection with the bioecological model, Bronfenbrenner & Morris (1998) write about the “person-process-context-time -model” (PPCT), suggesting that it should provide the basis of research frameworks. According to systemic thinking, a change in one part of a model may lead to a different kind of developmental process and different outcomes.

FIGURE 2 presents an outline of the essential parts of the bioecological model. These include the person, the context, proximal processes and the time dimension. The figure is explained later.

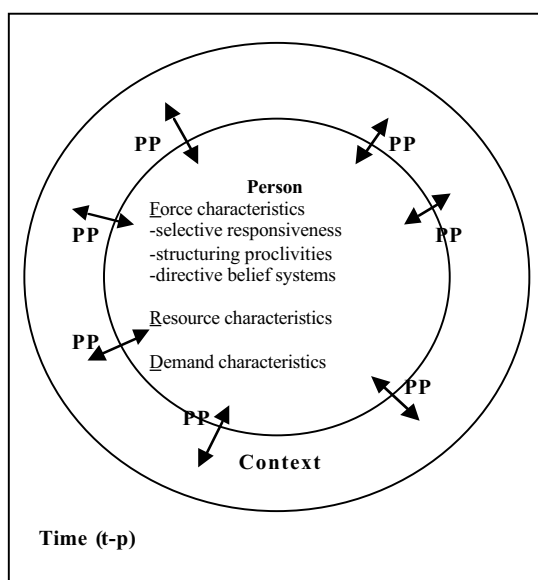


FIGURE 2. THE BIOECOLOGICAL MODEL
(PP = PROXIMAL PROCESSES, TIME (T-P) = PERIOD OF TIME).

According to Bronfenbrenner & Morris (1998), **person characteristics** can be divided into three categories; 1) force characteristics, 2) resource characteristics and 3) demand characteristics. This division is based on an analysis of the factors that have different effects on proximal processes and the effectiveness of the developmental process.

Force characteristics are dispositions that set the proximal processes in motion in a particular developmental domain (Bronfenbrenner & Morris 1998). They also continue to sustain the operation of proximal processes.

Force characteristics that are productive from the perspective of life-span development can be divided into three categories; 1) selective responsiveness, 2) structuring proclivities and 3) directive belief systems. Individuals respond and react in different ways to stimuli from the physical and social environments. These differences are considered to be differences in selective responsiveness. Structuring proclivities are seen as differences in engagement and persistence in adhesion to progressively more complex activities, and on the other hand the eagerness of a person to develop and restructure the physical, social and symbolic environment. Directive belief systems reflect the child's growing ability and active aptitude to conceptualise things. A crucial issue here is the extent to which individuals perceive themselves as active agents in relation to themselves and the environment. The concept of directive belief systems has dimensions similar to Bandura's concept of self-efficacy (e.g. 1986) and Rauste-von Wright's idea of "I as a learner" (2001).

The second category of person characteristics is labelled *resource characteristics*. According to Bronfenbrenner & Morris (1998), these consist of bioecological and biophysiological resources, which are the abilities, experiences, knowledge and skills that are required to ensure the effectiveness of proximal processes in different states of development.

The third category concerns *demand characteristics*, by which Bronfenbrenner & Morris (1998) refer to factors that encourage or restrain reactions from the social environment that can facilitate or suppress the functioning of proximal processes. These restraining factors include genetic handicaps or physical disabilities, for example. In my opinion, the temperament of a person could be included in this category, as well as any hyper-activity or passivity. These are also factors that can be considered force characteristics.

Demand characteristics are comparable to the concept of social-stimulus value. Both refer to similar features in people that can have direct effects on social-interaction processes. The feedback that is given to a child may be shaped by such outer characteristics, which in turn may have an effect on developmental processes.

Context factors are proximal and distal environmental contexts that are defined in the original ecological model. However, the bioecological model places greater emphasis on the interaction between the person and the objects and symbols of the environment. The definitions of the micro-,

meso-, exo- and macrosystems (Bronfenbrenner & Morris 1998) are extended in a way that takes into account proximal processes and personal factors.

The **time-dimension** is also emphasised in the bioecological model. According to Bronfenbrenner & Morris (1998), time may be considered an influencing factor in development from different perspectives. They divided this dimension into micro-, meso- and macrotime. Microtime refers to the continuity or discontinuity of ongoing proximal processes. Mesotime is the periodicity of these proximal processes during longer periods (e.g. days or weeks). Macrotime refers to the larger society and to its changing expectations and events.

As I mentioned earlier, the bioecological model emphasises the importance of process in the development of a person. Development is seen as an interaction process between an individual and the environment. Such long-lasting and relatively regularly-occurring interactions that are significant for the individual's development are defined as **proximal processes** (Bronfenbrenner & Morris 1998).

Both the ecological and the bioecological models are developmental theories, therefore the interaction between a person and his or her environment are considered from a developmental perspective. According to the bioecological model (Bronfenbrenner & Morris 1998), proximal processes and individual development are based on the person's activity, therefore links between activity and personal development are evident. However, connections between activity and learning are not clear. One explanation for this may be that learning is often taken as a matter of course and not as problematic (von Wright 1996b).

The strengths of the ecological and bioecological models from the perspective of learning environments include their strong emphasis on interaction between the person and the environment, the attention paid to context and situation and, especially in the bioecological model, the way of considering the person as an agent in interaction processes. These factors are also important in terms of learning processes. Learning is a key part of the process of constructing a world view. Therefore, it is important to consider these models from the point of view of learning.

It is clear that the bioecological model places more emphasis on the individual than the ecological model. However, the smallest system that

has been conceptualised is the microsystem, one example of which is the mother-child dyad. According to the bioecological model, a person is conceptualised to a certain extent from the developmental point of view, but when the focus is on a child's development and learning, it is important to consider an individual as a system. Therefore, I have defined a new concept, the endosystem, to describe a person.

THE PERSON AS A SYSTEMIC WHOLE – THE ENDOSYSTEM

The bioecological model depicts the individual as embedded in systems of contexts. However, it is justifiable to emphasise that a person should also be seen as an open systemic whole. It is reasonable to introduce the concept of the endosystem because the structure of hierarchical systems is based on Bronfenbrenner's conceptualisation, and the concept enlarges the existing net. Bronfenbrenner (1992/1997) admitted that individuals and their development were not given enough attention in the original ecological model, but he argued that, at the point of developing the theory, the focus of developmental psychology was firmly on individuals and their processes. He expressed regret that his strong demands to consider the ecological environment have resulted in a lot of research about "context without development" (e.g. Bronfenbrenner 1986, 1992/1997; Bronfenbrenner & Morris 1998).

The idea of an endosystem that represents a hierarchical systemic view of a human being expands the ecological model and incorporates some aspects of the bioecological model. A set of concentric circles has been used to illustrate the ecological model (e.g. Huttunen 1984; Kääriäinen, Laaksonen & Wiegand 1990; Hujala, Puroila, Parrila-Haapakoski & Nivala 1998). This kind of graphical illustration is based on Bronfenbrenner's text; he used the analogy of a "Russian doll" to describe his theoretical thinking (see Bronfenbrenner 1979). FIGURE 3 is my interpretation of the concept of the endosystem and how it relates to Bronfenbrenner's concepts.

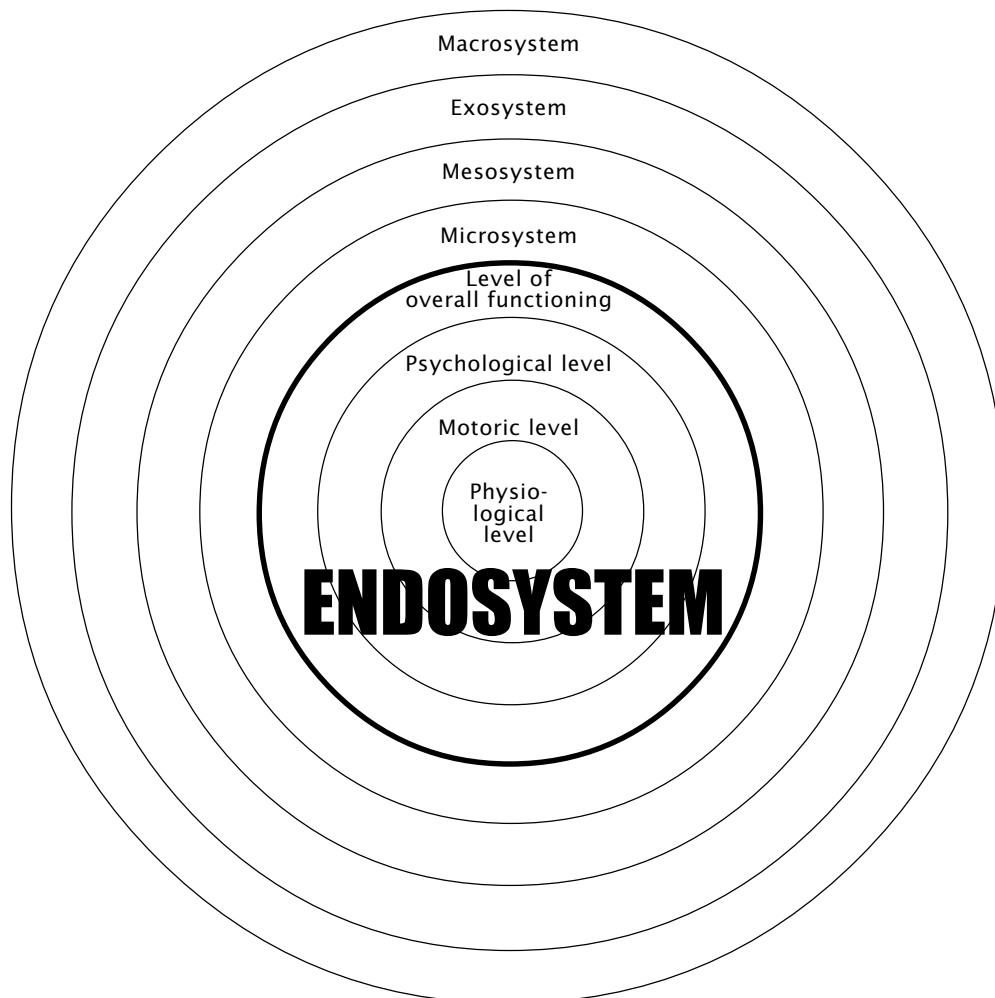


FIGURE 3. AN EXAMPLE OF THE SYSTEMIC PERSPECTIVE OF AN INDIVIDUAL (ENDOSYSTEM) AS A PART OF LARGER SYSTEMS THAT ARE DEFINED IN THE ECOLOGICAL AND BIOECOLOGICAL MODELS.

