

*Play of Preschool Children as an Indicator of Readiness for Enrolment in
Elementary School*

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Abstract

The preschool age is a period of play. Children spend most of the day playing and play is a source of precious opportunities for their development. An important milestone in the life of the child is enrolment in elementary school and preparation for this important period. Since 2017, the last year of preschool education has been compulsory in the Czech Republic. This places a greater emphasis on children's readiness for compulsory education and teachers' diagnostic skills. Teachers should not forget that children behave naturally during play. The objective of the study was therefore to describe the current play of preschool children not only as children's need and naturalness, but also as a means of assessment of children's readiness for compulsory education. The main method was a video-study of play of children aged 5 to 7 years in mainstream kindergartens in Olomouc. A qualitative research design was used. The paper was supported by the following project: 'Play as a means of preparation of the child for compulsory education' IGA_PdF_2018_017.

Keywords: Preschool child, child's play, educational diagnostics, readiness for elementary school

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Introduction

Play is the dominant activity of children at preschool age and provides space for their all-round development. Play offers inexhaustible opportunities and is a source of new stimuli, interactions and social contacts. Children's play reflects the level of their development in all areas; a significant positive aspect of play is the fact that children are relaxed and spontaneous. Children's play provides teachers with great opportunities and space to use children's spontaneity and natural needs in routine activities in kindergarten. Analysis of spontaneous play should be part of educational diagnostics. It is a valuable source of information about child development and is a suitable complement to usual methods and procedures of educational diagnostics in kindergarten.

1. Theoretical definition

1.1 Play of preschool children

Play is addressed by psychologists, teachers and other professionals. Therefore, the basic definition of play should be provided. According to teachers, play is *'form of activity that differs from work or learning. People like to play throughout life, but in preschool age play has a special position – it is the dominant type of activity. Play has a number of aspects: learning, exercising, emotional, motional, motivational, creative, imaginative, social, recreational, diagnostic, therapeutic'* (Průcha, Walterová, Mareš, 2003, p. 75).

Theory of play

In the past, the theory of play was analysed from various perspectives by renowned philosophers, educators and psychologists, including for example Comenius, Spencer, Hall, Groos, Piaget, Millar. It was already Comenius (1958) who considered play a means of education. Professionals in the field suggest that through play, children develop in the biological, psychological and social areas.

Piaget considers play in the context of children's **cognitive development**. He believes that developing thinking helps create more complex play and that more complex play facilitates the development of complex ways of thinking. Play helps children develop more complex forms of thinking, especially when they try to understand the principle of things that they interact with. During play, children use speech, which is linked with thinking (Piaget, Inhelder, 1970).

Piaget distinguishes the following stages of intellectual development, which are reflected in a specific nature of play:

- Sensorimotor stage (6 months to 1.5–2 years, sensorimotor and motor play;
- Preoperational stage (2–7 years), symbolic play;
- Concrete operational stage (7–11 years), abstraction, development of superordinate concepts;
- Formal operational stage (12–) (Piaget, Inhelder, 1970).

During the preschool period, Piaget defines symbolic play, which is considered the top of children's play. Through symbolic play, children transfer an activity of an

object to a substitute object. These objects then represent specific symbols. In this context we speak about assimilation, which is the basic function of symbolic play (Piaget, Inhelder, 1970). Through symbolic play children reinforce their experiences, repeat what has been experienced, come to terms with reality, which may be incomprehensible and stressful. Play satisfies emotional as well as intellectual needs of the child. In symbolic play children use play pretence and adopt roles (Vágnerová, 2012; Suchánková, 2014).

Another significant area developed by play is the **social area**. When playing together, children learn to express themselves, listen to other children, think about their ideas, etc. The following stages are defined from the perspective of the needs of a partner in play:

- Solitary play – until 3 years of age, children usually play by themselves, use various objects and observe other children playing.
- Parallel play – 3 to 4 years of age. Children play next to each other, they have the same theme and content, but it is not joint play.
- Associative play – around 4 years of age. Children play together based on an agreement, they often play ‘to win something’ with an attractive theme. However, the nature of play during this stage is individual.
- Cooperative play – begins as soon as the child is able to communicate with other children, understand them, cooperate, submit and lead. After 8 years of age, children need to strengthen these relationships and search for ‘packs’ (Millar, 1978).

