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Children in the World of Allegory: the Key Role of Comparison Skills and Abstract Thinking

Introduction

The rising interest in the definition of “meaning” and its ever-increasing role in human behaviour are continuously paving the way for a transition towards a semantic way of thinking. Every passing day confirms the perception of the modern world as a vast system of signs, each of them bearing pieces of information which we have to know how to access and understand. In most cases, speaking allegorically allows the speaker to achieve maximum effect with minimum effort, i.e. we have a reduction, or “simplification”, of a complex subject; economy, as a positive aspect, can often be one of the broader avenues towards creative decisions.

Sayings and proverbs, seen as short and clichéd signs that are poetic expressions of everyday situations, can be defined as super-economic ways of saying something which is not that simple. Their ability to integrate the wisdom and experience of our forefathers into a short expression makes them not only excellent moral templates for behaviour, but also primal cognitive matrices on which to build upon – at least for the people who can interpret them adequately.

Unfortunately, folklore nowadays is in danger of being forgotten. Modern individual art forms are pretentiously taking over from popular creative traditions. Having discovered the educational possibilities of sayings and proverbs, focusing especially on the allegory contained therein,

this publication will present the key moments of a psychological-pedagogical research project uncovering the potential of pre-school aged children to interpret the allegory in sayings and proverbs.

In the context of writing and publishing educational materials, several Bulgarian authors (Chichikova, 1998; Balabanova, 1999) have touched upon issues similar or close to the one under research here, but have left a number of questions unanswered. Even though teachers have attempted to use popular sayings and proverbs in pedagogical practice with regard to their allegorical meaning, there is a lack of a system for allegorical tuition that works well in both theory and practice.

Objectives and hypotheses

This publication presents some findings resulting from a psychological-pedagogical research project focused on the ability of children aged 5–7 to interpret of the allegory in sayings and proverbs. The paper aims to achieve two primary **objectives**:

- To uncover **the core essence of children's ability to interpret the specific allegory of sayings and proverbs;**
- To underline and prove **the role of comparison skills and abstract thinking** in successful allegory interpretation by children.

Establishing, developing and testing a pedagogical interaction model for building the ability to interpret the allegorical meaning of sayings and proverbs in children aged 5–7 years was also among the goals of a big research project conducted by the author (Engels-Kritidis, 2012), but the current publication will only make use of the results from the model's application in relation to achieving the aforementioned objectives.

Based on the purposive interpretation of the scientific literature, pedagogical observation and the experience of educational practice, the following main hypotheses have been formulated:

Hypothesis 1: It is assumed that there is a natural consistency in the process of building the skills under research: from not being able to understand even the literal meaning of the phrase, through the stage of understanding it, followed by an initially partial, eventually full, deduction of the metaphorical meaning, which is illustrated by giving an example of a particular situation to which it applies, or by formulating a general theoretical interpretation of the sentence's allegory. Each individual child starts from and reaches different stages when forming these skills.

Hypothesis 2: It is assumed that there is a connection between *comparison skills* and *allegory interpretation skills*, i.e. a child with better-developed comparison skills will display a higher *ability to interpret the allegorical meaning of sayings and proverbs*. With that in mind, the image-based way of thinking that is typical for the ages under research allows us to define visualization as a principal stage, which helps ensure an optimal transition towards the general theoretical interpretation of the allegorical meaning.

Hypothesis 3: It is assumed that there is a connection between the development of *the capability of abstract thinking* and *allegory interpretation skills*, i.e. a child with a better-developed abstract thinking ability will display a higher *ability to interpret the allegorical meaning of sayings and proverbs*.

Criteria and indicators for research of the ability to interpret the allegorical meaning of sayings and proverbs

One of the reasons for the deficiency of a theoretical and practical system for allegorical tuition is the lack of a clearly-structured system of criteria and indicators for assessing the different stages in the process of adequately interpreting the allegorical meaning of sayings and proverbs. In that regard, the author will attempt to fill the aforementioned void in a theoretical-practical aspect by introducing criteria and indicators which can be used for this kind of project, based on research of the relevant literature:

First criterion: *Understanding the literal meaning of the saying or proverb*

Indicators:

- 1.1. The child cannot understand the literal meaning.
- 1.2. The child partially understands the literal meaning.
- 1.3. The child fully understands the literal meaning.

