GIFTED CHILD AND MICROENVIRONMENT OF KINDERGARTEN

Elena Belova

Psychological Institute of the Russian Academy of Education, 9 (4), Mokhovaya str., Moscow, Russia

Abstract

The article is devoted to the problem of the conditions for the disclosure of children's giftedness at the under school age. The focus is on the psychological aspects of the kindergarten microenvironment. The issues of creating a microenvironment conducive to the development of giftedness of preschool children are discussed. The results of a study of how gifted children perceive a kindergarten are presented. A comparison is made with peers. According to the data obtained, microenvironment of the kindergarten is perceived as comfortable and favorable by most part of gifted children (60.87%) and some less part of their peers (43.48%). Signs of emotional comfort of other children were manifested in combination with signs of a certain discomfort in the perception of the kindergarten microenvironment. The importance of matching the kindergarten microenvironment with the needs and capabilities of gifted children is emphasized.

Keywords: *gifted child, microenvironment, kindergarten, development, preschool age, creative potential*

"Pedagogy should focus not on yesterday, but on tomorrow of child development."

L. Vygotsky

"To educate means to elevate the mind and character, means to lead to the heights."

A. Morua

1. INTRODUCTION

Education and nurturing in kindergarten play a crucial role in the development of child at the stage of under school age. Disclosing the abilities and giftedness of the children is one of the main tasks of the modern system of education. In this regard, psychological research on the characteristics of the microenvironment of kindergarten, which contributes to the manifestation and development of children's giftedness, is particularly relevant.

In modern concepts of children's giftedness, the approach to its study as a complex phenomenon is predominant. It is emphasized that giftedness develops and the development process is caused by the influence of many factors: psychological, genetic / biological, social, etc. Often, researchers use the concept of "potential" when highlighting a key indicator of giftedness in the early stages of child development (Clark 2013, Melik-Pashaev et al. 2014, Monks & Ipenburg 2011, Silverman 2012).

According to A.M.Matyushkin, high creative potential is the basis of children's giftedness. It can manifest itself already in under school childhood (Matyushkin, 1990). High cognitive activity and a strongly expressed desire for creativity in games and classes are signs of giftedness in a preschooler.

Gifted children are often described as having the following characteristics: they are precocious, they learn differently from typical children (in terms of pace, intensity, openness to new ideas and experiences, etc.), and they are intensively motivated to learn. Signs of giftedness may emerge very early, in the first two or three years of life, and that signs are domain-specific. Children can be gifted in a single domain, or across a range of skill areas (Porter 2011, Winner 2014).

Many processes and functions of young children are at the formation stage, therefore, uneven development of gifted children as well as their peers is possible. Young gifted children may have

difficulties in the development of correct speech, attention, coordination of movements, etc. (The uneven development means that only some of gifted will be equally mature across all domains.

The study of kindergarteners identified as gifted showed that despite intelligence quotient scores in the very superior range and high means on traditional achievement measures, great variability was observed within the sample on several benchmarking measures of cognitive, academic, neuropsychological, and executive functioning (Hernández Finch et al. 2014).

The education of young gifted children should correspond to their increased abilities and take into account their specific features of development (Brighton & Jarvis 2017, Hertzog & Gadzikowski 2017). C.D.McGee & C. E. Hughes (McGee & Hughes 2011) emphasize that recognizing the unique characteristics of these children is the first step in helping them to reveal their potential. The requirements for gifted education and upbringing programs include: maximum orientation on the child, his/her abilities, interests; differentiation; individual approach; mobility, dynamism; problem in the supply of material; organization of creative search; cooperation; attention not only cognitive, but also emotional and personal and other areas of child development.