Play also contributes to the development of the **biological area**. To achieve healthy development, children need to move right from birth. Children with a usual need of movement (normomotor) enjoy and search for physical activity play and demonstrate their ability to learn various movements (Kotátková, 2005).

For the purposes of the research study, in the cognitive area the authors focus on symbolic play, where emphasis is on various types of play in terms of children’s activities: theme play, fictional play, constructive play, and intellectual play. The social area is represented by associative and cooperative play, the biological area by physical activity play.

1.2 Readiness and maturity of children for elementary school

It was already Comenius who defined the requirements for a 6-year-old child to enrol in primary school. He formulated the components of school readiness in the following areas: knowledge, skills, language skills, physical area, religious area, morals and virtues. He also highlighted possible differences between children and postponement of starting school attendance (Comenius, 1958).

Presently, school readiness is considered in a broader sense as a complex of biological maturing, mental development, and social development.

Relevant literature uses the following definitions: *‘School readiness includes both the level of biological and mental development of the child, and the dispositions generated through learning and influenced by a specific social environment. Children*

prepare for entering school in the family and most children in kindergarten' (Průcha, Walterová, Mareš, 2009, p. 301).

In compliance with the Education Act, a child entering elementary school shall be physically and mentally mature, and compulsory school attendance shall start at the beginning of the school year following the date when the child reaches six years of age (Education Act 561/2004, Section 36).

Authors focusing on this issue agree that school readiness is an educational area, which is evaluated by kindergarten teachers, employees of educational and psychological counselling centres, and also by elementary school teachers during the enrolment procedure.

1.3 Preschool curriculum as an indicator of child's readiness for enrolment in elementary school

The criteria selected for the purposes of the research study were based on the preschool curriculum (Framework Educational Program for Pre-school Education) in compliance with the following areas of child development: cognitive, social and biological.

This curricular document is binding for kindergartens entered in the Register of Schools kept by the Ministry of Education, Youth and Sports. The curriculum is a general framework according to which kindergartens ensure the educational process. It formulates general objectives, key competences, educational content, recommended educational means, procedures, methods and organizational forms. The key competences represent the outcomes of preschool education, which is followed by elementary education. Their level can be observed during all activities of the child in kindergarten, including spontaneous play, which is considered by the preschool curriculum one of the basic means of children's development (RVP PV, 2018).

In the context of the latest changes to the educational policy, according to which the last year of preschool education is compulsory, the key competences represent crucial criteria of educational diagnostics in the process of analysing the readiness of preschool children for enrolment in elementary school.

2 Research part

2.1 Design of the qualitative research study

Research problem

Analysis of spontaneous children's play as a means of educational diagnostics of their readiness for starting compulsory education.

Main objective

To present children's play as a natural aspect of their development but also as a means of educational diagnostics in the context of assessment of children's readiness for starting compulsory education.

Partial objectives

To analyse children's play (5 to 7 years of age) in terms of the basic classification.
To analyse and assess the results of the qualitative research study aimed at children's play as a means of educational diagnostics with an emphasis on school readiness.

Research questions

RQ1: What types of play are chosen by children aged 5 to 7 years in kindergarten?
RQ2: What sort of information can be gained through an analysis of play in terms of children's readiness for starting compulsory education?

Data collection methods: indirect observation by means of video recordings taken in selected kindergartens, evaluation using record sheets with predetermined school readiness criteria.

Recruitment of participants: criterion-based selection (inclusion criteria: kindergarten in Olomouc, children aged 5 to 7 years, parents' consent, morning attendance in kindergarten).

Subject of investigation: 5 girls and 5 boys aged 5 to 7 years

Period of taking video recordings: April-June 2018

2. 2 Assessment of the research study

RQ1: What types of play are chosen by children aged 5 to 7 years in kindergarten?

In the analysis of video recordings, focus was on various forms of play by types of activities.

