PRECONCEPTIONS ABOUT THE SELECTED PHENOMENON OF "SUCCESS" AS A POTENTIAL IDENTIFICATION TOOL FOR GIFTEDNESS IN CHILDREN OF PRE-PRIMARY EDUCATION

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Abstract: The study aims to learn more about the specifics of a gifted child in the area of his/her ideas and to identify whether those ideas are different in their quality from the ideas of children who are not gifted. The identification of such a discrepancy could also be one of the indicators of giftedness and could be useful in the early pedagogical diagnosis of giftedness in pre-primary children. The subject of our article are preconceptions (creating ideas about phenomena, which mean the events that surround the child during his/her development) of children about the selected phenomenon of success and their comparison in terms of children's ability level. We were interested in whether there are discrepancies in the level of preconceptions of children who are assumed to have a certain level of giftedness, and other children. The design of the research is mixed, the data was obtained using the semi-structured interview method and projective techniques. The research results confirm a certain difference in the identified preconceptions of children in terms of intellectual abilities and the potential of identifying preconceptions as a tool to detect giftedness.

Keywords: Preconceptions about the Phenomenon of Success, Children of Pre-Primary Education, Giftedness.

1 Introduction

Giftedness is a phenomenon that resonates in professional circles for several decades. The quest to get to know the personality of a gifted child has a long history and has been influenced mainly by research in the field of motivation and creativity, which has largely been carried out in the middle of the last century. In pedagogical understanding, giftedness is perceived as a phenomenological issue, i. e. understanding gifted children as those who differ in cognitive performance and thinking, thus directly creating a requirement for different design and implementation of an educational activity or educational process. The priority for every teacher should be the level of children's thinking. The identification of his/her preconceptions is one of the ways to know the specificities of a child in the field of his thinking and ideas.

2 Giftedness Phenomenon

Nowadays, giftedness is understood as a complex phenomenon involving the whole personality of an individual, and other related motivational, socio-emotional and cultural factors included in the development of this phenomenon (Renzulli, J. S, 2005; Fořtík, V., Fořtíková, J., 2007; Mudrák, J., 2015; Ziegler, A., Phillipson, S. N, 2012 et al.). V. Fořtík and J. Fořtíkova (2007) define giftedness as:

- a set of specific qualitative skills conditional on successful performance in activities,
- intellectual potential (complex individual characteristics of cognitive functions and the ability to learn),
- set of innate characteristics and faculties, the manifestation of qualities and levels of innate predispositions,
- general abilities determining the individual's abilities, characteristics, and level of activity,
- talent (existing internal conditions for achieving exceptionally above-average results in the activity).

C. Resch (2014) also understands giftedness as a dynamic and multidimensional concept encompassing the overall potential of an individual, which is manifested in lifelong development and education. At the same time, he states that giftedness is an interactive process between the personality predispositions of an individual and the social and cognitive influences embedded in education.

Gifted children manifest different activities and abilities in different areas compared to their peers. Empirical findings and research clearly confirm that the development of a gifted child is different from birth to children of the rest of the population (Clark, B., 2002; Davis, G., Rimm, S., 2004; Porter, L., 2005; Bainbridge, C., 2018; 2020; Cherry, K., 2018; Cioni, G., Sgandura, G., 2013). Most intellectually gifted children manifest themselves from the earliest age with typical cognitive skills (thinking, memory, attention, etc.). If these characteristics are developed and stimulated, these children establish an extraordinarily rapid development of cognitive skills. However, if these characteristics are ignored and not developed, these above-average abilities may potentially create a negative force acting against any subsequent education (Portešová, Š., 2004). Therefore, the teacher's thorough knowledge of the child's personality is very important and extremely beneficial in the educational process. It is also important to realize that gifted children are an extremely heterogeneous group, which is manifested in qualitative and quantitative differences of individual factors of giftedness (intellect, creativity, social skills, psychomotor abilities, arts), and areas of its application (Ivleva, M., 2018).

Characteristic developed cognitive skills of gifted children include abstract thinking, quick understanding of complex patterns, excellent memory, but also the need for precision. Based on complex thinking, they create new ideas with deep meaning, they can transfer knowledge and patterns through various areas and even into unusual situations, they make connections between unrelated topics. Gifted children acquire and process information, and solve problems more efficiently, better, faster, and at an earlier age compared to ungifted children (Johnson, D. T., 2000; Robinson, A., Clinkenbeard, P. R., 2008). F. Eren, S. Avicil et al. (2018) add that gifted children are characterized by a combination of convergent and divergent thinking at an earlier age. These individuals are able to memorize more words and facts, thanks to which their vocabulary is richer. The acquired information is complemented, verified, and structured into various systems, they have more complex thinking, know how to work with abstract concepts, and are able to think critically. Their preconceptions are at a better level and they understand the concepts (conceptions) that are usually learned at an older age, because their thought processes are, among other things, faster and more logical (Hříbková, L., 2009; Bainbridge, C., 2020; 2018; Ivleva, M., 2018; Rimm, S., Siegle, D., Davis, G., 2018).