FIGURE 3 is an example of the way the endosystem could be viewed. It depicts an individual who can be seen as a multi-level, hierarchically-structured system. A person is seen as a psychophysical whole that can be studied on different levels. For example, a strong emotional experience seems different depending on whether it is studied at the hormonal level, or with regard to the functioning of organs, motor functions, psychical experiences or social activities (cf. Rauste-von Wright & von Wright 1994, 90). Nevertheless, FIGURE 3 is too general and is not informative enough regarding the ongoing processes in an individual.

Nature and nurture in the endosystem

The endosystem may be approached from a developmental-psychological point of view. Differences in social development and growth have been considered on the basis of nature and nurture. From the biological point of view, people can be seen to inherit their abilities and characteristics. On the other hand, abilities and characteristics are thought to be results of socialisation and upbringing. Traditionally, these questions have been approached from either perspective (cf. Shaffer 1996). Today it is clear that both views have to be taken into account, in the context of developmental processes.

The debate has been lively, especially in the area of the development of talents and personality. It would be ideal from a positivist standpoint if researchers were able to define the exact proportion of effect that nature has on abilities and characteristics. However, since this is not possible, the person should be considered holistically as an individual in certain environments and situations. This approach is in line with the demands of Bronfenbrenner & Morris (1998) to study both the individual and the environment at the same time, and with Lerner's (1998) vision of intermeshed systems.

The relationship between genetic or biological and environmental factors is extremely complex, and may often be impossible to disentangle. Neither is the sole cause of or reason for any ability, and both are always involved. Current thinking in genetics, for example, is that the environment strongly affects the activation of genes (cf. Kere 2000, Haila 2000).

This kind of thinking was also suggested by G. H. Mead (e.g Baldwin 1986). He argued that a child should be seen as being born into a certain social and physical environment with certain biological attributes. He or she then acquires from those environments a complex repertoire of covert and overt behaviour that influences and shapes both micro- and macro-society, and the broader environmental system (Baldwin 1986).

The relationship between nature and the environment is also considered a systemic one in the endosystem. Even infants show visible differences in how they behave and react to certain stimuli (cf. Schmuck & Schmuck 1992, 18; Schaffer 1996). Temperament is one attribute that is thought, at least to some extent, to be biologically inherited. However, this does not mean that it is considered stable and unchangeable - on the contrary,

its manifestations are affected by the environment and personal experiences (Schaffer 1996). From a systemic point of view, on the other hand, the temperament, like other individual characteristics could be considered a continuous regulator of individual development (cf. Rauste-von Wright & von Wright 1994).

The individual as a learner

From an evolutionary point of view, learning is an essential characteristic of all animals (cf. Rauste-von Wright & von Wright 1994), though the most complex forms seem to be specific to humans. One approach to species-specific learning processes in human beings is through Vygotsky's thinking. In his analysis of the relations between thought and language, Vygotsky (1931/1982) suggested that their development stems from the innate social character and selective attentiveness of human beings. They, unlike other animals, are able to learn the meanings of symbols or words and generalisations, which enables linguistic interaction. A similar starting point for Bandura (1986), in his social cognitive theory, is the species-specific characteristic of human beings to use symbols and communicate with them. This is exactly what makes learning a complex process.

A person (A), who is used to right-hand traffic, in an environment of left-hand traffic could be considered an example of the human being as a learner. Because of the left-hand traffic it is difficult for A to discern where to focus his or her selective attention to avoid danger as he or she crosses the street. It is conceivable that adults in Finland are so used to right-hand traffic that the focusing of attention is for the most part automated. Therefore, they do not have to think every time all over again which way to look for cars. However, in London's left-hand traffic these automated routines do not work. On the contrary, A has to reorient himself or herself in the environment and focus attention intentionally in order to be able to cope. In other words, A detects a discrepancy and is able to intentionally change or adjust his or her actions to the conditions of the new situation.

The human capacity for information processing is limited. It is thought that automation of activities and thinking strategies is a means of relieving the cognitive load. Complex activities and tasks often demand a lot of concentration and cognitive capacity at first, but in the long run easier constituent functions become automated. This allows human beings to focus their attention more selectively.

It is often difficult to change routine ways of acting. It requires conscious aims and metacognitive skills. Selective attentiveness, as well as thinking and learning strategies may be applied routinely, and are therefore difficult to change. One example of this would be the student who is used to and socialised to traditional schooling where pupils are mainly inactive. When he or she comes to a learning environment that involves setting one's own goals and designing ways of reaching them, there may be difficulties in adjusting.

A person as a productive processor of reality

The view of a person as a productive processor of reality is based on Hurrelmann's (1988) conceptualisation of personality development and the effects of the social structure.

Hurrelmann (1988) views personality development through socialisation processes, basing his theory on the common features of socialisation theories. Thus he argues that the personality is formed in interaction between the person and the material and social environments. Norms that are needed for orientation and behaviour are constructed in interaction. This process is considered to lead to adjustment and accommodation between the personality and features of the environment. For instance, in the interaction environment of a classroom, a teacher may communicate, through feedback, his or her attitudes about the appropriate behaviour of boys and girls, and on the basis of this, boys and girls may construct different norms of behaviour and orientation.

Hurrelmann (1988) identified three central units of analysis through which to study relationships between the person and the environment. These are the social and material environment, the human organism, and personality and personality structure. The social and material environment consists of the actualities of a person's outer reality. The basic genetic disposition, the physiological structures and processes, and the basic physical features of an individual form the human organism. Personality and personality structure are understood as a person's organised structure of motives, attributes, traits, attitudes and action competences. (Hurrelmann 1988, 44-45).

He also takes into consideration proximal and distal contexts of socialisation (Hurrelmann 1988, 46-47). Thus, the processing and constructing of outer reality takes place in face-to-face interaction, which

is affected by cultural and historical factors. FIGURE 4 represents an attempt to combine the levels of analysis proposed by Hurrelmann and Bronfenbrenner (1979, 1998).

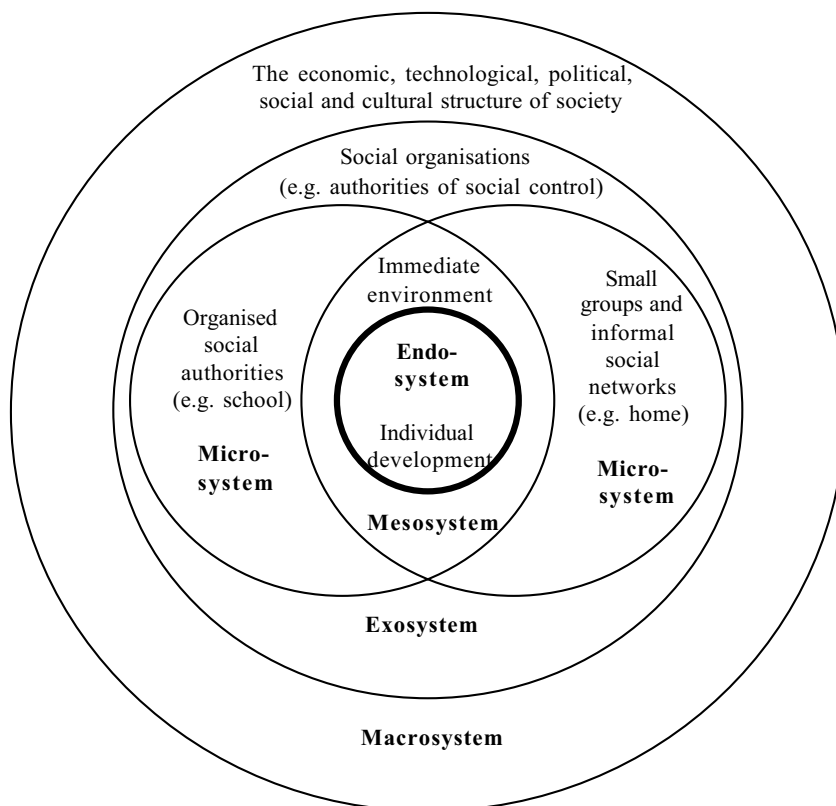


FIGURE 4. ENVIRONMENTAL CONTEXTS AS DEFINED BY HURRELMANN (1988) AND BRONFENBRENNER (1979).

Hurrelmann's (1988) classification of distal and proximal environments adds one especially interesting feature to Bronfenbrenner's ecological model. Hurrelmann explicitly considers informal and formal settings separately.

He considers the process of personality development to be progressive in childhood and adolescence (Hurrelmann 1988, 47-48). By that he means that a person's ability to acquire and process reality expands continuously. This way the person arrives at a growing individual understanding of external reality, a more complex cognitive map of his or her physical and

social world, and a more effective mastery of biological needs and psychological motives. This leads to an increasing ability to structure and direct personal behaviour is achieved. This thought of the increasing complexity of developmental processes is also present in the bioecological model (Bronfenbrenner & Morris 1998).

