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## Interactive Learning Environment for Children in the Beliefs of Pre-School Teachers

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### ABSTRACT

The goal of the present paper is to examine the problem of determinants of the learning process in preschool children. The study presented the issue of support provided in the learning process with reference to teachers' beliefs on education that help them undertake initiatives they find most effective. In the introduction the importance of the interaction in which children are involved for the learning process was presented. Subsequently, the way children function in a preschool learning environment was focused on, as described by female pre-school teachers. This article reports on an investigation into the reconstruction of the meaning that pre-school teachers attach to the support they give children in the course of their learning process.

**Key words:** learning environment, preschool child, preschool teachers' beliefs, sociocultural approach

### Introduction

Adopting an interactive perspective in conducting the research on cognitive skills development allows one to reveal individual differences in learning processes that are important for designing educational situations. Interaction established with other individuals who take part in the learning process happens in a specific social environment, the organisation of which determines children's cognitive activity and governs the way in which children gain independence by discovering and creating knowledge. The quality and intensity of the interaction constitutes an important variable in the development of cognitive activity.

*The importance of interaction for children's learning: a sociocultural perspective*

Sociocultural theories understand learning as children's and teachers' developmental activity. It is a social process whereby specific sociocultural activities undertaken at the right moment of children's ontogenesis support their cognitive development and help them gain tools for learning (Bruner 2006, Wygotski 1989). Importance is attached to educational activities and strategies that are used by teachers to enable children to mediate meanings in social relations (Filipiak 2012).

In early childhood education (ECE) learning takes place whenever children are involved in an activity (Gjems 2013). A. I. Brzezińska (2008) mentions three paths

for learning: individual's own experience, gaining information from others, and reflection. Preschool children are largely capable of the first two, due to the fact that they achieve the capacity to think reflectively when they turn seven. In ECE the necessity to maintain equilibrium between various paths for learning sets a task for teachers to design a diverse learning environment. Giving children the opportunity to learn various ways of intellectual activity and, consequently, to attain independence in learning requires vast professional competences on the part of the teachers (Paško 2004, 119-121). Although the abundance of material environment is important for ECE, it is social determinants that prove the most important for the learning process. Brzezińska (2008) enumerates the following relations of the subjects involved in the learning process: teachers' competences as well as their sense of competence; children's competences; children experiencing activities they perceive as challenges suitable to their competences; various forms of support on the part of adults.

Children start learning from other people as soon as they develop the capacity to understand the perspective of others, which happens when they are approximately one year old. Over time, children begin to understand others as individuals that are identical with them and have identical intentions and mental states. They learn from others and through others, benefit from symbols and language constructions passed on by other people, but they do so only individually (Seifert 2006). The behaviour of mothers and other adults who take care of infants and preschool children serves as a guarantee for their learning. In education, support given to children according to their needs and requirements, constitutes one of the basic determinants of the design of interactive learning environment.

In the 1980s, it was pointed out that the quality of interaction remains of importance for cognitive skills development. In his description of various ways in which adults pass the cultural knowledge about the world on to children, M. Tomasello (2002) points out that children develop cognitive skills through interaction by using complex language symbols. The interactive involvement allows them to learn information; to experience complex forms of categorisation, analogy, causality and metaphor creation; to confront their beliefs with the beliefs of others; to learn the opinion of others on their own beliefs.

Young children primarily learn through interactions with adults and peers. Children's interaction with peers and adults varies in value. While interacting with the former, children use language mostly to plan and organise their activities. In their interaction with the latter, they more often convey and obtain new information and speak to exchange thoughts. The interactions with teachers are regarded as a separate class of interaction, as they involve individuals who remain in an asymmetrical relation and whose roles are socially defined. The aspect of the interpersonal power of interaction, namely the degree to which individuals maintain control over their partners and the situation, is regarded as particularly important for the interpretation of the course of learning. In her study on the course

of educational interaction, E. Dryl (2001) argues that it is the only social relation in which a dominant party has the right to influence the thoughts and feelings of the party that remains under their control. According to I. Czaja-Chudyba (2009), this type of interaction in the process of socialisation may instil conformism in children's behaviour.