S. Rimm, D. Siegle, and G. Davis (2018) state that gifted people show a high level of self-confidence, self-control, and independence. They have high moral thinking and empathy. This statement is also supported by N. M. Ishak, M. H. Z. Abidin, and A. Y A. Bakar (2014), who argue based on research that gifted people have high empathy, especially the ability to help and satisfy the needs of others. M. Ivleva (2018) states that gifted people show a high level of psychosocial sensitivity, which is manifested by an increased sense of justice and moral development. They react sharply to injustice, like truth and harmony, place high demands on themselves and others, and have negative self-knowledge. The author also states that there are also cases of exaggerated fear and increased sensitivity to non-verbal signals of others.

In addition to the above characteristics, T. Curby and T. R. Konolod (2008) state that a gifted child plays mostly on his/her own, can easily confront others, and therefore does not even seek social contact. Gifted children also have different expectations and ideas about friendship. Preconceptions of the gifted people about friendship are more advanced at all stages, which means that they look for deeper and longer-lasting friendships than other children of the same age. Gifted children look for safe refuge, trust, fidelity, and authenticity in friendship, while their peers look for a friend for a game or a casual conversation. Just

as other children care about being accepted into a group of peers, gifted children also need friends and support from those around them (Rimm, S., Siegle, D., Davis, G., 2018).

Knowing the individual characteristics of gifted children from the cognitive, emotional, and social viewpoint is very important, but we must not ignore the specific manifestations of each individual and the need to assess each child individually. Giftedness cannot be understood as an isolated phenomenon, because it is manifested in the whole structure of an individual's personality. One of the individual characteristics of learners (children) is also represented by preconceptions, which arise based on their knowledge and experience in the social environment, but also by the influences of the environment itself (Lopušná, A., 2008/2009). These preconceptions can manifest differences in gifted children, perhaps even in individual areas.

3 Diagnostics of Children's Preconceptions

In the context of the modern understanding of the educational process, a pedagogical diagnosis is a natural part of the teacher's work. The pedagogical diagnosis aims to support learning and comprehensive development affecting the future standard and quality of an individual's living (Syslová, Z., Kratochvílová, J., 2015). Teacher's diagnostics represents the starting point for the creation of optimal educational conditions corresponding to the characteristics of individuals. It is desirable to respect the abilities and possibilities of each child (Slezáková, T., Tirpáková, A. 2006). Knowledge of individual ideas and experience, i. e. preconceptions, is a condition for acquiring new knowledge. The importance of early identification of gifted children lies in the early detection of hidden or obvious signals of this phenomenon in order to effectively and adequately stimulate their abilities in various special educational programs (Duchovičová, J., 2007). It is critical already in preschool age when children undergo rapid growth and especially developmental changes, which are a great opportunity for their further formation (Laznibatová, J., 2012). An overall view of the child's knowledge can also be obtained based on the diagnostics of his/her preconceptions about phenomena (phenomena, objects, etc.) (Koleňáková, R. Š., Teleková, R., 2019).

The basic source of preconceptions are cognitive processes, on the basis of which children attach importance to the phenomena around them, they construct certain comprehensive ideas of this world, which in this way becomes meaningful for them. Although cognitive activity is a key source of preconceptions, we cannot think about them only at this level, given the wide and diverse range of influences involved in their formation and modification. Preconceptions are being modified in terms of quantity and quality based on the influence of internal (personality psychological, biological characteristics) and external (social environment) factors together with the active involvement of an individual in the activity. Preconceptions are the result of the functioning of not only cognitive but also socio-emotional structures of pupils, which, due to their age and stimuli from the environment, represent psychological conditions and specific adaptation to the environment. Every pupil finds himself/herself in various situations every day, in which he/she gradually gets to know the people, phenomena, things, and objects around him/her in his/her way, thus creating unique and original preconceptions. Concerning the specific characteristics of gifted children, we conclude that these preconceptions differ significantly compared to their peers. The reason is that the creation of preconceptions, as stated by V. Kosíková (2011), is significantly affected not only by nature but also by the level of mental operations, width and depth of the concept learning, and building relations between them. The structure of preconceptions is constructed analogously to a scientific theory, but it emphasizes the current state of knowledge and the intellectual level of a child. The authors J. Škoda and P. Doulík (2010) point out the fact that children's preconceptions include not only knowledge but have a much more complex structure. Due to their diversity and variety, we cannot understand them as a unidimensional set, but it is necessary to perceive them as multidimensional entities, which consist of a cognitive, affective, and structural component (Pivarč, J., Škoda, J., Doulík, P., 2012).