In sum, the individual is seen as being embedded in a cultural and historical situation. The process of personality development takes place in continuous interaction with physical and social environments, and with the symbolic objects of the environment. The human being is considered to be born into a certain environment with genetic and physiological characteristics, all of which affect the interaction taking place with it. Human beings are also seen as active doers, and the individual as a dynamic, open, hierarchical system, actively seeking meanings and processing reality. The construction of the personal world view is seen as an essential process that has an impact on individual life-courses.

The concept of the personal world view is therefore considered to be an important part of the endosystem. This concept is explained in the next section.

THE PERSONAL WORLD VIEW

The interaction at home and the learning environment it provides form the basis for the child's concept of himself or herself, other people and the world. Home is the first place in which the child is in a social group and gets feedback about his or her actions in interaction with parents and siblings. Thus the family forms the very first learning environment for the child. In this study, the child is seen as an active human being, who seeks feedback (cf. Thelen & Smith 1998, Bronfenbrenner 1979, Bronfenbrenner & Morris 1998). As it is, parents are the first authorities from whom the child gets feedback, and this directs his or her selective attention and, through that, learning. This forms the social environment in which the personal world view of the child is constructed.

When a child starts school, he or she already has a certain world view, constructed in interaction-processes with the family and in other social contexts. The child interprets the world and social interaction according to this world view. The development of the world view is an ongoing learning-process, and school becomes part of it in a certain phase.

Interaction environments and the ways in which the child is used to being treated are important parts of this world view, and these factors influence the way in which the child expects to be treated at school.

THE CONCEPT OF THE WORLD VIEW

The concept of the world view has been considered in various ways within different research traditions. However, a rough division could be made between the philosophical tradition according to which the world view is considered to be general and collective, and the psychological tradition in which it is seen as individualised.

The philosophical perspective has been used to describe knowledge constructions concerning the world (e.g. von Wright 1982, Vesala 1994). For example, according to Manninen (1977, 16-17), the world view may be divided into five different areas, involving conceptions about: 1) time and space, 2) the origin of the world, 3) nature and its relationship to human beings, 4) human beings themselves and their relationship to other people, and 5) the social structure of society and the factors that determine the course of history. Manninen's division reflects the content division of the concept of the world view. Another good example of this philosophical tradition is G. H. von Wright's (1997) discussion. He considers the world view to be a set of conceptions of an era shared by a community. He mentions the Christian and the scientific world views as examples.

The concept has thus been used in a psychological sense. For example, in her study of young people's world views, Helve (1987, 1993) considered it according to the following five dimensions: 1) conative (or behavioural), 2) cultural, 3) cognitive, 4) social and 5) affective. This division, too, is mainly concerned with the contents of outer reality, but its integral feature is also the way in which people see themselves as part of reality. Rauste-von Wright (1986, 1979) also classified the world view in terms of content factors, but she also suggested that it could be approached structurally. According to her personal world views may be classified in terms of levels of integration (or coherency), maturity and consciousness.

"Weltanschauung" (maailmankatsomus) and ideology have been used as corresponding concepts (see e.g. Manninen 1977, Helve 1987, 1993). According to Helve (1987, 1993), "Weltanschauung" could be considered an explicit concept, whereas the world view is more implicit. Thus, people

are not necessarily aware of their world view. Manninen (1977) suggests that “Weltanschauung” could be taken collectively or individually. The collective interpretation could be said to correspond with the concept of ideology. In my opinion, the concept of “Weltanschauung” refers to philosophical aspects of the individual’s world view, and could therefore be considered a meaningful part of it. Ideology understood as collective “Weltanschauung” would affect the construction of the personal world view, which would become apparent on close inspection. In any case, the interpretations a person makes of the collective ideology are essential parts of it.

THE CONCEPT OF THE PERSONAL WORLD VIEW IN THIS STUDY

The concept of the world view that is used in this study is based on Rauste-von Wright’s interpretation (see e.g. 1979, 1986). Her conceptualisation differs from the philosophical concept that is based on categorisations of outer physical reality. The world view is considered here as a tool or means for understanding and interpreting action. It is thus seen as a mediating structure in the interaction between a person and the environment.

FIGURE 5 is taken from Rauste-von Wright (1986). It shows the role that the personal world view is considered to have in the regulation of action. In a sense, this view has a point of convergence with Hurrelmann’s (1988) view of the organisation of behaviour; he suggests that its development should be understood as a process of self-regulation through feedback.

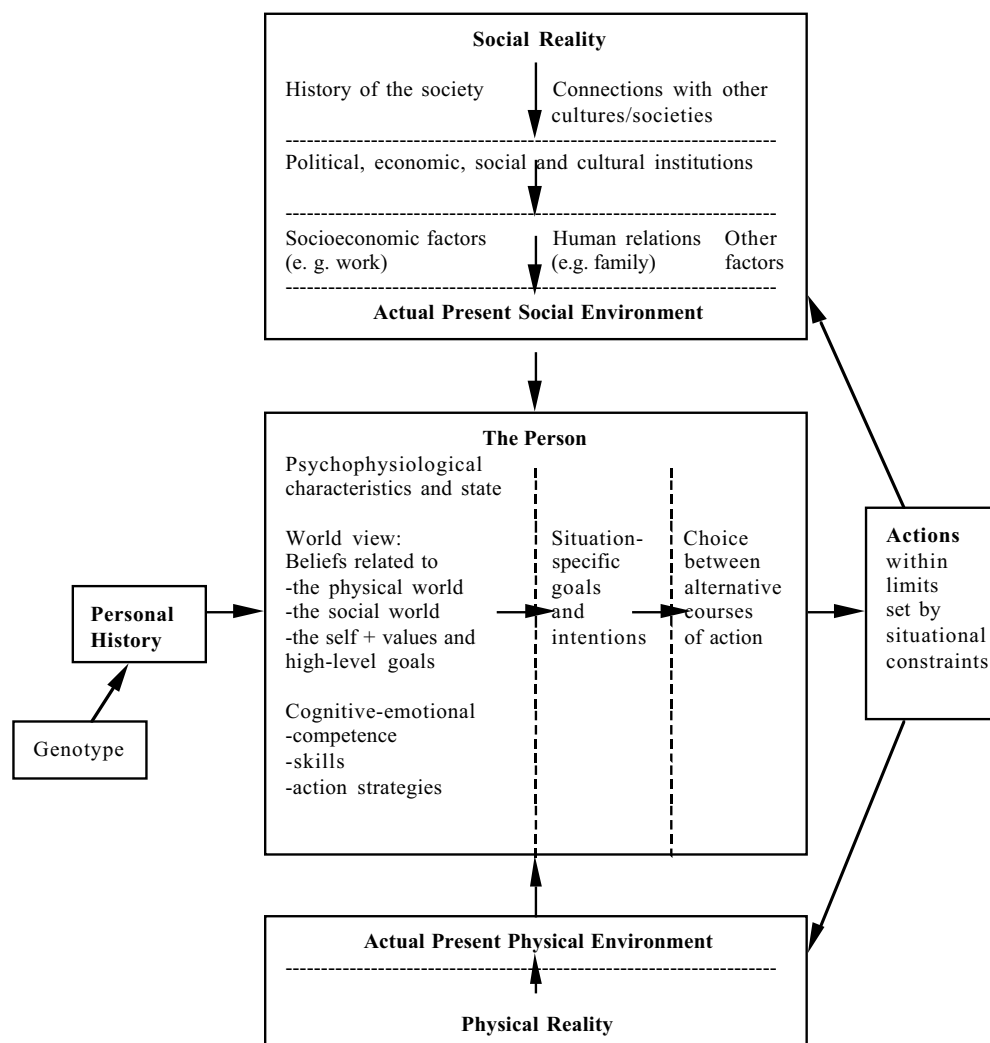


FIGURE 5. THE WORLD VIEW IN THE PROCESS OF GUIDING AND CONTROLLING ACTION (RAUSTE-VON WRIGHT 1986, 1983).

The world view is considered here to be both an empirical and a theoretical concept. It both directs the actions and interpretations of a person in certain contexts, and it is a tool for conceptualising and understanding other people's actions. In the context of this study, the world view of a teacher is thought to regulate his or her actions in interaction with children. Moreover, the declarative and, especially, the procedural knowledge that teachers have about their pupils' world views help them to understand children's actions.

von Wright (2000) has used the concept of the personal world view to

emphasise the difference between traditional philosophical and psychological ways of defining the “world view”. Thus, the personal world view is seen in this research as a representation of the world, that is formed, through continuous learning and observation/perception processes. We organise and interpret the world, and make judgements about possible courses of action according to our personal world view. A child is seen as an intentional and active actor in his or her own learning process, and therefore the personal world view is a result of an active selection and construction process. Here, as in Festinger’s cognitive-dissonance theory (see e.g. Ross & Nisbett 1991, Augoustinos & Walker 1995) and in Piaget’s theory of child development (see e.g. Crain 1980), children are seen to strive for consistency within themselves, and to iron out the inconsistencies or explain them in a new way to themselves. This may happen through finding new reasons for the situation or through changing/adapting the personal world view to it. In Piaget’s opinion, such dissonance is a presupposition for children’s development.