S.Kaplan & N.B.Hertzog (Kaplan & Hertzog 2016) consider that there are high expectations for early childhood programs to develop children's full potential, but unfortunately, practice does not always reflect engaging curriculum and instruction that truly develops and elicits students strengths and talents. According to researchers, in early childhood classrooms, giftedness manifests itself as potential and needs to be stimulated. It is important, therefore, to create a learning environment having the following:

- A variety of resources such as raw materials, prompts for play, books, and photographs to stimulate independent inquiry;
- Opportunities for children to solve problems within, between, and across disciplines alone, in small groups, or with the entire class;
- Opportunities for students to apply their current understanding to hypothesize about topics and to engage in role-playing their relationship to the topic;
- A curriculum that allows for differentiated challenges to be conducted independently /independent study (Kaplan & Hertzog 2016, p.139).

N.B.Shumakova (Shumakova 2019) emphasizes the need to create an enriched educational environment for the manifestation and development of the research activity of a preschool child, his/her initiative and independence in understanding the world. In her developed system of creative interdisciplinary training, an enriched, developing environment includes: the special content of training - interdisciplinary; a teaching method that simulates the process of a child discovering new knowledge about the world - a problem-research; subject-subject relations, providing the possibility of cooperation, dialogue and creativity in the process of cognition.

Gifted children, like all children in the early years, learn in an interdependent environment and their social/emotional well-being is reliant on the attitudes and understanding of those around them. Feelings of well-being can be stimulated through the trust that the gifted child and his or her family have in their relationships with educators who have a thorough knowledge and understanding of the characteristics and the complexity of learning for gifted and talented children (Delaune & Tapper 2015).

The problem of specifics of microenvironment in kindergarten is most often considered from the position of adults interested in the development of children's abilities and giftedness. The issues of creating a developing and enriched microenvironment in which the child will feel safe and can express their ideas and feelings are discussed. However, there is very little research on how an extraordinary child perceives the kindergarten microenvironment. When studying the social situation of development, L.I. Bozhovich (Bozhovich 2008) emphasized that it is important to take into account not only the system of objective circumstances in which the child is (their objective position), but how

he/she, due to the level of development already achieved, refers to these circumstances (their internal position).

In this regard, the study was aimed at studying the image of perception of a kindergarten by a gifted child and identifying the characteristics of his / her emotional state in kindergarten.

The study was based on the conceptual provisions of A.M.Matyushkin (The concept of "Creative giftedness") on giftedness as a prerequisite for the development of a creative person (Matyushkin 1990). High creative potential was considered as the main component of giftedness.

The objectives of the study included: identifying children with signs of giftedness, and especially with high creative potential; analyzing the characteristics of the image of the kindergarten microenvironment and emotional state of gifted children in comparison with peers.

2. MATERIALS AND METHODS

2.1. Participants and Methods

130 children 5-7 years old (M = 6.62; SD = 0.48) participated in the study. Children attended kindergartens of Moscow. These were kindergartens not only for gifted children, but they were visited by children with different levels of development. A preliminary analysis of socio-psychological factors of the microenvironment (especially the relationship between children and teachers), the characteristics of the educational process (programs and forms of education) revealed that the conditions for the disclosure of children's abilities and talents were created in kindergartens: there were materials for playing and creating, books, manuals; learning activities, including those on the development of creative thinking; problem-dialogical teaching methods were used, the communication style of teachers is characterized by democratic tendencies: benevolence, justice, flexibility.

Each child attended kindergarten for at least six months and his/her adaptation has already passed.

In a comprehensive study of children, the following techniques were used:

- Torrance Tests of Creative Thinking;
- observation of children in the classroom and in free games;
- survey on the features of the individual development of children, conducted among teachers;
- expert evaluation of creative works of children (drawings, crafts, etc.)
- projective technique “I am in the kindergarten”;
- conversations with children;
- statistical computer data processing.

2.2. Procedure

The study included two stages that corresponded to the objectives.

At the first stage, all children were surveyed to determine creative potential and identify children with signs of giftedness. The Torrance Tests results were analyzed. Determination of the general indicator (T) of the Torrance Tests allowed to assess the level of creative thinking - the main component of creative potential as follows: T>= 60 - a high level of creative thinking, T = 51-59 - above average; T = 40-50 - medium; T < 40 - low. The data of expert assessments, observations and surveys were also taken into account.