Table 1 Play by types of activities

Play	Type of activity – heterogeneous group of 3 to 7-year-old children
Theme	Stories from life, TV stories, etc.: <ul style="list-style-type: none">- Dominated by playing household, using especially the playing corner, mixed with constructive play (building houses, rooms, etc.)- Playing traffic (mixed with constructive play)- Playing soldiers mixed with constructive and fictional play The play was mostly of a social nature. The play was controlled by intrinsic motivation, children made their own choice. Only a small proportion of play was induced by the teacher (baking play).
Constructive	Making of a specific product: <ul style="list-style-type: none">- Playing with blocks (building chimneys, cities, roads, etc.) The play was mostly of a social nature, younger children (3) mostly played alone. The following activities were also observed:

	<ul style="list-style-type: none"> - Drawing (individual, collective work) - Painting (individual, collective work) - Gluing, cutting (individual) - Puzzle, dominoes
Fictional	<p>This category includes playing with musical instruments accompanied by movement interpretation (piano, flute, rhythmic instruments)</p> <p>Mixed with theme play.</p> <p>The play was of a social nature.</p>
Physical activity	<ul style="list-style-type: none"> - Physical activity improvisation - Tag - Climbing frame

By means of the video recordings, the types of play defined in the table above were observed. The most frequent types of spontaneous play were specified. Most types of theme play were spontaneous; teacher-induced play of this type was not observed. Teacher-induced activity was the baking play. Teacher-induced play was observed in the case of constructive play when children were unable to choose a specific activity. An analysis of theme play in children aged 5-7 years revealed that some play was less developed, although it was played for a longer period of time (approximately 20 minutes).

A positive aspect was the relationship with playing partners (both younger and older children). A minimum number of conflicts was observed; older children were able to respect younger children. Signs of cooperative play were identified in 6-7-year-old children, both in constructive and theme play.

An analysis of play in terms of the development of the child's personality suggested development in the **biological area**, i.e. gross and fine motor skills, graphomotor skills, sensory perception, etc. (construction, tag, overcoming obstacles, drawing, painting, cutting, etc.) The development of the physical area is closely associated with the **cognitive and social area**. A stimulating effect in the mental area was observed especially in theme play, including primarily speech, fantasy, mental operations, memory, but also self-regulation. All monitored types of play significantly contributed to the development of the social area.


The analysis highlighted some differences that deserve attention. The following question was asked: *To what extent is the degree of play development associated with the leadership and intervention by the teacher and the role of the teacher as a playing partner?*

Play is definitely a natural activity of preschool children. Preschool curricula include various types of play as a basic means of overall personality development of the child. The first part of the paper deals with play that can be used for the purposes of educational diagnostics and child development, i.e. as a significant indicator of school readiness. In the next part, play will be analysed in terms of various types. The following question will be answered: *'Why do some classes use active types of play rich in terms of content, while in other classes play is poor in terms of content?'*

Should teachers use spontaneous play in a qualified way as a tool of personality development and as a method of educational diagnostics, they must understand children's play. In the video recordings, various approaches of kindergarten teachers to spontaneous play were observed.

In trying to answer the questions defined above, a useful tool might be the diagram of interactions in personality development (Čáp, Mareš, 2007, p. 184).

Table 2 Personality interaction with the environment

Environment	Personality interaction with the environment	Personality
Family, social family network Peers Persons and groups School Locality Nature and society	 Information and stimuli, selection and processing. Activities: play, learning, working, hobby, etc. Social communication. Education as a specific interaction and communication	Biological conditions, mental processes, conditions, motivation, knowledge, skills, habits, attitudes, adopted roles, qualities, self-assessment, self-regulation, etc. Personality structure

The diagram clearly shows internal and external conditions and mechanisms of interaction between personality and environment, which is closely related to child development. The present paper focuses on the teacher-child and child-peers relationships in the context of spontaneous play.