As I stated earlier, the personal world view is constructed in the interaction process between a person and the environment. Children may therefore be seen to construct their personal world view in a socialisation process. How can this process, and its phase, affect children’s positions at school? For example, child who are brought up in a *laissez-fair* environment, face certain confrontations when starting school because there are certain rules that they have to follow. This is the kind of problem which particularly affects employees in early education, according to Huttunen’s (1988) research. On the other hand, children might be used to having parents or a parent with the time to listen to their concerns and explain things to them fully. At school, one teacher is responsible for a number of children at the same time, and cannot have individual conversations with every one. In such circumstances, children who are flexible and patient, and willing to wait for an answer from the teacher, are at risk of not being given enough attention.

According to Rauste-von Wright (1986), the process of constructing the personal world view is similar in every human being, but the contents vary and every person has individual representations of reality that are different from everyone else’s. Therefore, it is important for teachers to understand the process (procedural knowledge) of constructing the personal world view, which are similar for all people.

However, the aim of this research was not to study children's personal world views. It was rather to construct a theoretical frame of reference, according to which empirical results could be interpreted. Therefore, the focus was not on the problems of analysing world views. What is essential in the concept of the personal world view is that it should be seen as a dynamic, if only slowly changing and adapting, construction. It channels people's selective awareness, and affects the interpretations they make about situations and about the feedback they receive. Emotions, the values coloured by them and attitudes are entwined in the structure of the personal world view.

The concept of the self as part of reality

A central concept in the world view is "the self". As FIGURE 5 shows, people's beliefs about themselves and about their relations with the environment are thought to affect their actions. The self is seen here as a social construct arising slowly through symbolic social interaction in childhood. It develops in the process of social experience and activity. According to G. H. Mead (1934/1972), individuals enter their own experience as "selves" only in so far as they can perceive themselves as an object in the same way as they see others. Becoming an object to oneself presupposes social communication through which individuals acquire other people's attitudes towards them.

From a girl's or boy's point of view, it could be claimed that if a child is treated or approached in a certain way because she is a girl, she begins to see herself as a girl and forms a self that reflects the attitudes of other people. Then the way she sees herself affects the way she will act the next time. However, it is not necessarily as simple as that, because some studies have shown (cf. Ruble & Martin 1998) that boys and girls acquire gender-typical behaviour even before they can consciously distinguish between gender categories. This would suggest that gender differences are based on biology. On the other hand, it has been shown in studies on infants, that caretakers treat them differently if they think that they are boys than if they think of them as girls (cf. Schaffer 1986). Another example of this is the classic study of Margaret Mead (1950/1963) concerning she studied gender roles in primitive cultures. Her work raised some critical arguments about her methodology, nevertheless she made a point worth considering. She showed that, in some cultures, girls or women are not as concerned with nurturing as in western "civilised" countries. This led her to suggest

that biology plays only a minimal part in gender-typical behaviour or dispositions.

G. H. Mead (1934/1972) used the concepts “I” and “me” to conceptualise two distinguishable phases of the social process of the self. In simple terms, the person as an object to him or herself could be considered “me”, and the person as a subject could be considered “I”. Thus, “me” is introduced through taking on the attitudes of others, and we react to it as an “I”. The phase of the “I” is in the process of action. Therefore, self-reflection always involves *me*.

The relationship between “I” and “me” is such that “me” is considered to set the limits to the actions of “I” (G. H. Mead 1934/1972, 210). However, the “I” cannot be predicted or entirely controlled. In fact, the role of the “I” in the process of the self is only in action, and the actions taken by *it* are, according to G. H. Mead, unpredictable. The factor of uncertainty renders the role of “I” hard to grasp. On the one hand, it could be attributed to biological or individual factors such as the emotional or physical state, and on the other hand, it could be attributed to situational factors. However, if the unpredictability of “I” is approached from another perspective it becomes more understandable. Thus, if the *it* is predictable, then if we know a person well, we should be able to predict his or her actions in different situations. Prediction may prove successful in some cases, but given any unusual situations, I would suppose that, at least in the long run, it would fail.

G. H. Mead (1934/1972) described “I” as the unconscious and “me” as the conscious part of the self. When we are reflecting on our own actions or thought processes, we are reflecting on “me”. Therefore, all conceptual organisations that are related to the self and that can be made explicit are processes in “me”.

One interesting aspect in defining the concept of the self is the relation of the “self” to “person”. Kagitcibasi (1996) considers the concept of the self to be similar to that of the person. According to G. H. Mead’s (1934/1972) thinking, this can be explained in a certain sense. Thus, the self involves a unity of body, behaviour and environment, that is connected to social processes (e.g. Baldwin 1986). Therefore, in this sense, it is considered to include the physiological characteristics of a person.

The self may also be approached from the person's own point of view and its connection with his or her behaviour. In this case, it is a question of the conceptions one has about oneself, or the processes of "me" in the G. H. Meadian sense. These conceptions have been described as the self-concept (e.g. Hurrelmann 1988) or self-image, which, broadly speaking can be taken as synonyms. However, self-image is often used to describe the ways in which people perceive themselves, and thus may include their own conceptions (i.e. self-conceptions) of various content areas.

Rauste-von Wright (1979, 1987) classified conceptual organisations that are related to the self. Her starting point was also G. H. Meadian in the sense that she perceives the self to be social in origin. Her classification could be considered to be related to G. H. Mead's concept of "me". Rauste-von Wright (1979, 1986, 1987) distinguished between the self-image, the ideal self-image and the normative self-image. The self-image is considered to be the way in which people perceive themselves. The ideal self-image is thought to serve as an internal criterion for the value of the self, and the normative self-image is conceived of as the person's conceptions of what kind of person one should be in a certain environment.

Rauste-von Wright also emphasises the importance of the extent to which people experience themselves as subjects, that is in control of their own actions. This is where G. H. Mead (1934/1972) had a different approach. As stated earlier, G. H. Mead suggested that the "I", at least to some extent, was unpredictable. In my opinion, people have to perceive that they can regulate their actions at least to some extent, otherwise they would not set goals or pursue them actively. On the other hand, if the actions of *ilī* were fully predictable, for instance by ourselves, we would not learn anything new.

Social representation as part of the personal world view

In the second study (Hirsto 2001b), Moscovici's (e.g. 1981) concept of social representation was used to analyse the theoretical aspects of teachers' representations of their pupils' home environment. According to Moscovici (1981) social representations signify the collection of concepts, statements and explanations, that originate from everyday communication. Therefore, they are social in origin. He developed his ideas on the basis of Durkheim's concept of collective representation, except that he considered social representations to be dynamic. They are actively communicated in everyday interaction, and are presumably constantly changing.

Social interaction is emphasised in the formation of social representations. However, in my opinion, interaction with the physical or material environment should also be considered. Moscovici (1981) suggests that social representations have a figurative core, which is the physical environment is present.

Moscovici (1981) emphasised the collectivism of social representations; for a representation to be social, it has to be a specific way in which a certain group looks at a certain matter. In that sense it is obvious that these representations should be considered part of any personal world view. They are formed and exchanged in social interaction, in which the personal world view is also constructed.

This argument is consistent with the reasoning underlying the bioecological model. Thus, social representations could also be considered part of the symbolic environment that Bronfenbrenner & Morris (1998) emphasised.

III THE EMPIRICAL STUDIES

TWO STUDIES, TWO PERSPECTIVES

Two empirical studies were conducted in order to survey the learning environment of children at the beginning of their school careers in the contexts of home and home and school relations. Two perspectives were used. First, the actual child-rearing practices of the parents were investigated from the parents' point of view (Hirsto 1998, 2001a). Second, the teachers' representations of their pupils' home environment in terms of upbringing were surveyed in the context of home and school relations (Hirsto 2001b).

As stated earlier, the main focus of this report is not on the empirical studies. The aim is to paint a more explicit picture of the child in his or her learning environment, and to show how this influences to construction of the personal world view. Hence, these empirical studies are reviewed here only briefly.

One worthwhile possibility in studying children's learning environments could have been to use children as informants. However, the purpose of this study was to elaborate a theoretical framework as a basis for reflections on the significance of the learning environment in children's development. From this theoretical research onward children's own representations of their upbringing would be an important direction in which to continue.

The results of earlier studies are reviewed here in terms of gender differences. This is not done to suggest dispositional differences between boys and girls, on the contrary, it is done to emphasise the different feedback given to boys and girls in social interaction.

THE HOME ENVIRONMENT OF CHILDREN IN THEIR FIRST YEAR AT SCHOOL

The participants

The participants of the first study comprised a sample taken from a city in the southern part of Finland. They were the parents of the children in four classes in schools in the city of Espoo. The schools that were chosen represented two different types of neighbourhood in terms of socio-economic status. The response rate was 66% among the mothers and 50% among the fathers.

Despite the fact that the sample schools were chosen from different areas, the participants were, on average, highly educated. A greater proportion of them had received higher education than Finnish parents on average. This implies that the results cannot be generalised to all Finnish parents. However, they give certain directions to consider.

Method

The parents were sent a questionnaire regarding the child-rearing practices they used. Both of the parents in each family were asked to fill in the questionnaire, and to think in particular of their child who was in the first year of school when they answered the questions.

The questionnaire included two sets of descriptions of different types of situations involving reward and punishment. The subjects were asked to estimate the extent to which they used each of the models of behaving with their child. The situations were designed so that they would be ordinary and customary in the families of children who are in their first year of school, in order to make it easy for parents to identify themselves in the situations. A four-step Likert-type scale was used.

The concepts used to describe child-rearing practices and ways of rewarding and punishing the child were operationalised on the basis of Pulkkinen's (1977,1984) categorisation of disciplinary acts and

Nummenmaa's (1977) categorisation of acts of rewarding. Pulkkinen differentiates three kinds of acts: 1) those emphasising power, 2) those denying attachment and 3) those that are directive (induction). According to Nummenmaa, rewarding may be based on 1) material or 2) attachment issues.