Children with high creative potential, which can be attributed to the gifted, were allocated and have been combined into a Group I. To conduct a comparative analysis of the experimental data of children differing in the level of creative potential, another Group II was formed, equal to the selected in quantitative and age composition, but different in creative indicators: the creative capabilities of these

children were less showed, the level of creative thinking was below average or low. In compiling Group II, a random strategy for representativeness was also used as a technique.

At the second stage, children from the two groups were examined to identify the features of their perception of the kindergarten microenvironment. Each child was asked to perform a drawing "I am in the kindergarten". After the drawing had been finished, a conversation was held with each child. The resulting material was subjected to quantitative and qualitative processing.

The interpretation of the results obtained using the "I am in the kindergarten" technique was carried out. The main areas of analysis were:

- The subject of the picture;
- Representations of the child about himself in the conditions of the kindergarten microenvironment;
- Features of emotional state; the comfort of the kindergarten microenvironment.

A large number of indicators were analyzed. Fisher's Test was used to assess the significance of differences.

3. RESULTS

At the first stage of the research, 23 children (18%) with signs of giftedness have been identified and they have been combined into a Group I. Their level of creative thinking was high (M = 62.94; SD = 2.34). Group II consisted of children with low and below average levels of creative thinking (M = 45.17; SD = 3.75). Highly significant differences were found in the mean values by groups of T-values (p = 0.000, Mann-Whitney Test). This confirmed the correctness of our distribution of children in groups, and its compliance with the objectives of the study.

At the second stage, every child from two selected groups completed drawing "I am in the kindergarten". All children coped with the task. There were no refusals to draw.

The subject of the picture

Analysis of the pictures revealed two types picture subjects: 1) representation of an activity: play, learning, etc. ("I am writing in class," "I play Lego with a friend"); 2) representation of the building (the premises inside the kindergarten) or the I-figure near the building / in the building ("This is my kindergarten, I have not come yet", "I am standing on the playground near the kindergarten").

In Group I, drawings depicting activities prevailed (73.92%), in Group II, drawings with such a subject were less than half (47.84%). Differences between groups are statistically significant (p = 0.032). The analysis results of representation of activity are showed in Table 1.

Types of activity	Group (level of creative potential), n (children), %	
	I	II
Play	8,70	30,44
Learning	60,87	8,70
Others (drawing, photographing, sledding)	4,35	8,70

Table 1. Types of activity in subject of the pictures "I am in the kindergarten".

As can be seen from Table 1, most of the children (60.87%) from Group I s depicted different aspects of learning activity in their drawing. And only some peers from Group II (8.7%) completed drawings with similar subjects. The differences between the groups are highly significant (p = 0.000). A

completely opposite situation was observed with the image of play: significantly more often, the game was the subject of the drawings of children from Group II (30.44%) than of children from Group I (8.7%), the differences are statistically significant (p = 0.027).

Representations of the child about himself in the conditions of the kindergarten microenvironment

The features of the image of the child himself (I-figure) in the picture "I am in the kindergarten" were analyzed. The sphere of relations with peers and adults is an important part of the kindergarten microenvironment.

In the pictures, 47.83% of children from both Group I and Group II do not represent the social environment: the self-figure is depicted alone. 43.47% of the gifted and a slightly smaller number of peers (34.78%) painted themselves in kindergarten along with others (children, adults), however, intergroup differences do not reach the level of significance. The absence of a self-figure was recorded in the figures of 8.7% of children from Group I and 17.39% of peers from Group II, but intergroup differences are also insignificant.

Differences between the groups were found in comparison with the number of drawings in which there is an adult figure: there were significantly more such drawings (39.13%) in the Group of gifted than in the Group of peers (8.7%), p = 0.004. It should be noted that in these pictures gifted children portrayed teachers. In the works of peers, a teacher is depicted in one case, and a parent in another.