Second criterion: *Rationalizing the metaphorical meaning of the saying or proverb*

Indicators:

- 2.1. The child cannot rationalize the metaphorical meaning.
- 2.2. The child partially rationalizes the metaphorical meaning.
- 2.3. The child can rationalize:
 - 2.3.1. The child rationalizes the metaphorical meaning, giving an example of a similar situation.
 - 2.3.2. The child rationalizes the metaphorical meaning by reaching a general theoretical explanation of the saying or proverb.

Third criterion: *Utilization of the saying or proverb*

Indicators:

- 3.1. The child does not use sayings or proverbs.
- 3.2. The child can adequately use sayings or proverbs:
 - 3.2.1. The child can adequately apply a saying or proverb to a given situation.
 - 3.2.2. The child can adequately use a saying, proverb or other metaphorical speech form in order to explain another saying or proverb.

Additional criterion: *Uniqueness of a child's interpretation of the allegorical meaning*

The above system of criteria and indicators is the basis of the stage-by-stage structure of the *ability to interpret the allegorical meaning of say-*

ings and proverbs (Engels-Kritidis, 2012), which has been schematically presented as a developing mechanism made of three main components: **understanding** the literal meaning of the saying or proverb, **rationalizing** its metaphorical meaning and, finally, **using** the saying or proverb adequately in speech. Working as a whole, this mechanism allows a level of adequate interpretation in any given situation. In other words, the *understanding*, *rationalization* and *use* represent different levels of interpretation of a saying or proverb and its application in relation to a specific or abstract situation.

When discussing the three main criteria levels, we indicate *understanding* of the literal meaning and *rationalization* of the metaphorical one. As already stated, the term "understanding" is used to indicate a comparatively elementary registration of the literal meaning of sayings and proverbs, whereas "rationalization" refers to the transfer process which the child can achieve based on his/her form-based way of thinking, as well as the elements of abstract and logical thought that the child has developed according to his/her age. "Rationalization" represents a level of achievement in the process of interpreting sayings or proverbs. The adequate use of a saying or proverb is the next step, which in addition to the aforementioned skills requires a higher level of language competence. Of course, for children aged 5–7 years, this last stage of using sayings and proverbs is not an objective in itself, but could be a natural consequence for some of the children of the application of a well-planned and executed program.

The general term "interpretation" is used here to indicate the process of understanding the allegory as a whole, regardless of the level of the child's "translation". In this regard, children's subjective and unique interpretations of the allegory are accepted as a possible, if not adequate, interpretation. For this reason, the uniqueness of a child's interpretation has been added as an additional criterion for the purposes of this research. As a theoretical basis for defining the essence of this criterion, this project uses the differentiation between the terms "meaning" and "significance", as introduced by Lev Semionovich Vygotsky (1983) in his book *Thinking and Speech*, first published in 1934, later on adopted and developed by Alexander Romanovich Luria (1984). Based on Vygotsky's and Luria's

concept, the term “meaning” indicates the system of associations that are connected with a word or phrase and have been created objectively in the course of history. Assimilating the meaning of words, we are assimilating the sum of human experience, reflecting the objective world in varying degrees of completeness and depth. Apart from the concept of meaning, Vygotsky and Luria define another concept, usually expressed via the term “significance”. The “significance” of a word or phrase indicates its subjective meaning, separated from the objective system of its “meaning”: significance is comprised of the associations that refer to a certain time or a certain set of circumstances. In other words, while “meaning” reflects the objective system of associations and connections, “significance” is an additional system of subjective aspects of the meaning for a given time or circumstance.

So, a child’s own “unique interpretation of allegory” is a translation of the saying or proverb that does not fall within the social framework of its use, neither literally nor as a metaphor, but is nonetheless a self-contained explanation of the saying or proverb which captures a metaphorical meaning different to the objectively-accepted one, a meaning that represents the child’s own view of the world, which is always unique in its own way. These unique interpretations need to be taken into account in every step of the stage-by-stage structure of building the researched skills. In essence, the unique interpretations form a kind of separate stage in this process, which could be necessary for some children as a way to reach the phrase’s meaning. The importance of the application of a specific psychological and pedagogical process by the teacher at the right time for the child has been underlined; a process which is designed to help the child reach the objective and widely-known meaning of the allegory, starting from its own specific and unique interpretation. Therefore, in relation to developing tools for allegorical tuition, the *basic premise* in this research is that the process by which the child reaches an adequate interpretation of the allegory has to be divided into two levels: on one level, *the teacher leads the child from the literal to the metaphorical meaning* of the saying or proverb; on the other level (that of the allegory), *the teacher leads the child from the personal significance of the allegory for*

the child (which may be an inadequate, but at the same time possible, explanation of it) *to the socially-accepted* meaning.