Disciplinary acts that emphasise power are based on rebuke, punishment and material rewards. They are thought to sensitise the child to being afraid and to expect consequences of his or her actions. Directive strategies include discussing the consequences of actions and reasons for restrictions, and also involve showing emotions and giving advice. Denying attachment includes different expressions of deprecation, such as solitary confinement or leaving the child without attention. (e.g. Pulkkinen 1977)

In the first part of the study, comparisons between the mothers and the fathers, and between the mothers and fathers of the boys and the girls, were made in respect of ways of acting in different situations. The second part gives a wider perspective on the home environment of the children. The responses to all the questions concerning rewarding and punishing were factored.

The questionnaire is generally an efficient way to collect data in surveys. However, there is always the danger that respondents reply in a socially approved/desirable manner. Therefore, the covering letter was designed to assure the respondents of confidentiality, to convey to the respondent its importance and to encourage their replies. The questions were formulated in an unambiguous and clear manner so that they would be easy and quick to answer. Some parents even expressed their gratitude for being made to think about their child-rearing practices. However, it is not possible to be certain how parents have interpreted the questions, nor if they did interpret them in a similar manner. These kinds of things could be clarified to a certain extent by interviews, for example, but they were not possible to carry out in this study.

The results of the first study

The home environment of 7-8-year-old children in general

The empirical factors of parental child-rearing practices conformed nicely with the theoretical background. The factors were named: 1) rewards emphasising power, 2) verbal-emotional punishment (directive), 3) verbal-emotional rewards (directive), 4) denying of attachment and 5) punishment emphasising power (for further analysis see Hirsto 1998, 2001a).

Verbal-emotional (directive) ways were most often used in reward as well as in punishment situations. The parents reported frequent use of verbal and emotional rewards. Verbal-emotional methods of punishment were used quite often, and rewards emphasising power were used every now and then. Denying attachment, and punishment emphasising power were both used rarely.

Maternal and paternal roles in child-rearing practices

According to the results, mothers and fathers seem to have different roles in child rearing. The disciplinary acts used by the mothers and the fathers differed in some respects. The mothers reported the use of verbal-emotional rewards more often than the fathers did. This difference was statistically significant. A similar tendency was found in the dimension of verbal-emotional punishment; the mothers tended to use it to a somewhat greater extent than the fathers. However, the difference was not quite significant.

Fathers role at home seems to be to reward, and usually by material means. If compared to mothers, fathers more often left the child unpunished, but they also thought that they rewarded the child quite often. Nevertheless, it seems that mothers still take a more active role in child rearing at home. The roles of both parents seem quite traditional, despite the changes in mothers' engagement in working life outside the home.

Ross & van Willigen (1996) suggested that this kind of inequitable distribution of parental responsibilities causes higher levels of anger among mothers. Such anger may also be fuelled by economic inequality. The authors defined anger in terms of feeling annoyed with things or people, feeling angry or shouting at someone. In this respect, it is understandable

that mothers who more often face the strains associated with child care and child-rearing express anger.

The findings concerning the mothers' and fathers' roles in this first study may offer one explanation for the results of Ross & van Willigen (1996). Since mothers are more active in child-rearing than fathers, they may discharge their emotions more often to their children in the forms of shouting. Fathers spend most of their time working. By tradition at least, it has been considered more acceptable to discharge emotions at home than at work.

Boys and girls as seen through child-rearing practices

The results of the first part of the study suggested that the disciplinary acts used with boys and girls differed, on average, in some respects. Parents tended to shout and rebuke girls more often than boys. The boys' parents punished them by taking away a promised privilege (such as the next week's pocket money) more frequently than the girls' parents did. They were also more active in the use of rewards; the boys were rewarded with something material more often than the girls.

Parental practices with respect to boys and girls differed on two factors. The boys' parents used 'rewards emphasising power' significantly more often than the girls' parents did, whereas the latter resorted to 'verbal-emotional punishment' more often than the former. In comparing the situations in which boys and girls are rewarded, a tendency was found that boys are rewarded more often for various reasons. The difference was significant with respect to obedience.

As it is, it seems that punishments are used more on girls at home, whereas boys are rewarded more often. This could offer some explanation for why girls are considered nice and adjustable at school more often than boys. Girls who are used to being punished in directive ways may learn to direct their selective attention to emotions and social situations. Boys, on the other hand, may expect similar treatment at school as at home, and may not be so tuned in to social messages.

TEACHERS' REPRESENTATIONS OF THEIR PUPILS' HOME ENVIRONMENT

The teachers' representations of their pupils' home environment was surveyed in the second empirical study (see Hirsto 2001b). The perspective was one of social representations (Moscovici 1981).

The participants

The participants were early-education teachers employed by Helsinki City. The response rate was relatively low (44%), which can be attributed to various reasons. First, the questionnaire was sent at the end of the spring term, when teachers are generally under a lot of pressure. They have to arrange various spring activities and carry out evaluations. Some of them actually mentioned that they were tired and very busy. Second, some teachers complained, that the questionnaire was the fifth that they had received during the spring term. Third, some teachers may have felt that matters concerning home, and home and school relations, are sensitive, and that their teacher education did not provide them with the tools to deal with such things.

Most of the subjects were teachers of school beginners, that is, 7-8 year-olds. There were also some who taught children in their first and second, or first, second and third years, and some teachers of second-year pupils.

Female teachers were over-represented in this sample. The proportion of male teachers is generally small in elementary schools in Finland, but they also responded significantly less actively.

The ideas for the discussions about the home environment or child-rearing usually came from the teachers themselves, or from the parents. Only about a dozen teachers reported having taken their ideas from other people, such as school psychologists or school nurses.

Method

As in the first study, a questionnaire was used for the data collection. It was designed on the basis of the results of the first study. Some of the questions were the same as in the first questionnaire, but some of them were reformulated. A section about home and school relations was added.

The questionnaire began with a couple of general questions about the pupils' home environment. These were similar to those given to the parents, but the option "I do not know" was added. The second part was based on the results of the earlier study (Hirsto 1998, 2001a). Two situations were presented that concerned punishment and rewards, and possible responses given. The teachers were asked to take a stand on each response. The covering letter was designed to motivate and raise the interest of the teachers, they were also assured of confidentiality. The questions were formulated on the basis of the first study, and it was attempted to maintain the same unambiguous style, but the fundamental difference from the earlier study was that now representations were studied. The questions were designed to represent as simple and customary child-rearing situations as were presented to parents, so that it would be easy to answer them.

Strategies in home and school relations were defined on the basis of Epstein's (e.g. Epstein 1995; Epstein & Dauber 1991) classification. She identified six types of parental involvement; 1) parenting, 2) communication, 3) volunteering, 4) learning at home, 5) decision making and 6) collaboration with the community.

According to Epstein (1995) and Epstein & Dauber (1991), "parenting" includes family obligations, such as developing parenting skills and child-rearing approaches that prepare children for school. Through collaboration, teachers could provide parents with knowledge of how to build a positive home environment, for example.

The second type of parental involvement is "communication". According to Epstein & Dauber (1991), this can be seen as an obligation of the school, which thus sends information home about school activities and the children's progress. In my opinion, communication should be divided into one- and two-way communication, because what Epstein & Dauber (*ibid.*) suggest is more one-way. The promotion of two-way communication would emphasise the importance in a functional relationship of information flow from home to school as well.

Thirdly, by "volunteering" Epstein & Dauber (*ibid.*) mean concrete ways in which parents can become involved in their children's schooling. They may act as volunteers by assisting teachers in the classroom or supporting school performances.

The fourth type of involvement described by Epstein (1995) and Epstein & Dauber (*ibid.*) concerns learning activities at home. This includes requests and guidance from teachers for parents to assist their own children at home with learning activities. These activities are mainly connected in some way to school or to cognitive development, and are thus relevant to the children's school work.

Fifthly involvement in decision making refers to formal participation in the school board or parents' association, for example. Finally, collaborating with the community has not traditionally been part of home and school collaboration, but it could be seen as a powerful link to society. This type of collaboration could enable the school to become better integrated into the surrounding society.

The results of the second study

Pupils' home environment in general

Like the parents, the teachers suggested that directive methods were used in child rearing at their pupils' homes. As far as punishment was concerned, they were of the opinion that verbal and emotional methods were mainly used, and that material punishment, that was defined as punishment emphasising power (*cf.* Hirsto 1998, 2001a), was used quite often.

The most frequently used rewards were thought to be verbal-emotional and those emphasising power.

Mothers and fathers as educators

Generally, the teachers saw the mothers and fathers in relatively traditional roles at home. Mothers still seem to have a more active role in child-rearing practices. On the other hand, it seemed relatively difficult for the teachers to take a stand on claims concerning fathers' roles in reward and punishment situations.

There were only a few teachers who thought that mothers' and father's behaviour did not differ, especially in reward situations. In punishment situations, too, the majority of respondents thought that the parents would act differently.

The models were designed to represent a traditional picture of mothers' and fathers' roles in reward situations. Thus, it was suggested that mothers would reward in directive ways and fathers in ways that would emphasise power relations. This was generally congruent with the teachers' views. Mothers were thought to cuddle, cherish and praise their children, while fathers were thought to give material rewards such as money or other benefits.

The teachers seemed to feel that punishment situations were more difficult to judge. Nevertheless, they generally considered physical, verbal and emotional methods to belong to the maternal role.

The teachers' views of the home environment of boys and girls

According to the teachers there are relatively large differences between the genders in respect of rewarding. They thought that verbal and emotional rewards were used more often for girls. Factor analysis showed that such actions correlated with a factor that was defined as verbal-emotional rewards (directive). Material rewards were seen as more common for boys, however. This kind of action was considered to belong to the category of rewards that emphasise parental power.