There is currently no unified system for giftedness diagnosis in individuals in our conditions. Rather, it is an accidental discovery and observation of the child's exceptional abilities by parents or teachers who, based on these facts, recommend him/her for further diagnostic examinations by a psychologist. We also perceive the identification of the gifted children in education as a problem, since teachers do not have any diagnostic tools, but also that they have little time to create their tools. Nevertheless, people still rely on teachers in this area, even if their identification is more or less based on their subjective opinion. To some extent, this problem can be solved by identifying children's preconceptions about selected phenomena, which will allow the teacher to indicate the level of potential giftedness, regardless of the school results, and thus create a certain order of children. However, a possible problem is that teachers rarely have time to identify children's preconceptions. They take it for granted that children have a certain basic level of knowledge, and they also fear children's questions that they will not be able to answer (Chen, A. P., Kirkby, K. C., Morin, P. J., 2006). Within these terms, Ľ. Held and B. Pupala (1993) emphasize that based on their experiences, certain experience, and a characteristic way of thinking, each pupil has certain structures of their ideas (preconceptions) about the various phenomena and objects of the surrounding world, which create a kind of experiential knowledge that they use to navigate themselves in everyday situations. Children have different preconceptions, some are the same, similar, or also contradictory. The teacher should know their form in individuals as part of his/her diagnostics.

4 Research

The subject of the research is the diagnosis of preconceptions and their potential in the pedagogical diagnosis of the giftedness of preschool children. The main objective of the research was to identify preconceptions of children of pre-primary education as multidimensional entities (cognitive, affective, and structural components) to a selected phenomenon from the emotional area and to compare identified preconceptions in terms of intellectual skills.

Based on the objective of the research, we set the following research questions:

- What are the preconceptions of pre-primary children about the selected phenomenon from the emotional area?
- What significance do children of pre-primary education see in the existence of a selected phenomenon from the emotional area?
- What is the relationship and attitude of children of pre-primary education to a selected phenomenon from the emotional area?
- How are the preconceptions about the selected phenomenon from the emotional area in children of pre-primary education different in terms of giftedness? We concretise this research question into three research areas:

1. Are there differences in the cognitive component of children's preconceptions concerning the selected phenomenon of "success" in terms of intellectual skills?
2. Are there differences in the affective component of children's preconceptions concerning the selected phenomenon of "success" in terms of intellectual skills?
3. Are there differences in the structural component of children's preconceptions concerning the selected phenomenon of "success" in terms of intellectual skills?

4.1 Research Sample

The subject of our research were children of pre-primary education. The selection of the research sample was purposive and subject to the research objectives. A total of 39 participants from kindergartens in Nitra, Nové Zámky, and Trenčín were included in the research, of which 16 children were later

diagnosed as gifted by psychologists based on a psychological examination.

4.2 Research Methods

The nature of our research was mixed, which provided a comprehensive view of the preconceptions of pre-primary-aged children. The research design built in this way allowed us to determine whether there are differences in the level of children's preconceptions. The starting point of the qualitative strategy was the phenomenological approach, which anticipates identifying children's preconceptions. In the statements of individuals, we tried to capture their understanding of the selected phenomenon, we were interested in how they understand the importance and meaning of the selected phenomenon from the emotional area – "success".

In the research, we used the research method of projective techniques, specifically free associations to identify the cognitive component of preconceptions of pre-school children. Children (orally) completed free associations with the selected phenomenon (success). As another method, we chose a semi-structured flexible micro-interview not exceeding the limit of 20 minutes. The interview was implemented in order to identify the cognitive, structural, but also the affective component of preconceptions about the selected phenomenon of "success". We recorded and saved all the children's statements in the form of audio recordings. The structure of the questions was prepared so that the researcher had the opportunity to ask additional questions. The questions were concise and understandable as a condition for interviewing with regard to the cognitive level of the participants. When creating the tool, we emphasized the individual and specific characteristics of individuals, and through other questions, it aimed to reveal the social context of the development of children's personality. We chose the semi-structured interview to be flexible in asking questions and to be able to change the order of the questions, or add more according to the situation so that we could address what we considered important for our research in response to participants' answers. In the qualitative evaluation of children's statements, we took into account the semantic (literal) but also the pragmatic (actually expressed) meaning of children's sentences. The research was intentionally carried out in kindergartens at the end of the 2018/2019 school year, specifically in May – July (at the end of pre-school education), when psychological diagnosis and testing of giftedness in children are also carried out. In agreement with the parents, we obtained the information about the test results from the teachers, and then the results were confirmed by the kindergarten principals. We also verified this information by visiting the first year of primary school in the respective city integrating gifted children, or places that have already created classes for gifted children for the beginning of the next school year (2019/2020).