Unfortunately, there is the language barrier to consider. The research was written and carried out in a language other than English, which is used for this publication. This means that only a handful of the multitude of unique interpretations can be presented here in order to illustrate this phenomenon. An example of this is the Bulgarian saying "*a hood after the rain is over*" (meaning something is too late to help) which children explained as "the hood that follows the rain is the rainbow" and "after it rains, the mushrooms that come out have hoods". Another example is the Bulgarian proverb "*the book has many eyes*" (meaning one can learn many things from reading books), which was explained as "the letter 'O' in the book looks like an eye".

The existence of such improbable form-based and artistic child interpretations of allegory is fully understandable and teachers should make active use of them when building the skills under research. The child builds upon his/her own everyday experiences to express the interpretation of metaphorical meaning, but he/she also makes use of imagination. As a result of his research on the connection between children's imagination and art, Vygotsky (1982) concludes that children's imaginary worlds are richer than those of adults because of the simple fact that children trust their imagination more. Also, children think in images that are not yet "culturally impregnated" enough to make them a part of the cultural codex of any given social environment. Children are only just stepping on the path to becoming integrated into society.

Diagnostic scale of skills for interpreting the allegorical meaning of proverbs and sayings by children aged 5–7 years

The separate levels in the structure of the skills under research are clearly illustrated in the author's own Skill Scale for diagnosing the ability to interpret the allegory in proverbs and sayings, which is also a hierarchical projection of the system of criteria and indicators the research uses.

Figure A: Diagnostic scale of skills for interpreting the allegorical meaning of proverbs and sayings

6	Can rationalize the metaphorical meaning and explain it using another metaphorical form.
5	Can rationalize the metaphorical meaning and formulate a general theoretical explanation.
4	Can rationalize the metaphorical meaning and give an example of a similar situation.
3	Can partially rationalize the metaphorical meaning.
2	Can fully understand the literal meaning.
1	Can partially understand the literal meaning.
0	Cannot understand the literal meaning.

The skill scale is an ordinal one – each level surpasses the previous one and represents a higher stage of development of the skills. The form of the scale allows each separate level to have its own rating (ranging from 0 to 6); reasonably, the higher levels are given higher ratings (values). This kind of scaling allows the use of more powerful statistical methods for analysis. (Regardless of the level, the uniqueness of the child's interpretation of the allegorical meaning is also taken into account when grading each case. Although unique interpretations are graded with 0 according to the scale, they are indicated with 0* and are subjected to further qualitative analysis.)

The scale represents the stage-by-stage process of building the skills for interpretation of the allegory in sayings and proverbs in a fragmented, but at the same time coherent and consistent way, bearing in mind that each child *starts from* and *ends at* different stages when developing said skills.

Methodology: methods of data collection and data analysis

The research methodology has been structured in accordance with the objectives and hypotheses of the research and has been directed towards

solving the problems laid out at the start. The methodology includes the following main methods, which are being applied to different stages of the psychological-pedagogical research:

1. Research and analysis of the relevant literature.
2. Pedagogical observation.
3. A non-disruptive psychological-pedagogical experiment was used as a basic research method; it was realized in three stages – Ascertain, Build, and Control.
4. For gathering “input” and “output” data concerning the level of rationalization of the metaphorical structures by 5–7-year-old children, a specially-designed **diagnostic procedure** was used during the Ascertain and Control stages of the experiment, consisting of an adapted *interview method*, during which twenty specially selected proverbs and sayings were shown to the children, who were asked for a verbal explanation; the answers were evaluated using the custom diagnostic skill scale created by the author.
5. In order to collect the information necessary for proving the connection between *comparison skills* and *ability to interpret allegory in proverbs and sayings* (second subhypothesis), the “Comparison” subtest of the Readiness for School Test was used. This test was developed and standardized by Felianka Stoyanova (Bizhkov & Stoyanova, 1997). The “Comparison” subtest consists of a comparison between ten pairs of pictures; the child is asked to find similarities and differences in each pair.
6. In order to collect the information necessary for proving the connection between the development of *abstract thinking* and *ability to interpret allegory in proverbs and sayings* (third sub-hypothesis), the author has used a modification of a method by A.Z. Zak, created by F. Stoyanova (1990); this method incorporates a collection of 19 syllogisms and in this article will be referred to as “Zak’s Test”.
7. *Discourse analysis* for evaluating the children’s answers according to the Skill Scale.