The teachers were not so eager to make judgements about actions in punishment situations, and those who did take a stand did not see clear differences between the treatment of girls and boys.

However, they did see interesting differences between the situations in which boys and girls were rewarded. This result is convergent with the parental reports, although the perceived differences were more noticeable. It seems that boys are rewarded significantly more often than girls for various reasons. These include being inquisitive, obedient, independent and autonomous, well-behaved and creative. No significant differences were seen in rewarding for doing household chores or helping siblings or parents, although boys were thought to have the advantage here, too.

The teachers' parental-involvement strategies

As mentioned above, the teachers' parental-involvement strategies were defined in terms of Epstein's (Epstein 1995; Epstein & Dauber 1991)

division. An attempt was made to take cultural differences into consideration. The questions about home and school collaboration strategies were factored, and six factors were extracted and named: 1) the teacher as an everyday source of comfort, 2) the parents as a societal resource, 3) the parents as a resource for the elaboration of learning, 4) the teacher as a supporter of parenting, 5) the parents as recipients of information and 6) the parents as supporters of learning at home. The factor analysis is reported fully in the second study (Hirsto 2001b).

Strategies that represented parents as recipients of information were used most often among the teachers. These included sending information about the child's progress and about events at school. Strategies to do with "the teacher as an everyday source of comfort" were also used quite often, and included those involving two-way communication between home and school. Parents may call the teacher on matters concerning their child's progress at school or problems with the child at home. The most rarely-used strategies included parents as decision makers, volunteers or resources for the elaboration of learning.

A few interesting results emerged concerning the teachers' background in relation to parental involvement strategies. It seems that the fact that teachers have their own children is related to the amount of parental involvement. This was especially true in respect of the factor of supporting parenting; the teachers who had children of approximately the same age were more active in this respect.

The teachers' parental-involvement strategies and representations of the pupils' home environment

The teachers' representations of their pupils' upbringing differed somewhat with respect to activities in home and school collaboration. In particular, the extent to which they perceived themselves as supporters of parenting seemed to have an effect on the views they had of their pupils' home environment.

The teachers who considered themselves supporters of parenting, were apparently more eager to make judgements about the rewarding of boys and girls. Differences in how the two were perceived to be treated were related to the activities of "the parents as a societal resource" and "the parents as supporters of learning at home". Thus, teachers who used these

strategies only seldom, more often attributed material and emotional rewards to be part of boys' home environment than of girls'. Also with respect to punishment, teachers who were inactive in supporting parenting considered material punishment to be part of boys' upbringing to a larger extent than of girls'. The teachers who were active in these parental-involvement areas had more varied views and more often did not take a stand. This may be a result of their more varied experiences with families.

Similar differences in views of parental roles in the home were also found, however, they were not so clear. The teachers who were inactive with respect to strategies that represented "the parents as a societal resource" and "parents as supporters of learning at home" more often attributed pecuniary rewards to the role of the father.

It might be assumed that the teachers who were inactive in dimensions of parental involvement had more stereotypical representations of the home environment of boys and girls and of their mothers' and fathers' roles.

Parental involvement and home and school collaboration seem to have some connection to the way teachers see their students' home environment and particularly upbringing. Therefore, it could be concluded that teachers' representations change in the process of collaboration between home and school. This is reasonable given the theory of social representations, which implies that such representations are dynamic by nature, and that they change in social interaction.

IV GENERAL DISCUSSION

DISCUSSION OF THE THEORETICAL FRAMEWORK WITH RESPECT TO THE RESULTS

Perspectives on boys' and girls' learning environments are considered in the light of the theoretical framework used and the empirical results obtained. Further research in the area is also discussed.

Feedback in the immediate learning environment

The present study concerned the microsystems of home and school in terms of child-rearing practices. Such practices at home provide a feedback system through which boys and girls are socialised to certain norms. The socialisation environment is considered to be a learning environment in which boys and girls construct their personal world views and learn to cope with different situations. The empirical results obtained in this study suggest that the learning environments are different for boys and girls, since practices at home differ in some respects.

According to the information gathered from the parents, it seems that girls are generally punished more often than boys, and that boys are given rewards emphasising power more often than girls. As the teachers see it, verbal-emotional rewarding is more common for girls, whereas boys are rewarded by material means. On the other hand, both teachers and parents indicated that boys are rewarded significantly more often for certain characteristics than girls. These include being inquisitive, obedient, independent and autonomous, and creative.

The other aspect that was reported in the brief review of the earlier studies is the parental roles at home. The picture that comes across is quite traditional, where mothers use emotional and verbal, and fathers use material means in upbringing. The interesting question here is, how far does the role-norms define the feedback parents give to their children. Traditionally the significance of parental roles in the context of gender development has been to view the parents as presenting models. However, more interesting questions are the extent to which role-norms or expectations regulate the parental behaviour, and the extent to which parental behaviour in the long-run affects the behaviour and motivational basis of the child. Thus, maternal and paternal roles and their relation to the gender of the child may affect in a significant way the interaction in which child constructs his or her personal world view.

According to Bronfenbrenner (e.g. Bronfenbrenner 1979, Bronfenbrenner & Morris 1998), microsystems are dyads at the minimum, and they involve the child in face-to-face interaction. They therefore involve proximal processes. It is conceivable that a child also constructs his or her personal world view during these processes, which in turn affects the interaction processes. Thus, in order for us to understand the significance of these processes of microsystem for the development and learning, we should consider the factors that make up the endosystem.

Child-rearing practices in the context of the endosystem

In the context of the endosystem, the way a child interprets and perceives the feedback he or she gets is important. In theoretical terms, the individual is regarded as an intermeshed open hierarchical system. Therefore, individual factors must be taken into consideration.

Beliefs and knowledge about reality are considered essential parts of the person or the personality (e.g. Bronfenbrenner 1979, Hurrelmann 1988, Bronfenbrenner & Morris 1998, Rauste-von Wright 1979, 1986), and also of the endosystem. These authors seem to have their own conceptions about the person, which they have defined in different ways. Nevertheless, they all refer to some sort of representations or beliefs about reality, and they all consider genetic or biophysiological and cognitive-emotional factors (skills, abilities and/or action competence) to be part of the person. These factors are subsequently considered separately. However, the division should be seen more in terms of different perspectives than

separate areas, which is in line with the general theoretical frame of reference.

Individual biophysiological or genetic factors are, to some extent, comparable with the resource and demand characteristics as defined by Bronfenbrenner & Morris (1998), and the human organism in Hurrelmann's (1988) theory. From the developmental point of view, these factors are considered to affect the actions others take in relation to a person. Thus, it may be concluded that they play an integral part in the process of constructing the self, because the self arises in the interaction processes through feedback. The individual characteristics may also affect the way other people perceive a child and his or her actions, and the actions the child may take. An extreme example of this would be a child with a physical handicap. People often also attribute mental handicap to such a child. I could give my first experiences as an exchange student in the United States as another example. I could not speak English very well at the beginning, therefore some people talked to me very loudly as though I had a hearing impairment. The sex of the child may also be considered to belong to these individual factors. The individual's biophysiological makeup may thus be considered to affect socialisation and developmental processes through the attributions people make on the basis of them, and it could therefore be assumed to affect the feedback a person is given. This interpretation is supported by the results of this series of studies, that different types of child-rearing practices seem to be used in boys' and girls' home environments.

Cognitive and emotional skills were also included in the concept of the person that was used in the theoretical framework. These skills could be considered to belong to the force characteristics as defined by Bronfenbrenner & Morris (1998). In line with the dynamic systemic thinking behind the present study, these cognitive and emotional skills are considered to go hand in hand with other individual factors. To a certain extent, cognitive and emotional skills could be compared with structuring proclivities in the bioecological model. From the results of this series of studies, it seems that girls may be learning more emotional skills, since they are rewarded and punished by verbal and emotional means more often than boys. It might therefore be concluded that stronger emphasis is placed on social factors in the upbringing of girls.

The third aspect of the endosystem is the personal world view, which is comparable to the directive belief systems (Bronfenbrenner & Morris 1998)

or conceptions about reality (Hurrelmann 1988). An essential aspect of the personal world view is the concept of the self, which often has been subdivided into self-image, ideal self-image and normative self-image (e.g. Rauste-von Wright 1987, 1979). According to the results of this study, girls and boys may learn to focus their selective attentiveness on different aspects of social situations. This in turn may affect the role these factors play in their personal world view. It seems that behavioural demands are different for boys and girls. Thus, girls are more often shown behavioural limits through punishment and, therefore, stronger demands for compliance are placed on them.

It is suggested here that a child constructs the image of himself or herself, or “me”, in social interaction. The way boys and girls are treated gives them different kinds of feedback. Therefore, the contents of the self-image, the ideal self-image and the normative self-image may also be assumed to be different for boys and girls. Different kinds of feedback seem to have an effect on the way children see themselves, which is considered to affect the decisions and interpretations they make about social situations, for example. This, in turn, may affect the situations boys and girls enjoy and the activities they engage in. From this perspective, it could be argued that perception of the self regulates the child’s learning, and, through that, the construction process of the personal world view. However, since the environment and the person may interact in ways that cannot be predicted, we should avoid deterministic statements.

The role of children’s perceptions of their experiences is also emphasised by both Bronfenbrenner (1979, Bronfenbrenner & Morris 1998) and Hurrelmann (1988). This has twofold implications for the construction of a personal world view. On the one hand, these perceptions and experiences have an important role in construction process, and on the other hand, the personal world view is thought to affect courses of action, therefore it may guide the process of perceiving and the experiences acquired. According to the results of these studies, boys and girls are continuously given different kinds of feedback on their actions. This feedback is acquired in interaction processes, which are defined by Bronfenbrenner & Morris (1998) as proximal processes that are especially significant for a person’s development. Therefore, it could be said that boys and girls are engaged in different kinds of developmental processes, and that the proximal processes differ, too.