After fieldwork and conducting the research, the collected material was processed and analyzed with projective techniques and interviews based on the principles of the analytical strategy of the constant comparative method. Through content analysis (open coding) of components in the statements, we elaborated semantic categories present in all children's statements. The data from projective techniques were processed using the content analysis method, which we used to analyze and categorise children's statements. We processed the data in MS Excel and interpreted them into clear figures and tables. The data evaluation from projective techniques is presented through the processing and interpretation of data in the form of a summary report. Children interviews were subjected to content analysis (open coding). When processing the interviews, we used a literal transcription from the audio recordings into the records. Based on authentic statements, these records were used to create categories, which we assigned to the individual children's statements. To compare the data in terms of giftedness, we also used quantitative content analysis. Therefore, based on the number of interpretative categories of individual children groups, we further evaluate the data in comparison tables. In this phase, we used information and results of diagnosing giftedness in pre-primary education to evaluate the data, based on which we also compared it. The aim of this comparison was a more objective identification of differences in the identified preconceptions of children about the selected phenomenon. Therefore, when evaluating the data from the interview, we also proceeded with the so-called expert assessment – in our case, to score the authentic statements of children. However, only statements on the cognitive and structural component of preconceptions were scored; the affective component is analysed and interpreted only in graphs. The scoring was done by three unbiased persons:

- pre-primary teacher;
- parent of a pre-school-aged child;
- researcher.

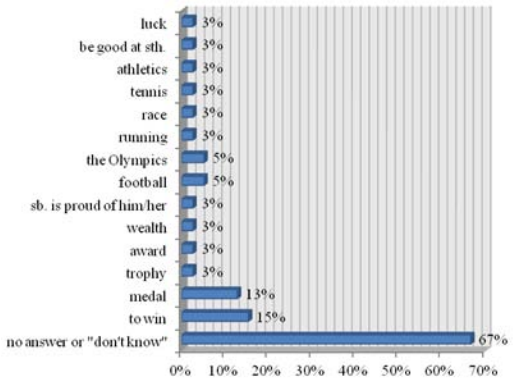
5 Results and Discussion

In the following section, we present an analysis and interpretation of research data collected through projective techniques (free associations) and a semi-structured micro-interview about a selected emotional phenomenon of success. For the clarity of the results, we firstly present the analysis of free associations (hereinafter referred to as "free associations") with the selected phenomenon stated by the kindergarten children, i. e. the children of pre-primary education (hereinafter referred to as "kindergartens"). This is followed by the analysis and interpretation of flexible semi-structured micro-interviews about the phenomenon.

5.1 Evaluation of Projective Techniques: Free Associations with the Phenomenon of Success

In this part, we examined in particular the cognitive component of children's preconceptions about the phenomenon of success. Children's statements on the question "What do you think of when you hear the word success?" were analysed and processed in the following Graphs 1, 2, and Table 1.

Graph 1: All Free Associations of Pre-School Children with the Phenomenon of Success

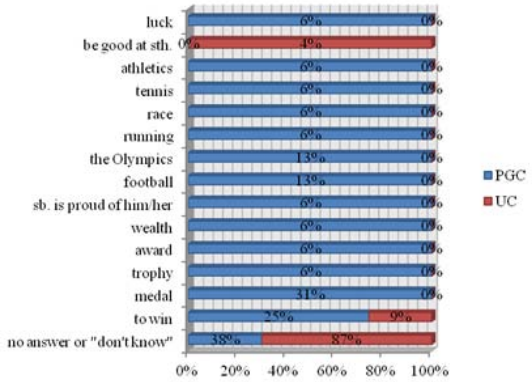


In Graph 1 we see all the free associations that children of pre-primary education mentioned with the phenomenon of "success". The category of no answer or "don't know" had the largest representation, in which most children spontaneously answered "don't know". The second most represented category was the importance of success, in which children stated that success is when someone wins, wins a medal, a trophy, some prize, is wealthy, but also when the immediate environment is proud of a successful individual. Similarly, the children mentioned various sports in which success is the goal (football, Olympics, running, racing, tennis, etc.), but they also mentioned the reasons for success – a successful person is good at something or is lucky.

Furthermore, we ranked all pre-school participants according to the number of free associations and subsequently marked those who were identified as gifted based on a psychological

examination. In this table, mainly children identified as gifted are in the table area with the largest number of free associations. Based on this identification and comparison, we divided the respondents into potentially gifted children (hereinafter PGC) and ungifted children (UC). Based on this division, we likewise present an analysis of free associations and their comparison.

Graph 2: All Free Associations of Pre-School Children with the Phenomenon of Success



In Graph 2 we can see the percentage of individual free associations in the given groups. The category with no answer or "don't know" is the most represented in the UC group (87%), free associations in this group are only in two other categories – in the category of the importance of success, the free association "to win" was represented by 9%, and in the category of reasons for success, the free association "to be good at something" by only 4%, even though it is a category mentioned solely by this group of children. Free associations of PGC are represented in all other categories, which is the majority, and in the category of no answer or "don't know", their representation is only 38%.