As they strive to ensure the Quality Learning Environment, preschool teachers should obtain three types of information: knowledge of development and learning to identify the types of activities and experiences necessary to support children's developmental capacity; knowledge of children's individual interests, needs and capabilities; knowledge of children's social context and cultural environment. Subsequently, they should offer a variety of educational tasks and situations; encourage children to undertake individual and playful activities; enable children to establish relations with their peers and adults (ISSA 2010).

*The importance of pre-school teachers' beliefs for the organisation of educational practice*

Teachers may vary in their interpretations of the organisation of learning, because in their actions they are guided by the meaning they themselves attach to the object and not to the meaning established by the society. According to symbolic interactionism, objects are social products whose meaning was established through the process of definition and interpretation. They encompass the way in which individuals perceive objects, are ready to undertake activities concerning the objects and talk about them (Blumer 2007). The object, e.g. a learning strategy, may have various meanings for various individuals.

Beliefs are one of the factors that guide the activity of individuals in the present, enable them to understand the past and formulate predictions about the future. They play an important role in getting an individual image of the world; they function like a lens through which we look at the world, try to understand it, assess, plan and undertake activity (Cisłak et al. 2009). Beliefs encompass emotional components and do not have to be based on facts. They originate from recurring experiences, data derived from observation and the ways in which these data are interpreted. They are established by a sociocultural context in which they emerge. They display a tendency to remain stable and, most of all, refer to the knowledge of themselves, but also refer to other fields of knowledge. This is caused by the occurrence of the "persistence effect", whereby beliefs concerning a social world remain valid, even though the information these beliefs are based on has been undermined. Beliefs function in the unconscious also when they cannot be revealed at a given place and time because of the existing social context.

Beliefs seem to have a strong influence on the way teachers think about their practice (Tooto in Coupland 2003). Beliefs are formed on the basis of the experiences held by individuals, their scientific knowledge and the system of values they uphold. They are often concealed or unconscious, but always crucial for the organisation of learning. Research demonstrates that beliefs have two types

of implications for teachers' work. These include: building a sense of self-efficacy and indicating the sources of the learning process in children (Vartuli 2005). K. W. Chan and R. G. Elliot (2004) argue that the belief in the efficacy of the learning process is related to teachers' approach to the functions of the instructions they give. Two approaches come to the forefront: teacher-centred and student-centred. In the former, teachers directly instruct and convey information to children; in the latter, children remain active in open-ended environments. In their overview of research on the essence of teachers' beliefs, Tatroo and Coupland (2003) claim that a developed skill to create a learning community is one of the professional standards for teachers. The beliefs teachers have on the subject may either hamper or support children's progress in learning. Once we know teachers' beliefs, we may be able to describe the meanings they attach to education and find out if they are ready to accomplish tasks, which in turn results from their understanding of their own responsibilities.

## **Research methodology**

### *The aim of the study*

In the sociocultural perspective, children are regarded as active participants of educational interaction while teachers act as those who organise their learning environment. It is important to realise what it means for adults to give support to children. The meanings that adults attach to this process can be organised if one adopts the way in which they define concepts as a criterion. If one assumes that the process of attaching meanings to words is one of the most important indicators of the representation of their sense in human consciousness (Blumer 2007, 5-48), the description of the way in which they are defined may reveal the meanings attached to the concept of learning and disclose the beliefs on which teachers' actions are based. This research project aims to answer the following two questions: What are the determinants of learning in the ECE according to preschool teachers? What position in educational interaction do preschool teachers assign to themselves and to children? The study aims to reconstruct the meanings preschool teachers attach to giving support to children in the learning process. The proposed understanding of a learning environment emphasises the existence of the shared initiative on the part of children and teachers, whereby children act as researchers, benefit from various sources of knowledge, interpret, ascribe meanings and use language to name the world. Teachers, in turn, aim at creating favourable conditions, provide opportunity for children to act, to become involved in interaction with others, ask questions and think critically (Filipiak 2012, 10-38).

### *Basic research method*

The instrumental case study approach was used in the study (Stake 2005). This case study examines pre-school teachers' beliefs about creating learning environment

in kindergarten by applying an interpretative paradigm (Guba, Lincoln 2005). The study involved individual, semi-structured interviews.

### *Research sample*

The interviews were conducted with eleven pre-school teachers.