All of the aspects presented above are thought to affect the way children respond to child-rearing practices, and the interpretations they make of them. This subsequently affects the actions they engage in in the future. Inherent in the view of the endosystem as an open, systemic whole is the thought that an individual is an intentional doer who seeks stimulation and feedback his or her actions. In order to understand the role that learning and its situatedness has in the interpretation processes, the situational factors must be taken into consideration.

Situational factors

Situational factors are roughly divisible into those that are due to people's internal states and those that could be conceived of as external factors. Distinguishing these from individual factors would be artificial in respect of intermeshed systems of interaction, but it could be done to enhance the theoretical analysis.

Situational factors that are attributable to internal factors may include the level of activation and the way the individual has learned to interpret similar situations. Both of these are related to the way children learn to direct their selective attention. The way children interpret their own actions and possibilities of affecting situations are also meaningful internal situational factors.

However, there are also external situational factors that affect the ways child-rearing actions are interpreted. This wider ecological context also needs to be taken into account in analysing the effects that child-rearing practices have on children. FIGURE 6 is an attempt to apply external situational factors to some societal aspects.

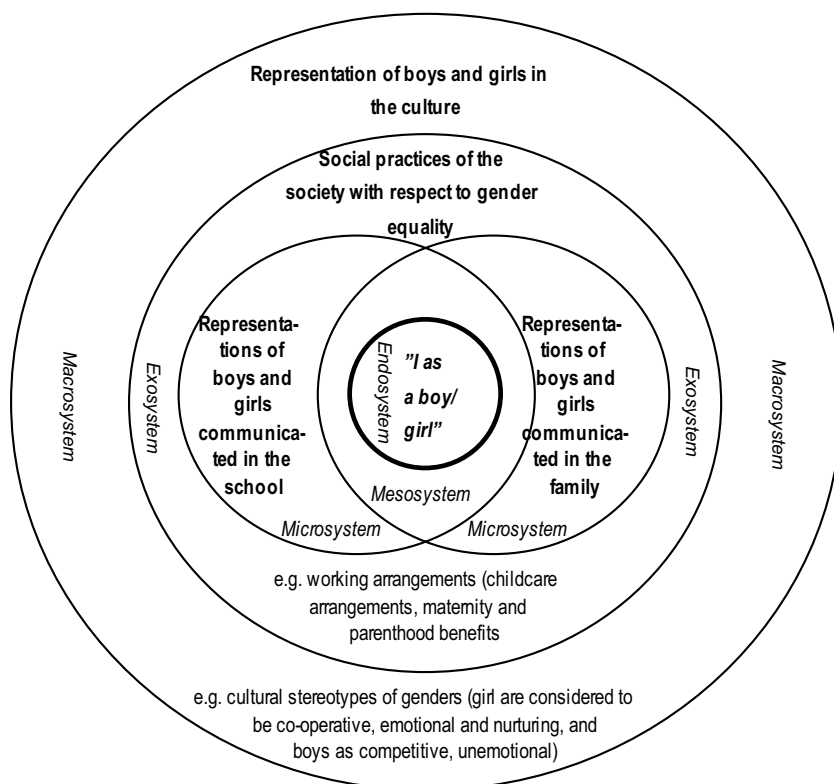


FIGURE. 6. ENVIRONMENTAL LEVELS WITH RESPECT TO LEARNING ENVIRONMENTS.

Bandura (e.g. 1986) suggests that learning from models is an effective way to learn, thus role-models play an essential part in his social-cognitive theory. This could be applied to situational aspects in a couple of ways. For example, Bryant & Zick (1996) pointed out that mothers' and fathers' roles in shared activities are different with respect to daughters and sons. They found that mothers tended to share more time with daughters in meal preparation and family-care activities. Fathers, on the other hand, tended to share more time with their sons in activities involving the home, yard, car, and pet maintenance. Therefore, it could be concluded that girls and boys are encouraged to engage in different kinds of activities by the examples shown by their parents.

However, the findings of Bryant & Zick (1996) cannot be applied to Finnish society as such, because it is more acceptable nowadays for fathers to be

nurturing in Finland. Therefore, fathers' roles in child-rearing may be changing, which may have an effect on the shared activities that they engage in with their children. Nevertheless, shared activities may provide a means for parents to communicate their representations about appropriate behaviour or activities to boys and girls (cf. the microsystem in FIGURE 6).

The situational factors also include the social-political arrangements of a society, which may enhance the traditional roles of mothers and fathers at home. Since women's earnings are approximately 80% of men's (cf. Kinnunen & Pulkkinen 1998), in a dual-earner family it is usually economically worthwhile for the mother to stay at home to take care of a sick child. This makes mothers more often available to the child, and able to take the role of the nurturing adult. These social-political aspects that have an effect on how the family functions belong to the exosystem.

Another example of ecological situational factors concerns the cultural traditions and values that are embedded in the macrosystem. This is considered in the following section.

Boys and girls in a culture

Vygotsky (1931/1982) argues that the roots of gendered thinking are embedded in the development of language and the construction of meanings. Therefore, the basis for the way boys and girls see themselves as representatives of their gender lies in social interaction. A similar idea was also put forward by Helve (1997). She suggested that there are differences in men's and women's attitudes and values which cannot be explained as biological. She attributed gender differences in young people's world views to different socialisation processes.

Another approach to the different socialisation of boys and girls in Finnish culture was taken by Näre (1997). According to her, girls in the Finnish gender culture have developed many kinds of emotional and social capacities, and boys more than girls look for social significance in their peer and gender groups. She suggests that this is why boys' peer groups tolerate more competition and hierarchy than girls' groups do. This is in accordance with both the theoretical arguments and the empirical results of the present study. Through child-rearing practices girls are tuned in to react to and perceive emotional messages. On the other hand, rewards

that emphasise parental power and the hierarchy of the situation may direct boys' attention to such things in peer-group situations, too.

It is clear that the child-rearing practices cannot be judged as such, and the whole socialisation environment must also be considered. The endosystem is therefore seen as part of the wider network of systems in which the child is interacting. To a certain extent it does not matter what the means of punishment are, it is how the child interprets it that is important. What counts here is the cultural setting in which the means of punishment is used. This could be approached from various points of view, including whether similar actions are taken in peer-group families, and how this method of punishment is treated in the mass media. One other factor that may be considered to affect the way a child interprets child-rearing practices is how parents themselves interpret them. Parental interpretations are embedded in the historical background of the society.

There are various views of proper child-rearing practises on the international level. Baumrind (1996), for example has criticised "The Nordic model" in which corporal punishment is forbidden. She argues that the prohibition of corporal punishment has not led to a decrease in peer violence in adolescence, on the contrary, the level has risen. Therefore, it cannot be concluded that if children are treated in a non-violent way they will not use violence towards others, or if they are treated in a violent way that they will also use violence. She also argues for the consideration of the whole picture in which child-rearing practices are embedded.

Boys' and girls' personal world views and self-regulation

The focus of this study is on the learning environment in which the children construct their personal world view in the beginning their school careers. The personal world view is considered to have a central role in the regulation of action. Hurrelmann (1988) suggests that the development of behavioural organisation should be understood as a process of self-regulation through feedback. This feedback is received and constructed in interaction, in which the personal world view is also constructed. Therefore, the contributions of the suggested theoretical model to education are connected to self-regulation and, through that, to motivation.

Grolnick, Kurowski & Gurland (1999) have considered the relationship between parenting and self-regulation. According to them, self-regulation is an important goal of education. They argue that it is important in this

respect for parents to support the autonomy of the child, the parental structure (which refers to clearness and consistency of guidelines, expectations and rules for behaviour) and involvement (which refers to the provision of resources by parents to the child).

According to Grolnick, Kurowski & Gurland (*ibid.*), support for autonomy seems to be a key resource for children's self-regulation. Thus, parenting seems to have a considerable role for the way children adjust to school. According to the results of this series of studies, parents and teachers agreed to a certain extent that boys are rewarded for being autonomous and independent. Therefore, boys may be considered to adjust to school well. However, girls are generally considered to adjust to school better than boys. Thus, this suggests, that as school adjustment and parental support of independence are connected, girls are more independent than boys. Should we then interpret the results of this study as suggesting that boys are often rewarded for showing independence, because they rarely show it?

However, the approach of Grolnick, Kurowski & Gurland (1999) to school adjustment is motivational, and encouragement of independence is thus considered to affect the extent of intrinsic motivation. It is possible that school has traditionally not valued creativeness and independence, and therefore girls who are less independent have been adjusting to school better than boys. At the same time boys, who are encouraged to be independent at home, may have been developing greater intrinsic motivation, which would explain to a certain extent the traditionally higher levels of education they achieve.

Nevertheless, this interpretation does not mean that boys are better at self-regulation. The question is much more complex than that. It is possible that boys, who are given rewards emphasising power, attach their selective attentiveness to hierarchical structures (cf. Näre 1997), and may be satisfied with the societal position or status gained through higher education, which in itself may be interpreted as a reward. Thus, boys could be said to be driven by extrinsic motivation.

The ability to regulate one's own actions requires some ability to reflect on possible ways of taking action. In this context, von Wright (1992) suggested that there are two levels of reflection. The first involves the ability to reflect on the many concrete features of the world, and the second could be described as self-reflection. This implies the ability to reflect on

one's own intentions and motives as objects of thought. At this level one is thus capable of reflecting about oneself as the intentional subject of one's own actions.