In the kindergartens involved in the study, spontaneous play, which takes place between 7.00 and 9.30 a.m., two basic teacher-child approaches were observed. The first group consists of teachers who welcome the child upon arrival and leave the selection as to the type of play and partner up to the child. They intervene in children's play very little. They rather supervise children for safety reasons. When children come to the classroom, they look around, walk between playing children and then join one of the groups. The selection of time of play and playing partner differs between children. This is mostly influenced by the presence of a friend who they often play with. An interesting aspect was the position of older children in this kindergarten. The role of the teacher was taken over by the oldest children, specifically one girl (6). In the course of play she appeared dominant, organized children's play and advised younger children. These children accepted her instructions and watched her play. When younger children (3 to 4 years of age) took a toy, they carried it near the older girl. This was a group of five children. However, the types of play that were observed in the study, i.e. construction, playing with blocks, playing household, puzzle, were little developed in terms of content. During the whole period of observation, no conflict took place between children. Although children's play was very calm, it appears that children lacked an adult playing partner. The second group consists of teachers who welcome the child upon arrival and try to include the child in a group of children or offer individual play at a table. They intervene in play, but rather in terms of supervision and safety. In the second group, teachers clearly try to involve the child in play as soon as possible. The child starts to play according to the teacher's instruction and gradually takes up a favourite activity.

The teacher supervised the course of play, intervened by means of instructions and monitored the content. In this group of children, play was richer in terms of content and use of playing material. The effect of the teacher was clear, although she acted mainly as an advisor.

The authors of the present study believe that the teacher should approach the child based on thorough knowledge of the child's interests and needs. During the observations, the teacher never tried to become a playing partner of the child, not even for a short period of time. The teacher was always in the position of a 'superior' or advisor who tells children what they should and should not do, or who tries to regulate children's play. In this context we should mention the opinions of *Kellmer Pringle, who emphasises the importance of human relationships for the child with a particular emphasis on feelings (love, safety, appreciation, acknowledgement)*. Similarly, *Vygotsky, Bruner and Piaget attribute great importance to relationships, but they place a special emphasis on cognition. According to Vygotsky, higher functions develop especially as a result of social interaction* (Bruce, 1996, p. 52).

It can be stated that children are able to independently choose their preferred play and playing partner. A significant aspect in the development of play and its richness is the teacher. Should play become a means of child development and at the same time serve as a diagnostic tool, it needs to be supported by an adult person, also in the case of spontaneous play. If the teacher knows well the developmental level of the children, their interests and needs, he/she may join the play in a peaceful way as a friend and partner. Not as an adult whose role is to organize the play.

Play in kindergarten is impossible without toys and other equipment. Czech kindergartens have good material provisions, both external and internal. Classrooms are provided with playing corners, cabinets with toys and various playing, artistic and working materials readily available to children. This is surely a basic prerequisite. The question is however, whether these playing and other materials encourage children's curiosity and effort to learn, discover, etc. and whether these materials are used in this way.

In foreign kindergartens children were observed during spontaneous play, in which they experimented with colours, water, used playing tables with natural products, sand tables, etc. Children were engaged and had a lot of ideas. Children's creativity, initiative, and cooperation was also observed in kindergartens where the material provisions were considered insufficient. Contrary to the Czech Republic, all of these kindergartens were dominated by 'working mess' and they were much more noisy. The teachers almost did not intervene in the activities and did not reprimand children. Usually there were more teachers and assistant teachers in the classroom who really played with children.

Czech teachers are often concerned about tidiness and order, which limits children's initiative. The selection of play is often restricted by the themes specified in the school curriculum. Naturally, usual events cannot be separated from ordinary life. If for example during Easter the teacher encourages children to paint Easter eggs and decorate the classroom and a child chooses to build a road or dig a hole because construction work is under way in front of their house, the teacher should not restrict

such activity just because she thinks it is a barrier to achieving predetermined objectives.

The teacher should not be a mere observer or supervisor of children's spontaneous play, but should be able to approach children and their play on the basis of thorough understanding of the situation from the perspective of the child.

RQ2: What sort of information can be gained through an analysis of play in terms of children's readiness for starting compulsory education?

In the context of this research question, the following criteria were formulated in compliance with the preschool curriculum (cognitive, social and biological areas), and tested by means of the selected methodological procedures. The criteria were formulated on a three-point scale.