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8. Statistical methods for analyzing the results collected according to the Skill Scale.

Methodology: organization of the psychological-pedagogical experiment

Pedagogical observation is the main method for researching the key role comparison skills and abstract thinking PLAY in allegory interpretation skills; during the period from January 2000 – October 2012, the author had weekly observations of pedagogical situations and children's free choice activities in kindergartens during sessions with students preparing to be preschool teachers. In order to discuss quantitative data on the purpose of the research, the current paper uses some data and correlations from an older psychological-pedagogical experiment which have not been discussed or published in the proposed way. The experiment was performed over an 8-month period from September 2002 to May 2003, and involved a total of 104 Bulgarian children, aged between 5.4–7.3 years, divided into three Experimental Groups (EG1 and EG2 from Kindergarten No. 99 in the Bulgarian capital city of Sofia, and EG3 from Kindergarten No. 2 in the small Bulgarian town of Montana) and one Control Group (CG1 from Kindergarten No. 65 – Sofia). The experiment took place in three stages – Ascertain, Build, and Control.

In order to have a wider range of comparison available, the author included in the research an additional Control Group of 9-year-old children (CG2) taken from various Sofia city primary schools. This group was researched only in the initial stage in order to finalize the diagnostic instrumentation and to confirm some tendencies in the child's psychological development concerning the skills under research.

Each of the research groups consisted of 26 children. The group members were selected randomly, but all four groups of 5–7-year-old children had at least two things in common: they all came from public kindergartens, and they were all educated according to the "Educational Program for children from 2 to 7 years old", developed by Elena Rusinova

et al. (1993). The parents of the children participating in the research were informed of the experiment and gave their explicit consent beforehand. The experimental work was carried out by graduate students from the pre-school education speciality, while the skill-building programme was implemented by the Experimental Group children's tutors under methodological supervision of the author.

The objective of the Ascertain stage of the experiment was to ascertain the level of rationalization of the allegory of proverbs and sayings by the children under research before they underwent specific intervention towards this end, so that after the application of the Build stage, the same method and the same instrumentation could be used to determine whether the experimental pedagogical interaction has had any effect, and if so, how successful it has been. This allows comparison between the Ascertain stage and the Control stage using the same skill scale, in order to show the development of the skills under research.

It is important to note that, during the Build stage, the teachers were not allowed to make conscious, premeditated use of any of the 20 sayings and proverbs used in both Ascertain and Control stages.

During the Build stage of the experiment, the author's specially-developed model for pedagogical interaction towards building skills for interpretation of the allegory in proverbs and sayings by children aged 5–7 years was applied. The conceptual and technological details of this model will be the subject of a separate publication by the author.

Starting positions of the statistical analysis of the results

The numerical expressions of the results of this psychological-pedagogical research were further analyzed statistically using the *SPSS 11.5* and *Microsoft Excel 2000* software packages.

As a general **measure of central tendency** for this research with regards to the Skill Scale results, we are using primarily the **mean value**.

The statistical **null hypotheses** were the following:

1. Regarding the values on the Diagnostic Scale for allegory interpretation skills of children aged 5–7 years, **the distribution and mean value of results** obtained at the control stage are not different to the distribution and mean value from the ascertain stage. This hypothesis was further applied specifically to each experimental group, as well as three age subgroups within the range of 5–7 years.
2. There is **no connection between the mean value of the Diagnostic Scale for individual children and their results in the “Comparison test”** subcategory of the Readiness for School Test.
3. There is **no connection between the mean value of the Diagnostic Scale for individual children and their results in “Zak’s Test”**.

In order to examine the hypotheses, the following statistical methods were used:

1. **Chi-square goodness-of-fit test** and **Chi-square comparison of the distributions of the same variable in two paired or related samples.**
2. **Student’s t-test for comparison of mean values** for related or independent samples.
3. **Dispersion analysis – ANOVA test** for comparing more than two mean values from independent samples.
4. **Correlation analysis** for investigating the connection between the Skill Scale mean values and the test ratings from the “Comparison test” and “Zak’s test”.

The application of the Chi-square method is always possible, regardless of the nature of the data. The other three methods are applicable only under certain circumstances. The most important prerequisite is **normality of the distribution**. Since the distributions under investigations are not normal (something that was ascertained by the Chi-square test), the question arises of how this fact will influence the results. From the rele-

vant literature, it is known that the t-criterion is only slightly affected when the normalcy condition is broken, so using the t-test is possible. Dispersion analysis, however, is strongly affected by this condition. Therefore, wherever dispersion analysis has been used, additional checks have been made on differences between mean value pairs using the t-criterion. Finally, breaking the normalcy condition when applying correlation analysis has been offset by using Fisher's Z-transformation method.