Table 1: Comparison of Free Associations of Pre-School Children with the Phenomenon of Success

Category	PGC		UC	
	n	%	n	%
Children total	16		23	
Total number of free associations with respect to the number of children	28	175	23	100
Total number of free associations	28	100	23	100
No answer or "don't know"	6	21	20	87
Number of free associations (without repetitions)	15	54	3	13

In Table 1 we can also notice that both the UC and the PGC stated the same number of free associations as the number of children in the group, but out of this total number of free associations, up to 87% are in the category with no answer or "don't know". Out of the total number of free associations, the UC reached only 13% in the number of free associations without repetition. Compared to the previous group, the PGC stated a higher number of free associations by up to 75%. Out of the total number of free associations (which we further perceive as 100% of the listed free associations in both groups), 21% were classified as unanswered or "don't know". The number of free associations without repetition was also 41% higher in this group compared to the UC.

Based on Graphs 1, 2, and Table 1 above, we note that the cognitive component of PGC's preconceptions on the phenomenon of success is at a higher level than in UC. The PGC group reached a higher number and a wider spectrum of free associations, while a large proportion of members of the UC group could not state any association.

5.2 Evaluation of the Interviews on the Phenomenon of Success

In this part, mainly the cognitive and structural, but also the affective component of children's preconceptions about the phenomenon of success were examined. In the qualitative content analysis of the interview, we created several semantic categories based on the authentic children's statements through open coding. We researched and analyzed the statements that the children of pre-primary education said to answer several questions aimed at identifying individual components of a preconception. The questions and semantic categories are listed in Table 2 below.

Table 2: Semantic Categories on the Phenomenon of Success in Kindergartens

Component of the preconception	Question	Created semantic categories
Cognitive	What is success? What does it mean to be successful?	Victory General above-average skills Naïve understanding No opinion
Structural	Why do we (people, children, or you) have success? What would happen if no one was ever successful again? What would happen if success did not exist?	Self-development Achieving victory Psychological importance Naïve understanding No opinion
Affective	Do you like success? How do you feel when you are successful? Why do you like success? What would you like to be successful in?	Positive attitude Other

Children's statements on questions aimed at identifying the cognitive component of preconceptions were classified into the following semantic categories:

- victory (statements which expressed a clear idea, activity, or a status achieved);
- general above-average skills (statements were more general, not as clear as in the previous category);
- naïve understanding of the nature of the phenomenon (statements in which the idea was not entirely clear or focused on only one activity);
- no opinion (statements in which the participant answered "don't know" or did not say anything).

When asked "What is success?" with the complementary question "What does it mean to be successful?", the participants had different ideas. Some saw this phenomenon as achieving victory and winning an award in a competition, (Child 16; 6 y/o) "...that you win a prize" or (Child 20; 6 y/o) "...well, that success, such as these medals". They also perceived it as a motivation to win the competition, such as (Child 21; 6 y/o) "...that you have to add a little to that success. For example, if you run and speed up a little, you can also win a medal." or as a reward for the work done (Child 31; 5 y/o) "...that if we do something, I get a reward for that work." Another category included statements, which were a little more general. The children understood the essence of the phenomenon of success as good abilities and skills, but only at the general level – (Child 2; 5 y/o) "...that he is good at something", (Child 32; 6 y/o) "...that you can do everything" or (Child 22; 7 y/o) "...that you are fast." The children also had more naive ideas about the phenomenon of success. This category includes statements in which children perceived success as not being afraid of anything and anyone, such as (Child 14; 5 y/o) "...that he is not afraid of anything", or that a successful individual has a lot of energy (Child 3; 5 y/o) "...to have a lot of energy and to be strong" and so on. The last category is "no opinion" and consists of spontaneous answers like "don't know" or no comment on the questions. In this case, it is the most represented category.

For comparison of individual statements, we proceeded with the scoring of statements, based on which we ranked all participants

according to the number of points achieved. We also marked PGC (children that were later identified as gifted) in the table. Based on this division, we further compared and analyzed the semantic categories created by content analysis and open coding of the interviews. In Tables 4, 5, 6, and Graph 3, the achieved scores were also statistically processed and interpreted. To assess whether the difference in the score achieved by PGC and UC was statistically significant, we used a two-sample t-test for equality/inequality variances. To determine the equality of variances, we first used the F-test for equality of variances.