In Poland pre-school teacher has to hold a title of bachelor or Master's Degree in preschool pedagogy. The children cannot be taught by a non-qualified person. Pre-school teachers may receive their initial education and training in three-year teacher training colleges awarding the title of bachelor. Graduates with a bachelor degree may complement their education with two-year university study courses and obtain a Master's Degree.

The selection of the participants was made on purpose to include individuals with the length of service from 8 to 12 years, which guaranteed professional stability (Day 2008, 16-20). We looked for participants who graduated from university, were qualified teachers (nominated or certified - Teachers in Poland can have four different professional ranks or degrees: teacher trainee, contract teacher, nominated teacher, certified teacher) and received high scores in the process of their professional promotion. In the research group were 11 women (6 nominated teacher and 5 certified teacher) from eleven different kindergartens in South Poland. Every participant was treated as an "individual case study" and the whole study was designed as a "multiple case study" (Stake 2005).

### *Data collection*

Interviews were divided into two sections. The introductory section concerned reflection on the organisation of the ECE and was used to establish rapport between the researcher and the individuals taking part in the study. Subsequently, teachers were asked to describe their own educational practice in the context of the course of the learning process experienced by children. Additionally, they were also asked to identify how one could tell that children were learning. By doing so, a tool was created to identify the activities associated with learning. Teachers were also asked to use the expression "*to support learning*" in their utterances, with the aim of obtaining what we know as an implicit definition of learning. The interviews were audiotaped and transcribed in full. These interviews were conducted on locations convenient to the participants and took approximately 50 min. The study was carried out between February and May 2011.

### *Data processing procedures*

The current study adopted a qualitative approach to address the research questions proposed by Miles and Huberman (2000, 23-26), i.e. data collection, reduction, displays, and conclusions. The data analysis used semantic maps (Tatoo, Caupland 2003). The teachers' names used in the report are pseudonyms.

## Results and Discussion

It turned out that teachers perceive learning as a dynamic process, which changes depending on the age of children. The support children receive from their environment is not a one-off phenomenon, but it remains present over the course of their entire education, without particular emphasis on any of its selected periods. *Children learn in different ways, depending on their age. Adults can always come up with something new. For me, the most important thing is to be with a child* (Anna). (Phrases by the respondents have been marked with italics).

The situational context remains important for the course of learning. As they speak about a learning environment, teachers mainly focus on learning under the direction of a teacher. The most conducive in this respect are the educational activities organised by preschool teachers, *during which children can expand their factual knowledge* (Ewa), while during spontaneous games they expand their social knowledge: *Not until they start to play with their peers, can children have the opportunity to learn something from others and learn social rules they may later follow themselves* (Barbara).

Most frequently (eight individuals), pre-school teachers display an adaptive approach. Even though they declare that it is necessary to be sensitive to signals produced by children, they nonetheless expect that children will learn knowledge and skills presented by teachers. They develop traditional skills commonly associated with school education. Only three teachers perceive an interpretative approach, which allows children to create meanings through interaction, as a value inherent in a learning environment. They understand knowledge not as information transfer, but as the way children are involved in the world. They diversify their behaviour and make it dependent on the level of skills achieved by children and the type of support they expect. Only one teacher pointed out that, already in preschool, children should have the opportunity to learn in the way that develops their reflective skills: *In my opinion, children should learn a variety of things – those important for teachers as well as those important for children. Of course, they are still small. That's why I think we should develop their desire to inquire and investigate, doubt and be more reflective* (Barbara).

Preschool teachers' beliefs can be best illustrated by the way they recognise the object of learning. According to the participants in the study, the progress in learning is best evidenced by the accumulation of knowledge. Onomastic knowledge, which should be transferred to children by adults, is recognised as the most important. While the participants less often indicate the potential inherent in explanatory knowledge, they almost completely neglect interpretative knowledge. Less importantly, they also observe that children also learn new skills. While the vast majority of them mention instrumental skills, only one teacher recognises new social skills as evidence for successful learning.