The second level of reflection is essential for self-regulated learning. Grolnick, Kurowski & Gurland (1999) argue that self-regulation should be approached in terms of locus of causality. Thus, an intrinsic locus of causality would lead to intrinsic motivation, which in turn would enable the endorsement of action by the self.

If we are to understand the significance of different child-rearing practices for motivational aspects of learning, we would need to know how children perceive themselves. Do they see themselves as "I as a girl" or "I as a boy"? If this is the case, what kinds of restrictions do they set for themselves? And are they aware of the restrictions? If, on the other hand, they perceive themselves in terms of "I as a human being", the situation is somewhat different. It is possible in this case that 1) children are not aware of the different expectations set for them on the basis of gender (question of reflection!), or 2) children are actually aware of the cultural norms set for them, but do not analyse the possible courses of action in terms of the norms (in other words, children are able to reflect to the extent that they are able to choose).

It may be that children see themselves as well the representatives of their gender as human beings, and that the emphasis on either one may vary according to the situation. This kind of reasoning eventually leads to the question of voluntary choice. The problem of volition is too complex to be discussed at length here, but a couple of points are worth mentioning. If volition is approached from the Vygotskian or G. H. Meadian sense, it is not possible. In other words, meanings and knowledge construction are embedded in social interaction, therefore almost everything one thinks has already been present in social interaction. On the other hand, self-reflection may be considered to enable volition to some extent. It may lead the way to intentional self-regulation (cf. von Wright 1992).

The significance of reasoning in the home environment cannot be emphasised too much. From G. H. Meadian point of view, a parent's reasoning may provide a model for the child. This would make it possible for the child to practice his or her metacognitive skills, such as self-reflection, too. However, situations at home often pass very quickly and it

is not always possible to take the time to reason at that moment: at least it should be done afterwards.

It is not the intention here to suggest that boys and girls should be treated in a strictly similar manner. The dangers in such standardisation of personality through the societal system were pointed out by M. Mead (1950/1963, 297-299), who suggested that it was as dangerous as the firm establishment of gender roles. Both ends of this continuum deny the individual differences between people, and may inhibit personal development.

However, what is important is that we should be aware of the different norms of behaviour, the different treatment, and the different interpretations of actions related to gender. Teachers should be attuned to these things, but we cannot expect parents to be aware of them naturally, because they are also products of the society in which we live.

Implications of the results and the theoretical frame for home and school collaboration

There is some research (cf. Weyant 1986) that suggests that teacher expectations have a considerable role in the development and behaviour of pupils. The results achieved in this research project imply that teachers' representations of their pupils' home environment could be considered to be related to the amount of home and school collaboration. It was also suggested that the fact that a teacher had her own children was related to the amount of home and school collaboration. As these results are considered from the theoretical point of view of social representations, it may be concluded that the representations may change in interaction of home and school collaboration.

Home and school collaboration was also suggested to be a means of integrating the learning environments in which the child is in continuous interaction. The function of the collaboration as far as the endosystem is concerned would be to facilitate a coherent personal world view. From the school's point of view, it could improve the learner's self-regulation and, through that, motivation. From the parents' point of view it could support the positive development and socialisation of the child.

Perspectives on strategies in home and school collaboration

Epstein (e. g. Epstein 1995, Epstein & Dauber 1991) and Greenwood & Hickman (1991) distinguished between six types of parental involvement. For the most part, the two classifications are congruent, but the emphasis is somewhat different. The most traditional types of involvement, such as attendance at events at school and parent-teacher conferences, were specified by Greenwood & Hickman (1991) as “parents as audience”, which is similar to Epstein & Dauber’s communication. This view of home and school collaboration was also found in this study. The name “the parents as recipients of information” was thought best to describe this type of collaboration, because it focuses on the parents’ role, and it also suggests that teachers are providing parents with information. It is important that parents know what is going on at school, because it forms the basis for them to become active with respect to school. It is important also with respect to children’s learning environments, because it may provide the children with a secure basis for action. However, it is not the same how the information is delivered. It may be done so, that children serve only as messengers between the school and the home delivering letters which they feel that do not concern them. This kind of situation does not enhance the feeling in children of being active doers.

Both Epstein (1995) and Greenwood & Hickman (1991) recognise that parents may be perceived as volunteers and decision makers. The corresponding factor in this study was called “the parents as a societal resource”. It was interesting that parents as volunteers and decision makers correlated with the same factor, because it means that if parents are perceived as volunteers, they are also participants in decision making. This aspect of home and school collaboration was not very evident, which is understandable given the lack of emphasis in traditional teacher education. However, this kind of home and school collaboration strategy would be an important means to integrate the learning environments of home and school through significant others that are active participants in both of them. Using parents as volunteers and decision makers would provide parents with a more active role and enable parents to support their children more efficiently. Active participation would also provide opportunities for them to achieve more insightful views into the learning environment of their children.

Epstein (1995) defined learning at home as a parental-involvement strategy. Given that Greenwood & Hickman (1991) define a parent as the teacher of

his or her own child, the emphasis is quite different. The latter stresses the role of the teacher in preparing learning material, and the parents' role as educators, while the former emphasises parental involvement and assistance. A similar empirical factor was found in this study and named "the parents as supporters of learning at home". This strategy was used quite much. An example would be that the teacher provided parents with ideas and strategies to help their children to learn. The formal learning activities at home may serve to support the teacher in helping children to learn, and at the same time engages the parent in the education of their children. However, various informal learning activities take place in the everyday interaction of families, which are also important with respect to the comprehensive development of children. Therefore, the need of the formal learning activities at home must carefully be considered.

One type of parental involvement defined by Greenwood and Hickman (1991) was "parents as learners". This includes adult-education activities that are related to parenting, for example. Epstein (Epstein 1995, Epstein & Dauber 1991) defined this aspect of parenting as consisting of basic obligations to families. Two different factors were found to be related to this aspect of home and school collaboration in this study, named as "the teacher as a supporter of parenting" and "the teacher as an everyday source of comfort". The former represented the teacher's collective effort to support parenting, and the latter consisted primarily of individual practices in which teachers supported parents. The individual practices were reported to be used more often than the collective ones. These kind of practices which refer to the support that a teacher can give to parents should be considered carefully. It is often claimed nowadays that parents have lost their parenthood. However, the support they are given is minimal until the problems are big. Therefore, the ways in which schools could provide the support should be increased. This may require multidisciplinary approaches, and interaction between different professionals, but, as it is, many families could be supported earlier so that the difficulties would not grow to be so big.

One additional empirical factor was not present explicitly in either one of the studies mentioned above. This factor was called "the parents as a resource in the elaboration of learning". It refers partly to parents as decision makers, in that they are assisting the learning process of their child. They thus have the opportunity to affect the learning process through the process of setting goals together with the teacher and the child.

Implications for home and school collaboration

It is clear that there is some common ground concerning the ways in which home and school collaboration can function. However, this is only a starting point, as it provides the empirical ground on which the development may be based. What is essential is to define the concept of collaboration in the context of home and school collaboration. It was also concluded in the Harvard Family Research Project (HFRP) (1997) that one problem with teacher-education programmes in the United States is the lack of a comprehensive definition of family involvement. Another view of the same matter was put forward by Funkhouser & Gonzales (1997), who suggested that we should look beyond traditional definitions of parent involvement, and see parents as full partners in the education of their children, whose achievements become a shared responsibility.

According to the open responses to the questionnaire in the second study, some teachers felt that matters related to their pupils' home education were difficult. It seems that teachers in Finland, when asked explicitly, generally also report that they need more knowledge and skills in this area, (cf. Sääntti 1997, Luukkainen 2000). Thus, it seems fair to conclude that they need concrete skills, knowledge and positive attitudes. Correspondingly, in the education of critical professionals (cf. Järvinen, Kohonen, Niemi & Ojanen 1995), achieving these goals is a matter of developing simultaneously both preservice and the in-service teacher-education contents and processes.

FUTURE RESEARCH INTERESTS

This research has raised many questions, therefore there are many opportunities for deeper exploration. One possibility would be to study children's own conceptions of their home environment and upbringing or their relations at school. This is an important aspect in the sense that the children's learning environment was analysed here from contextual factors, and the view of the child was not included. Thus, the question remains as to, how children see themselves. Do they see themselves as "I as a girl" or "I as a human being" What kind of emphasis do they put on their gender? Ruble & Martin (1998) suggest that more attention should also be paid to how children perceive themselves in terms of their social relationships. This echoes G. H. Mead's (1934/1972) suggestion that the self arises in

social interaction, and that it would be an important area for future research.

Children's understanding of their gender may vary across situations. Dunn (2000) suggests that emotional situations are related to children's understanding of their inner states. This implies the need to find ecologically relevant situations that are meaningful to children in order to study their conceptions about gender.

Another worthwhile project would be to study teachers' conceptions in more detail, for example, their representations of human beings. This would shed light on how teachers actually see girls and boys. Do they attribute some unchangeable characteristics to them, or do they think that it depends on the situation?

The third area of research that deserves more attention concerns home-school relations and issues related to that in teacher education. Interventions or design experiments (e.g. Brown 1992, De Corte 2000) could be introduced to illustrate how to connect home and school in the context of the child's personal world view. This kind of research would enhance both theory and practice, and would narrow the gap between them. One important task in this context would be to reconsider the definition of collaboration in home and school relations. It would also be useful to find out how a teacher-education student could be more effective and feel more comfortable with home-school collaboration.

Argyle (1991) put forward his own conceptualisation of co-operation involving social relationships, co-ordination and co-operation, all three aspects being relevant to teacher education. Teachers need more interaction and communication skills (cf. Sääntti 1997) to handle social relationships, and they need co-ordination strategies to help them to foster parental involvement. The aspect of co-operation refers to the function of the home and school collaboration, thus to joint task activity.

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