Table 3: Comparison Table of the Semantic Categories Representation in the Cognitive Component Concerning the Emotional Phenomenon of Success in Kindergartens

Semantic categories	Total	PGC		UC	
		n	%	n	%
Victory	10	9	50	1	4
General above-average skills	4	3	17	1	4
Naïve understanding	4	2	11	2	9
No opinion	23	4	22	19	83

*n – total number, % - the percentage of the semantic category of the total number of categories in the group;

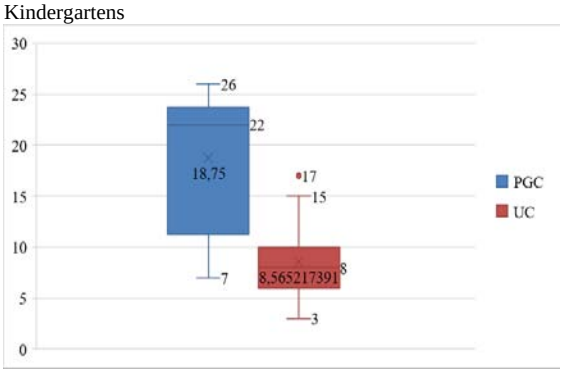
In Table 3 we can see that half of the PGC understood the phenomenon of success as victory or winning a certain award, while only 4% of the children from the UC group had such ideas. Ideas as above-average skills of a successful individual, but only at the general level, were represented by 17% in the PGC group and only 4% in the UC group. The naive understanding of the phenomenon had an even smaller percentage in both groups – 22% of the PGC group could not comment on the questions, but the UC group was the majority, with as many as 83% of the UC answering with “don't know” or no comments.

Table 4: Descriptive Statistics of the Achieved Scores of Groups in the Cognitive Component of Preconceptions about the Phenomenon of Success in Kindergartens

	M	N	SD	SEM	Min	Max	Median
PGC	18.75	16	6.787	1.697	7	26	22
UC	8.565	23	3.628	0.757	3	17	8

*(M – mean, N – children total, SD – standard deviation, SEM – standard error of the mean, Min – minimum value, Max – maximum value, Median - median);

Graph 3: Boxplot with the Score of the Cognitive Component of Preconceptions about the Phenomenon of Success in Kindergartens



In Table 4 and Graph 3 we see the statistical processing of the achieved score of both groups concerning the cognitive component of preconceptions about the phenomenon of success. The mean of the score of PGC was 18.75 (standard deviation 6.787), GC averaged 8.565 (standard deviation 3.628).

Table 5: Results of the F-Test for Equality/Inequality of Variances of the Achieved Score of PGC and UC in the Cognitive Component of Preconceptions about the Phenomenon of Success

	M	df	F	P
PGC	18.75	15	3.499	< 0.004
UC	8.565	22		

*(df – degrees of freedom, F – test statistic value, p – p-value rounded to the nearest thousandth;

Table 5 shows the results of the F-test, which was used to test the equality of variances in the groups. The test statistic was 3.499 and the corresponding p-value <0.004, which means that at the level of statistical significance <0.05, there is a significant difference in the variances of the achieved score between PGC and UC, so we further used a t-test for inequality of variances.

Table 6: Results of the t-Test for Inequality of Variances of the Achieved Score of PGC and UC in the Cognitive Component of Preconceptions about the Phenomenon of Success

	M	df	t	P
PGC	18.75	21	5.482	< 0.001
UC	8.565			

*(df – degrees of freedom, t – test statistic value, p – p-value rounded to the nearest thousandth;

Table 6 shows the results of the t-test for inequality of variances, in which the differences in the achieved score of the PGC and UC groups were tested and monitored. The value of the test statistic was 5.482 and the corresponding p-value <0.001, which means that the differential scores of the PGC and UC are significantly different, at the level of statistical significance <0.05.

When comparing the PGC with UC, we can see that the PGC achieved better scores. Moreover, based on the analysis above, the PGC had mainly concrete ideas, but they were also to a lesser extent more general. Only 8% of children from the UC group had such ideas, and they were more represented in the category of naive ideas about the phenomenon of success. The PGC had more relevant answers compared to the UC. In general, most children in the PGC group expressed their ideas about the phenomenon of loss, while many UC could not express themselves. Therefore, we assessed that the cognitive component of preconceptions of PGC about the phenomenon of success is at a higher level compared to the UC.

The children's statements on questions aimed at identifying the structural component of preconceptions were classified into the following semantic categories:

- self-development;
- achieving victory;
- psychological importance (feeling of satisfaction);
- naive understanding;
- no opinion.