Thus obtained, the implicit definitions of support for learning convey various types of information. When split into several groups, they can be organised into three

systematic categories of definitions by means of which the participants in the study recognise which activities, in their opinion, are the most important for the process of giving support to children. These include: 1. types of behaviour displayed by adults to show support; 2. the personality of individuals who lend support; 3. description of an environment in which support may be given. All the mentioned types of definitions emphasise a personal factor, including the importance of interaction in the process of learning. Thus, in the first group of definitions, the adults that lend support to children refer to the mechanism of imitation or individual activity as a basis for learning: *Support for learning consists in setting an example of good behaviour for children* (Zofia); *I understand support as showing children the way to accomplish tasks*. (Maria); *the most important thing is to let children gather their own experiences; to support the interest they want to pursue in a given moment* (Magda). The second group of information to be discerned in the definitions covers characteristics of behaviour in individuals that lend support to children. Support for learning means: *To always be with a child and look after their activities* (Iwona); *to observe changes and help to solve problems* (Joanna). Support may also be given by asking questions to guide children's thought processes. When requested to provide examples of the questions they ask children, teachers first of all mentioned closed questions, which leave no room for children to create knowledge on their own. The third group of definitions lays emphasis on learning environments for children. These, most of all, include family and preschool, where the role of adults was most often recognised. A peer group, where a child meets other children that have attained a higher level of development and receives support from them, is also recognised as important. Hence: *Home, preschool and, later on, school is what gives support* (Maria); *of course, peers can also give support. Children that know more than others will naturally pass on their knowledge or skills* (Krystyna).

The analysis demonstrates that preschool teachers hold different beliefs on support as an educational task. Two types of answers have been identified: 1. showing a highly sensitive response to the task; 2. neglecting the importance of the task. Thus, learning is an individualised process, the direction of which is governed by children's personality traits and individual way in which preschools are organised. Support is a consciously undertaken activity whose quality depends on high professional qualifications. However, teachers *realise how diverse children's competences or needs may be, which is why they are not always ready to face up to the problem inherent in educational support for children* (Barbara), and they recognise the need to work together with specialists. The remaining teachers underestimate the issue of support and they fail to notice it requires special organisational initiatives or competences. They believe that the professional experience they have gained through a number of years of working with children constitutes a sufficient guarantee of effective support for the learning process: *Children and their education matter most in preschools. I've been working with children for years, I have experience, I*



*know how to behave in different situations. I believe that, by what I'm doing, I can ensure comfort for children to learn (Joanna).*

The themes derived from the answers provided by the pre-school teachers involved in the study create an image of a social environment that functions in preschools according to the rules of a binary world in which “us-and-them” translates into the teaching and the taught. The findings cannot be generalized to include other kindergartens in Poland but show how to construct children's role in learning processes. In their descriptions of the role they play in children's learning, teachers mention types of behaviour characteristic of an objectivist approach to the essence and sources of knowledge (Klus-Stańska 2010). Such an approach assumes that knowledge is objective, independent of ideology, society or individual biographical determinants. It prefers a uniform means of transferring knowledge, one-way communication and saturation with facts that may be quickly verified. An interpretive approach, which assumes that knowledge is dependent on individual experiences, seems to be underestimated by teachers. Research shows that such aspects as interpersonal communication and the relationship between a teacher and a child may distort knowledge in the process of developing it through communication (Sufa 2008).

The collected data demonstrate that preschool teachers share a transmissive understanding of knowledge, whereby an area of freedom that adults grant to children in the process of constructing meanings is severely limited (Sławińska 2010). The result overlaps with the findings offered by Siraj-Blatchford and Manni (2008 as cited in: Gjems 2013) which found that early childhood teachers asked children many questions, but only 5.5% of these were open questions that encouraged the children to formulate ideas, problems or narrations. It is not only in preschool education that limitations are not being imposed on the structure of children's knowledge. Also at schools, as the study results provided by I. Paško (2001) suggest, it is only through organising the didactic process around specific problems that students may gain knowledge by discovering and solving problems on their own. Solving the problem seems possible only if changes in pedagogical practice are put in place, the ones offered by teachers themselves. However, as demonstrated by the concept of constructive criticism by I. Czaja-Chudyba (2013), teachers do not have the competence to think critically. What follows is that they show little reflection and self-criticism and, consequently, are not open to change. Instead of creating a learning environment, they contribute to the process of reproducing knowledge (Ocetkiewicz 2010).