Features of emotional state; the comfort of the kindergarten microenvironment

Features of the emotional state of children in kindergarten were determined as a result of the analysis of the following indicators: color gamut of the picture; the presence of a smile on the faces of the characters, the adequacy of the location of the figures of people in the figure.

Each child had colored pencils / markers for drawing. The choice of colors was individual. The overall color gamut of the picture, reflecting the child's positive attitude (no black, dark background, etc.) was characteristic of most of the children (82.61%) of Group I and Group II. Smiles of people are observed in the figures of 60.87% of gifted and 69.56% of peers (differences are not significant). Adequate distribution of human figures on a sheet was noted in 73,91% of Group I and somewhat smaller part - 56.53% of Group II, but the observed differences did not reach the level of significance.

In the study, the question of the comfort of the kindergarten microenvironment for children was considered. For this, a comprehensive analysis of the indicated features of the children perception of the kindergarten microenvironment was conducted. Analysis revealed that the kindergarten microenvironment is perceived as comfortable and favorable by most part of gifted children (60.87%) and some less part of their peers (43.48%), but the differences are not significant. In the drawings of all other children both signs of a positive attitude and comfort of the kindergarten microenvironment and signs (of varying severity) of certain discomfort (signs of uncertainty, anxiety, conflict) were highlighted.

4. DISCUSSION

Important tasks of the modern system of children's education include improving the quality of educational services in kindergarten, creating conditions for the development of children with different educational needs. Gifted young children have developmental features and corresponding educational needs (Brighton & Jarvis 2017, Clark 2013, Monks & Ipenburg 2011, Porter 2011, Silverman 2012, Shumakova 2019, Winner 2014). Unfortunately, in educational practice they are not always taken into account and satisfied (Kaplan & Hertzog 2016).

In this regard, the relevance of studying the microenvironment of kindergarten in the context of the development of children's giftedness is growing.

The study was aimed at studying how gifted children with high creative potential compared to peers perceive the microenvironment of kindergarten.

The use of the projective drawing technique “I am in kindergarten” made it possible to identify the features of the microenvironment of kindergarten from the perspective of a preschool child.

It was found that the plots of the drawings of the most gifted are associated with the depiction of activity, and mainly educational. Peers with less pronounced creativity were more likely to paint a kindergarten building and / or themselves. If in the plots their activity was observed, then basically it was a game activity. It should be noted that, according to observations and conversations with children, the game continues to be significant for gifted children, but education comes to the fore that allows you to realize the high cognitive needs of extraordinary children.

The relationship between children was also of interest in the study of the microenvironment of kindergarten. The results of the analysis of the image of the I-figure were somewhat unexpected: almost half of the children (47.83%), regardless of the level of creative potential, did not reflect the social environment in their drawings. Moreover, in kindergarten, all children are sociable with children and adults, although to varying degrees. Perhaps the result can be explained by the desire of some children to follow the instructions exactly (a lot of attention is paid to the development of this skill in kindergarten): if the task is to paint yourself in kindergarten, then children only draw themselves. Another reason may be a desire to reduce the frequency of social contacts. With increased sensitivity for some gifted, as well as their peers, it takes time to remain in silence, to relax with a book or a toy, which is not always possible in conditions of limited space of a kindergarten group.

Children were identified who did not have an I-figure in their drawings: 8.7% of gifted and 17.39% of their peers, which indicates a certain tension and, possibly, rejection of any aspects of the microenvironment. Such cases require close attention from the part of teachers and psychologists of kindergarten, as they show unrealized needs of children.

The analysis showed that for most gifted children (60.87%) the microenvironment of kindergarten is perceived as comfortable. However, for others, the perception of the microenvironment contains both signs of comfort and a certain discomfort. A more detailed study of the causes of such emotional manifestations may form the direction of further research.

5. CONCLUSIONS

The problem of the development of children's giftedness in kindergarten is relevant and significant in modern psychology, since its solution allows us to optimize the process of psychological and pedagogical support for the disclosure of children's abilities and talents.