Concerning the question “Why do we (people, children or you) have success?” with the complementary questions “What would happen if no one was ever successful again? What would happen if success did not exist?”, the children had different ideas about the meaning of success, and they mentioned the personal development of the individual in general, such as (Child 3; 5 y/o) “...to be always good” or (Child 10; 5 y/o) “...that they will be skilled”, etc. Another category of ideas were statements in which children expressed their understanding of the importance of success as winning (Child 17; 5 y/o) “...to win” or winning in a computer game (Child 16; 6 y/o) “…completed these only on the computer”, or as competitions and games. Some participants also had interpretations concerning psychological satisfaction from the activity performed, with statements like (Child 20; 6 y/o) “...to be glad” or also (Child 4; 5 y/o) “...to have a great fun”. There were also individuals with the naïve understanding of success (Child 21; 6 y/o) “...so that we would not be fat” or so that we would not be afraid of anything (Child 14; 5 y/o) “...because then I would not be afraid when a bear or wolf

attacked me." In this part, the last category are also the statements in which the participants answered "don't know" or did not express anything at all – it is the most represented category.

As with the cognitive component, we proceeded with the scoring of individual statements to compare them. Based on these scores, we ranked all participants according to the achieved score. We also marked PGC (children that were later identified as gifted) in the table. We further analyzed the obtained data based on this division, and statistically processed and interpreted the achieved scores in Table 8, 9, 10, and Graph 4. To assess whether the difference in the score achieved by PGC and UC was statistically significant, we used a two-sample t-test for equality/inequality variances. To determine the equality of variances, we first used the F-test for equality of variances.

Table 7: Comparison Table of the Semantic Categories Representation in the Structural Component Concerning the Emotional Phenomenon of Success in Kindergartens

Semantic categories	Total	PGC		UC	
		n	%	n	%
Self-development	5	3	19	2	9
Achieving victory	4	3	19	1	4
Psychological importance	2	2	13	1	4
Naïve understanding	4	2	13	2	9
No opinion	23	6	38	17	74

*n – total number, % - percentage of the semantic category of the total number of categories in the group;

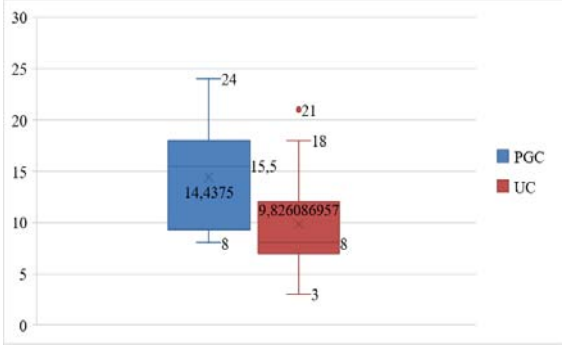
In Table 7 we can see that PGC understood the importance of success as the self-development of an individual and also as achieving victory, getting awards, or in general, as the existence of competitions and games. They had the same representation in both categories, while the UC were slightly less represented in these categories. It was similar in the category of psychological importance. The category of naïve understanding was at the same level in both groups. The big difference is noticeable in the category with no opinion, where the UC group was represented by up to 74%, while the PGC by 36% less.

Table 8: Descriptive Statistics of the Achieved Scores of Groups in the Structural Component of Preconceptions about the Phenomenon of Success in Kindergartens

	M	N	SD	SEM	Min	Max	Median
PGC	14.438	16	5.452	1.363	8	24	15.5
UC	9.826	23	4.519	0.942	3	21	8

*(M – mean, N – children total, SD – standard deviation, SEM – standard error of the mean, Min – minimum value, Max – maximum value, Median - median);

Graph 4: Boxplot with the Score of the Structural Component of Preconceptions of Both Groups in Kindergartens



In Table 8 and Graph 4, we see descriptive statistics of the achieved score of both groups concerning the structural component of preconceptions about the phenomenon of success. The mean of the score of PGC was 14.438 (standard deviation 5.452), the UC averaged 9.826 (standard deviation 4.519).

Table 9: Results of the F-Test for Equality/Inequality of Variances of the Achieved Score of PGC and UC in the Structural Component of Preconceptions about the Phenomenon of Success

	M	Df	F	P
PGC	14.438	15	1.456	< 0.206
UC	9.826	22		

*(df – degrees of freedom, F – test statistic value, p – p-value rounded to the nearest thousandth;

Table 9 shows the results of the F-test, which was used to test the equality of variances in the groups. The test statistic was 1.456 and the corresponding p-value <0,206, which means that at the level of statistical significance <0.05, there is no significant difference in the variances of the achieved score between the PGC and UC.

Table 10: Results of the t-Test for Inequality of Variances of the Achieved Score of PGC and UC in the Structural Component of Preconceptions about the Phenomenon of Success

	M	Df	t	P
PGC	14.438	37	2.880	< 0.003
UC	9.826			

*(df – degrees of freedom, t – test statistic value, p – p-value rounded to the nearest thousandth;

Table 10 shows the results of the t-test for inequality of variances, in which the differences in the achieved score of the PGC and UC groups were tested and monitored. The value of the test statistic was 2.880 and the corresponding p-value <0.003, which means that the differential scores of the PGC and UC are significantly different, at the level of statistical significance <0.05.