Children learn most effectively through direct interaction; however, the quality of preschool education depends on whether two types of learning occur simultaneously: learning through play and learning through direct instruction by a teacher. The latter is employed especially in the process of teaching how to read, write and solve mathematical problems (Zigler in Bishop-Josef 2006). These two perspectives on



learning may ostensibly exclude each other, whereas early education remains most effective when it combines both types of learning presented above.

Research on the factors that influence cognitive development demonstrates that interaction is particularly conducive to the development of children's capacity to use knowledge. The process of constructing knowledge and developing skills requires that children are involved in a variety of social situations that allow them to convey thoughts, express feelings and solve problems in complex situations. The course of children's learning is also related to the quality of interaction established between children and their teachers. The research project „Preprimary Project”, carried out in 17 countries, including Poland, offers a study, through observation, of preschool education for four-year-olds and its impact on their achievements when they turn seven. The results demonstrate that a high level of teachers' commitment to running their classes and a large proportion of interaction between children and adults have a positive effect on children's cognitive ability. By contrast, classes organised by teachers are negatively correlated with children's cognitive development, which benefits mostly when more time is devoted to activities undertaken on the initiative of children themselves or organised in small groups. In the latter case, learning is carried out through discovering and solving problems (Leseman 2009).

The rules adopted by teachers in their interaction with children create a framework for the latter's development, a framework that may restrict children's competences for learning. Support proves most effective when it does not overwhelm children's developmental capacities and remains within limits of children's immediate development (Bruner 2006, 126-135). Tasks that are inappropriate to children's developmental capacities lead to two types of behaviour: tasks that are too easy make children reluctant and affect their motivation levels; tasks that are too difficult make children equally reluctant and uninterested in accomplishing them. The process of matching the quality of support to children's competences requires that teachers are ready to respond to signals that come from children, which in turn proves favourable to the development of cognitive independence. Such independence can be achieved if teachers refrain from constantly informing and explaining and, instead, give children more time to think and formulate and express their intentions.

## Conclusion

It is difficult to change beliefs of one's own, since the most resistant to change are those components of self-awareness that are related to the crucial areas of individual functioning, and professional work may be recognised as one of them. Teachers that believe that what they do is right or obvious or necessary, by doing so, strengthen their thought patterns and reinforce their constancy of beliefs. Their adopted patterns of behaviour and beliefs on education do not derive from formal

documents and adopted policies, but result form “an implicit cultural logic” (Tobin et al. 2009, 242).

The description of their practice, provided by preschool teachers themselves, demonstrates that they are aware of children’s individual needs and abilities, which may guide the initiatives they undertake to support children’s learning. The complex nature of children’s competences, which in turn calls for a variety of solutions to develop these competences, is very rarely noticed. Teachers’ initiatives can be related to the tendency to simplify pedagogical practice. As they follow the need to specify and clarify the initiatives they undertake, the means they utilise and their working conditions (the more ambiguous and unspecified, the higher their need to reduce complexity), they embark on the initiatives that are disproportionately simple when compared with the complexity of the goal they are trying to achieve.

Educational offers provided to children may result from teachers’ conviction that what they do is right, as they carry out their professional duties. In their practice, teachers are not only guided by the conviction that what they do is right, but most of all, they abide by the rules that are in line with the common core. The conviction that their initiatives are legitimate makes them avoid the feeling of discomfort. The concession they have from parents and superiors to undertake these initiatives additionally strengthens their growing belief in their own professionalism. According to Tatroo and Coupland (2003) one of the most important outcomes of teacher preparation would seem to be a belief in a change among prospective and current teacher. Attempts to answer the question of how to support pre-school teachers in creating the ECE still remain crucial for reflection on changing preschool teachers’ beliefs about their own educational practice.