Assessment criteria for the cognitive area: deliberately focuses on the activity, resolves new situations, is creative, presents own ideas, develops play, expresses one's imagination through play, finds new solutions, makes decisions about play and develops it, respects the rules, is sensitive to the objects used, develops play.

Assessment criteria for the social area: listens to others, controls one's emotions, communicates with another child without restraint, communicates with the teacher without restraint, respects the needs and behaviour of others, is empathetic, pursues one's needs with respect to others, cooperates with other children, respects the basic rules of social behaviour (thanks, requests), agrees with other children on a joint solution.

Assessment criteria for the biological area: maintains correct posture, coordinates locomotion and other body positions, controls gross motor skills, controls fine motor skills (manipulates with toys and objects with precision), coordinates the hand and the eye in manipulation with objects, is oriented in the classroom.

Part of the analysis was a comparison of school readiness by gender.

Illustration of the assessment of the monitored areas

Table 3 Characteristics of the research sample: girls

	Age	Postponement	Footage in minutes
Girl 1	6 years, 7 months	No	50
Girl 2	5 years, 6 months	No	55
Girl 3	5 years, 9 months	No	30
Girl 4	5 years, 10 months	No	75
Girl 5	7 years, 6 months	Yes	63

Table 4 Example of analysis of video recordings in the monitored areas

	Cognitive area	Social area	Biological area
Girl 2	She is careful, precise, and reflective. She is not active and rather watches what is	She is rather shy and unassertive among other children, she is not a frequent playing partner of other children. She	In the area of gross motor skills the observation focused on walking, posture, and

	<p>happening around. It is difficult for her to find an activity that she would enjoy. She repeatedly comes to the teacher and asks for activities. The girl shows lack of independence in decision making in planning her activities. When she starts an activity, she concentrates and finishes it.</p>	<p>often turns to the teacher and asks for an activity, she is passive and does not join other children's play. She prefers individual activities. She tries to communicate with other children, for example she commended other girls for their construction from building blocks. She speaks slowly and comprehensibly. When another child takes over responsibility she retreats.</p>	<p>movement coordination. The girl was not physically active. In other observed areas the girl showed an appropriate level corresponding to a child at the end of preschool education.</p>
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Cognitive area:

In this area a lower degree of creativity and fantasy in the development of play was observed. In the case of girl 2, lack of independence and certainty was observed in the selection of her activities and play. This girl required the teacher's leadership and did not engage in spontaneous play at all. This raises a question of how the girl will deal with the requirements associated with enrolment in elementary school. In the context of developmental psychology, one of the prerequisites for starting elementary school is independence, creativity and an active approach (Čížková et al. 1999). In terms of other criteria, the girls' achievement corresponded with their age.

Social area:

Problems were observed in listening to others, cooperation, and respecting the needs of others. In one case, girl 1 showed dominant tendencies, especially when playing with younger children. Girl 2 does not engage in group activities and if she does, she is usually in a subordinate role. Again, this girl was unable to join other children's play, which could be associated with lower self-confidence. As suggested by Čížková et al. (1999) these aspects are important for successful school enrolment.

Biological area:

The predetermined criteria were observed and assessed. In the case of girl 2 in the area of gross motor skills, it was only possible to observe walking, posture and basic body coordination. This girl was not active in the area of gross motor skills, was not interested in physical activity games, was quiet and less physically active. In this area, the girls showed a corresponding level in the monitored criteria in compliance with the preschool curriculum.

As far as school readiness is concerned, in the case of girl 2 a potential risk of early enrolment was observed. In some criteria in all monitored areas the girl showed signs of insufficient readiness. In this case, further examination is recommended.