When comparing the groups, we can see that the PGC have also achieved better scores in this component of preconceptions about the given phenomenon. The results point out that the PGC group demonstrated a higher level of the structural component of the preconceptions on the phenomenon of success. This group of participants had more relevant and detailed ideas, and most of the children had no problem answering the questions and commenting on them.

The children's statements on questions aimed at identifying the affective component of preconceptions were classified into the following semantic categories, which are analysed based on dividing the respondents into two groups:

- positive attitude;
- other (statements in which a child spontaneously answered "don't know" or had no comment on any question aimed at identifying this component of preconceptions).

Table 11: Comparison Table of the Semantic Categories Representation in the Affective Component Concerning the Phenomenon of Success in Kindergartens

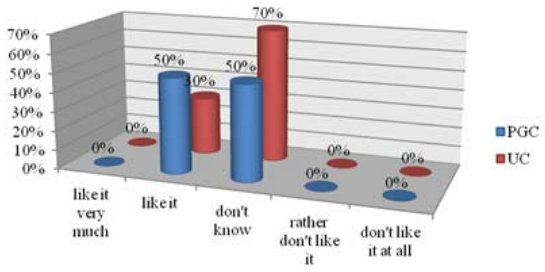
Semantic categories	Total	PGC		UC	
		n	%	n	%
Positive attitude	15	8	50	7	30
Other	24	8	50	16	70

*n – total number, % - the percentage of the semantic category of the total number of categories in the group;

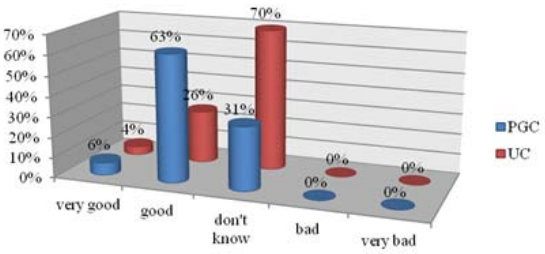
When asked "Do you like success? How do you feel when you are successful?" with complementary questions "Why do you like success? What would you like to be successful in?", children from both groups showed interest and a positive attitude towards the phenomenon of success. Children usually answered only briefly "yes", and when asked how they feel, they made statements like (Child 18; 6 y/o) "...good, ...I would like to win

the golden cup award in gymnastics" or (Child 19; 6 y/o) "...very happy that I have the first gold medal" or also (Child 20; 6 y/o) "...normally, however" and so on. In the category *other*, we included the statements of children, in which the participants spontaneously answered (Child 34; 6 y/o) "...I don't know" or did not say anything. This category also includes statements, in which a child answered the first question "Do you like losing?" with "don't know", but expressed certain feelings, such as good, very good, rich, happy, and other synonyms, concerning the second question "How do you feel when you lose?". This category is more represented by the UC group. For a better depiction, these data were processed into the following Graphs 5 and 6.

Graph 5: Data on the Question Asked in Kindergartens: Do you like success?



Graph 6: Data on the Question Asked in Kindergartens: How do you feel when you are successful?



Based on Table 11, and Graphs 5 and 6, we state that the PGC like success and want to be successful. The UC group shows a similar trend, but these children are more represented in the category *other* – they could not comment or answered with "don't know", up to 70%. This may be due to the fact that they do not yet have sufficient experience with this phenomenon or have insufficient knowledge about the phenomenon of success. This was observed in the previous components of the preconceptions of UC about the phenomenon of success, and in these components, the category with no comment prevailed. Therefore, we state that the affective component of the preconceptions of PGC on the phenomenon of success is slightly different, but this difference is not significant.

Based on the processing of the obtained data, we came to the conclusion regarding the children 's preconceptions about the selected phenomenon of success, what meaning they give to this phenomenon, and what is their relation and attitude to it. To compare the indicator in terms of giftedness, we summarise the following conclusion.

6 Conclusion

Based on the processing and analysis of the data acquired by the projective techniques (free association) and flexible semi-structured micro-interview, we state that the cognitive and structural component of preconceptions of pre-primary children about a selected phenomenon from the emotional area (success) differ in terms of intellectual skills – there are differences between children identified as gifted and ungifted children (children that were not identified as gifted based on a psychological examination). However, the difference in the affective component of children's preconceptions about the selected phenomenon of success in terms of intellectual skills has not been proven. The ranking of participants according to the number of free associations also showed that the PGC (children that were later identified by a psychologist as gifted) were mostly in the group with the largest number of free associations. Similar results were observed in the participants' ranking according to the score achieved based on their statements. It showed that the identification of preconceptions can highly coincide with the results of the specialist's diagnosis of giftedness. Of course, it cannot be replaced, but it can be a teacher's way to learn about the thinking of a pre-school child and the differences between children within the class while making it easier and faster to diagnose a potentially gifted child.

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Primary Paper Section: A

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