*Magdalena Grochowalska*

## **Interaktivno učno okolje za otroke v prepričanjih vzgojiteljic**

V sociokulturnih teorijah je učenje razvojna dejavnost otroka in učitelja, je družbeni postopek. Sociokulturne dejavnosti, ki se sprožijo v ustreznem trenutku ontogeneze, otroku pomagajo razvijati sposobnosti za učenje. Otrok je obravnavan kot aktivni udeleženec vzgojnih interakcij, učitelj pa kot oseba, ki organizira učno okolje. V predšolskem obdobju je pomembno materialno okolje, toda za potek učenja so bistveni predvsem družbeni pogoji. Za spoznavalni razvoj otroka so pomembne interakcije z vrstniki in odraslimi. V stikih z vrstniki otrok uporablja jezik predvsem zaradi organiziranja dejavnosti, v stikih z odraslimi pa pogosteje posreduje in pridobiva informacije, govor pa je namenjen izmenjavi misli. V predšolskem obdobju je eden od osnovnih pogojev za organiziranje interaktivnega učnega okolja pomoč, ki jo odrasli ponudi otroku.

V mišljenju vzgojiteljev o organiziranju pedagoške prakse imajo bistveno vlogo prepričanja, preko katerih poskušajo razumeti, oceniti, načrtovati in sprožati dejanja. Spoznanje prepričanj omogoča, da se opišejo pomeni, ki jih vzgojitelji pripišejo vzgoji, ter spozna njihova pripravljenost za sprožanje novih nalog.

V tej študiji sem iskala odgovore na vprašanja: Kakšni so po mnenju vzgojiteljic učni pogoji v predšolski vzgoji ter Kakšno mesto si vzgojiteljice določijo v vzgojnih interakcijah in kakšno določijo otroku? Cilj študije je bila rekonstrukcija pomenov, ki jih vzgojiteljice predšolskih otrok pripišejo pomoči, ki jo ponudijo otroku pri učenju. Uporabila sem individualne, delno strukturirane intervjuje, ki so zajemali dva dela: del, ki se nanaša na razmišljanje o organiziranju predšolske vzgoje, ter del, ki se nanaša na lastno prakso na področju vzgoje v kontekstu otrokovega učnega poteka. Dodatno sem zaprosila za odgovor na vprašanje, na podlagi česa lahko spoznamo, da se otrok uči. Na ta način sem pridobila orodje za prepoznavanje dejavnosti, ki se povezujejo z učenjem. Zaprošila sem tudi, da frazo *pomagati pri učenju* uporabijo v stavku, da bi pridobila tako imenovano definicijo implikacij učenja. Intervjuje sem opravila z 11 vzgojiteljicami. Izbira je bila namerna in je upoštevala delovno dobo od 8 do 12 let, kar je zagotavljalo poklicno stabilizacijo.

Pridobljeni rezultati kažejo na to, da se učenje razume kot dinamičen proces, ki se spreminja glede na starost otroka, pomoč pa se nudi celo življenje. Za potek učenja je pomembno situacijsko ozadje. Ko govorimo o učnem okolju, vzgojiteljice mislijo predvsem na učenje, ki ga usmerja vzgojiteljica. Vzgojiteljice predstavljajo adaptacijski pristop. Kažejo občutljivost na signale, ki jih daje otrok, vendar pričakujejo, da bodo otroci obvladali določeno znanje in spretnosti. Interpretacijski pristop, ki otroku omogoča ustvarjanje pomenov, imajo samo tri vzgojiteljice. Po mnenju vprašanih vzgojiteljic glede tega, da se otrok uči, kaže predvsem naraščanje znanja v obsegu poimenovanja in pojasnjevanja. Sposobnost za interpretacijo je v ozadju. Pridobljene implikacijske definicije pomoči so pokazale tri vrste, pomembne za učenje: obnašanje odraslih, ki priča o podpori; značilnosti osebe, ki nudi pomoč; opis okolja, v katerem se nudi pomoč.

Zaradi opisa vira znanja in odločitev vzgojiteljic ter področij dejavnosti, ki jih opažajo, sem uporabila perspektivo sociokulturne teorije učenja. Sprejeti vzorci obnašanja ne izhajajo iz formalnih dokumentov ali politike prosvete, ampak so posledica skrite logike kulture. Vzgojitelji, prepričani o pravilnosti in očitnosti svojega obnašanja, podpirajo sheme, ki jih imajo, s tem pa krepijo prepričanja. Družbeno dovoljenje za takšne prakse dodatno krepí prepričanje o lastnem profesionalizmu. Pomembno je nadaljnje iskanje odgovora na vprašanje, kako naj podpiramo vzgojitelje predšolskih otrok, da preučijo spremembo svojih prepričanj o načinu izvajanja pedagoške prakse.

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