Table 5 Characteristics of the research sample: boys

	Age	Postponement	Footage in minutes
Boy 1	6 years, 10 months	Yes	41
Boy 2	5 years, 11 months	Yes	40
Boy 3	6 years, 7 months	Yes	30
Boy 4	5 years, 2 months	No	69
Boy 5	7 years, 4 months	Yes	70

Table 6 Example of analysis of video recordings in the monitored areas

	Cognitive area	Social area	Biological area
Boy 4	The boy respects the agreed rules of play. In constructive play he is creative, controls and develops the course of play. In theme play the boy uses substitute and imaginary objects, introduces new impulses in play, but rather in a subordinate position.	In the course of play the boy is not dominant and is able to adapt to the play of other children. He communicates and is able to express his opinions. He listens carefully to what other children are telling him. There were situations in which he only watched other children play. He carries his favourite plush toy.	He is oriented in the classroom, steps over barriers and changes body positions. He naturally makes a jump or run. With small objects the boy manipulates with precision. He is able to make an airplane of Lego blocks and then develop play.

Cognitive area:

In the course of play the boys are usually creative, use substitute objects and also make their own (sophisticated functional constructions that for example move). In theme play they take simple objects and use their fantasy to involve them in play, they also use imaginary objects. In developing play, they also use their memory and previous experience. This was especially obvious in the case of boys who were given postponement of school attendance in the previous school year. This means that postponement of school attendance was the right decision. Theme play mostly involved martial issues, which reflects the boys' interest in this area.

Social area:

No significant problems were identified in this area. The boys did not show signs of dominance or aggression against each other or with respect to other children. They engaged other children in play and showed empathy. For most of the monitored day, boy 4 carried his favourite plush toy. At this age, this is not considered a negative fact.

Biological area:

In this area the boys showed a natural need for movement, which was observed during theme play but also physical activity play (obstacle course, construction of a slide). Boy 2 preferred quiet activities such as reading; the boy was not interested in physical activity and rather watched other children.

As far as school readiness is concerned, the boys do not show signs of insufficient readiness. In all of the monitored areas, it was possible to assess the predetermined criteria. It should be noted however that most of the boys were given postponement of compulsory school attendance in the previous school year, which had an effect on the level of their development.

It can be stated that play between girls and boys differed in the objects and materials used, in the type of play, development and enjoyment.

In **the cognitive area** a higher degree of creativity and fantasy was observed in boys as opposed to girls. Girls usually used real objects and themes associated with the role of women and mothers; no fictional or constructive play was observed. Boys preferred themes associated with the role of men (for example soldiers), but there were also other themes such as the shop. Boys usually made objects that they needed. As opposed to girls, they preferred fictional and constructive play. In this context, the following question should be asked: *Is greater creativity caused by the fact that boys tend to construct and imitate objects that are not present in kindergarten (e.g. tanks, shells, etc.)? Or is the level in this area associated with the fact that most boys were given postponement of compulsory school attendance in the previous school year?* Potential problems with school enrolment were observed only in the case of girl 2.

No significant differences were observed in **the social area**. Only in the case of girl 1 the teacher should pay more attention. Generally, girls' play was dominated by motives such as caring for somebody, etc. Potential problems with school enrolment were observed only in the case of girl 2.

No significant problems were observed in **the biological area**. Both groups showed a need for movement, the level of gross and fine motor skills corresponded with children at the end of preschool education. Potential problems with school enrolment were observed only in the case of girl 2.

The authors managed to capture and analyse school readiness indicators in spontaneous play. The above mentioned implies that teachers should pay more attention to observing children's play in order to diagnose the current state as well as overall children's development, and at the same time use appropriate play activities to ensure systematic children's development. It should be noted that play should be included among significant indicators of school readiness.

Conclusion

A detailed analysis of video recordings suggested the types of play that children in kindergarten prefer. Children select from a wide range of play activities. The development of play in terms of content suggests a direct link with the environment and its stimulating nature. The role of the teacher in children's play is of crucial importance, but not in the role of an educator who gives instructions concerning what the child is allowed to do, what the child should do, how the child should play, but rather as a playing partner respecting the child's personality. At the same time the research study confirmed that the outcomes defined in the preschool curriculum as school readiness indicators could be diagnosed through spontaneous play. In diagnosing school readiness, teachers should assess not only controlled activities. The educators

of future kindergarten teachers should focus on the development of the diagnostic competence with an emphasis on observation.

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