Presentation and analysis of the research project results

First of all, we checked the null hypothesis that the distribution and mean value of the results obtained at the control stage are not different to the ones from the ascertain stage. As is evident in *Fig. B*, the Ascertain stage Skill Scale mean value for all three experimental groups is 1.78, while the Control stage mean value is 3.43. The difference of 1.65 is a statistically significant one (the t-criterion level of significance is less than 0.01). This means that applying the program for skill building to the experimental groups has resulted in a statistically significant increase. By comparing results for each experimental group individually, we can see that this conclusion is still valid (results are presented in *Table 1*).

Figure B: Level of development of allegory interpretation skill

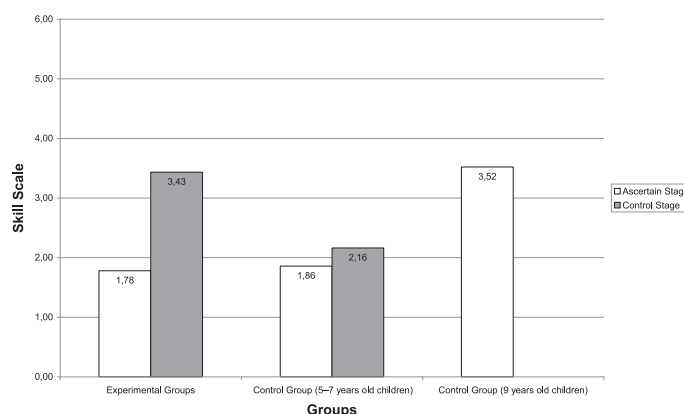


Table 1: Skill Scale mean values per group

Groups	Skill Scale mean values		Mean differences	Standard deviation of mean differences	Amount of interpretations (totals)	t	Significance level
	Ascertain stage	Control stage					
Experimental Group 1	2.28	3.48	1.20	1.91	520	14.38	0.000
Experimental Group 2	1.81	3.39	1.58	2.13	520	16.88	0.000
Experimental Group 3	1.25	3.43	2.19	1.88	520	26.58	0.000
Averages (Groups 1–3)	1.78	3.43	1.65	2.01	1560	32.46	0.000

The change in each of the three age subgroups from Ascertain to Control stage is also statistically significant (see *Table 2*). However, the dispersion analysis results indicate that all three age groups show a similar change ($F = 2.72$, Significance level = 0.066). Therefore, we can generally conclude that, for the Control stage, the Skill Scale mean value shows a statistically significant increase compared to the mean value from the Ascertain stage, which means the children have developed their allegory interpretation skills, regardless of their exact age (within the 5–7 years range) when starting the procedure.

Table 2: Skill Scale mean values per age subgroup

Average age at Ascertain stage	Average age at Control stage	Number of children	Ascertain stage	Control stage	Mean differences	Standard deviation of mean differences	Amount of interpretations (totals)	t	Significance level
6 years, 6 months	7 years, 3 months	25	1.92	3.43	1.51	1.97	500	17.12	0.000
5 years, 11 months	6 years, 8 months	29	1.79	3.58	1.79	2.06	580	21.01	0.000
5 years, 4 months	6 years, 1 month	24	1.62	3.26	1.64	2.00	480	17.97	0.000
–	–	78	1.78	3.43	1.65	2.01	1560	32.46	0.000

The distribution of ratings for all three Experimental Groups is presented in Fig. C and Fig. D.

Figure C: Percentage distributions of children's interpretations on Skill Scale Experimental Groups in Ascertain stage