The study was aimed at studying the characteristics of the perception of a gifted child of preschool age by the microenvironment of kindergarten and identifying the specifics of his / her emotional state in kindergarten.

The use of the projective methodology “I am in kindergarten” in combination with other methods (observation, conversation, etc.) made it possible to obtain new data on the microenvironment of a kindergarten from the perspective of a child with high creative potential.

It was found that for the majority (60.87%) of the gifted children participating in the study, the microenvironment of kindergarten was perceived as emotionally comfortable. However, for other extraordinary children, the perception of the microenvironment contained both signs of comfort and a certain discomfort.

The findings were used to advise educators on the development of gifted preschool children in kindergarten conditions.

ACKNOWLEDGMENTS

The study was funded by Russian Foundation for Basic Research according to the research project № 18-013-00976 a.

REFERENCES

Bozhovich, LI 2008, "*Personality and its formation in childhood*", Peter, St. Petersburg. (Russian).

Brighton, CM & Jarvis, JM 2017, "Early identification and intervention in gifted education: developing talent in diverse learners", in J. M. Kauffman, D. P. Hallahan, & P. C. Pullen (Eds.), *Handbook of Special Education: Second Edition* (2nd ed., pp. 882-893).: Routledge, New York. https://doi.org/10.4324/9781315517698.

Clark, B 2013, *"Growing up gifted: Developing the potential of children at home and at school"*, 8th ed., Pearson Education, Upper Saddle River, NJ.

Delaune, A & Tapper L 2015, "The well-being of gifted young children: Perceptions, pedagogy, and governance", *He Kupu*, Vol. 4, No. 2, viewed 20 June 2020 <https://www.hekupu.ac.nz/article/well-being-gifted-young-children-perceptions-pedagogy-and-governance>.

Hernández Finch, ME, Speirs Neumeister, K, Burney, V & Cook, AL 2014, "The relationship of cognitive and executive functioning with achievement in gifted kindergarten children", *Gifted Child Quarterly*, vol.58, pp.167-182.

Hertzog, NB & Gadzikowski, A 2017, "*Early Childhood Gifted Education: Fostering Talent Development",* National Association for Gifted Children, Washington.

Kaplan, S & Hertzog, NB 2016, "Pedagogy for Early Childhood Gifted Education", *Gifted Child Today*, Vol. 39 Is. 3, pp.134-139.

Matyushkin, A 1990, "Gifted and talented children: the nature of giftedness, screening, development", *European Journal of High Ability*, vol. 1(0), pp. 72-75.

McGee, CD & Hughes, CE 2011, "Identifying and supporting young gifted learners", *YC: Young Children*, 66(4), pp.100–105.

Melik-Pashaev, A, Novlyanskaya, Z (Eds.), Adaskina, A & Chubuk, F 2014, **"***Sources and specifics of children's art"*, Navigator, Moscow. (Russian).

Mönks, F & Ypenburg, I 2011, *"Hoogbegaafdheid bij kinderen"***,** Boom Uitgevers, Amsterdam. (Dutch).

Porter, L 2011, "Giftedness in the early years", in R. Moltzen (Ed.), *Gifted and talented: New Zealand perspectives* (3rd ed., pp. 111–156), Pearson, Auckland.

Shumakova, NB 2019, **"**Interdisciplinary training as a basis for identifying and developing the giftedness of a preschooler", in V.A. Mazilov (Ed.), *Psychology of Abilities and Giftedness: Materials of Russian Scientific and Practical Conference [November 21-22, 2019]* (pp. 242-244), RIU YASPU, Yaroslavl (Russian).

Silverman, LK 2012, **"***Giftedness 101",* Springer Publishing Company, NY.

Winner, E 2014, **"**Child Prodigies and Adult Genius: A Weak Link", in D.K.Simonton (ed.), *The Wiley handbook of genius*, John Wiley & Sons, Ltd., Chichester, <https://onlinelibrary.wiley.com/doi/abs/10.1002/9781118367377.ch15>.