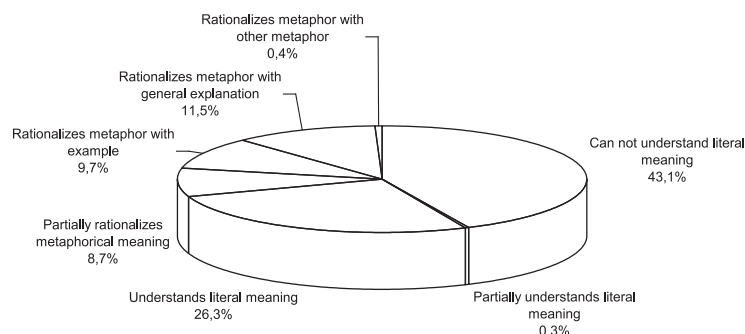
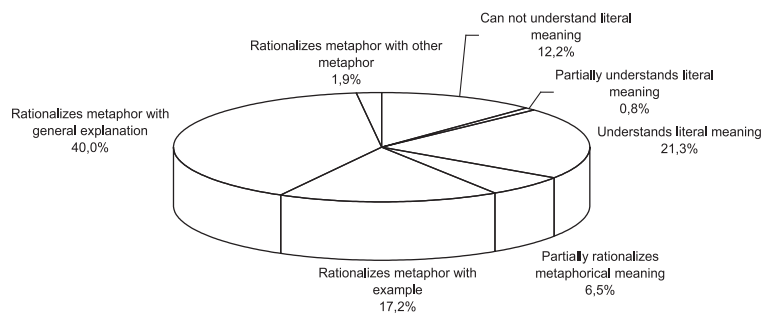


Figure D: Percentage distributions of children's interpretations on Skill Scale Experimental Groups in Control stage



The ascertaining experiment shows that the majority (43.1%) of 1560 total children's interpretations in the Experimental Groups (78 children interpreting 20 proverbial phrases) fall under Rank 0, or "Cannot understand

the literal meaning" (*Fig. C*). This could be attributed to a lack of life experience, a factor that would have helped the child understand the literal meaning, at least. Even when this kind of experience is at hand, another cause for this could be a lack of understanding of the grammatical structure of the phrases and words. This is made possible because of the intricacies of artistic speech, and more specifically, sayings and proverbs, where there is often a balance between syntax totalities, separated by pauses or specific methods of spoken delivery in order to achieve a measure of rhythm. Some of the methods of poetic syntax used in proverbs and sayings, like intonation, inversion (i.e. changes in the customary position of speech parts), repetition etc., are hard for children to understand and are frequently a major obstacle in the child's way toward understanding even the literal meaning of the phrase, let alone the metaphorical one.

The Control stage (*Fig. D*) presents a very different picture. Here, the percentage of children's interpretations rated with the zero rank has decreased from 43.1% to 12.2%. The majority of answers this time are those that show adequate interpretation of the proverb or saying using a general theoretical explanation – the percentage of those answers has increased from 11.5% to 40%. In other words, it can be said that the inability to understand the proverbial phrases in the first stage has exchanged places with the ability to form a general theoretical explanation in the last stage. This can be seen in *Fig. C* (the dotted texture slice representing the "Cannot understand the literal meaning" percentage) and *Fig. D* (the brick texture slice representing the "Rationalizes metaphor with general explanation" percentage). As a whole, these two figures show that, while during the Ascertain stage the majority of answers fall under Rank 0 "Cannot understand the literal meaning" and Rank 2 "Understands the literal meaning" (decreased later from 26.3% to 21.3%), during the Control stage most answers are rated "Rationalizes metaphor with example" (increased from 9.7% to 17.2%) and "Rationalizes metaphor with general explanation". The same tendencies can be seen when examining each of the Experimental Groups individually, as well as in the Control Group of children from kindergarten. In all of the groups there are similar percentages of an-

swers rated "Understands the literal meaning", in both the Ascertain stage (around 26.3%) and the Control stage (decreased to around 21.3%, in most cases giving way to better-rated answers). On the whole, this confirms our theoretical supposition that understanding the literal meaning is the basis for building the ability to interpret the allegory, which means that during the formation of those skills, the literal meaning "organizes upon itself" the following stages.

If we tabulate the differences between answer rankings from the Ascertain and Control stages and express them in percentages (*Table 3*), we can see that only 5% of the answers show a negative change, i.e. answers in which children have been ranked lower during Control. *Table 3* shows the same change in the number of children's answers – the ones who have lower ranks are shown in the black cells. This decrease could be attributed to many causes, some of which could be the following:

1. Although he has tried to rank the answers as objectively as possible, the experimenter might have made a mistake.
2. Some negative variations in ranks are considered normal and explainable; 16 answers have moved from Rank 5 (rationalizes metaphor with general explanation) to Rank 4 (rationalizes metaphor with example), while further 3 answers have moved from Rank 6 (rationalizes metaphor with other metaphor) to Rank 5. Regardless of the decrease, these answers still indicate an understanding of the metaphorical meaning.
3. There are 2 cases in which a child has given a Rank 3 answer (can partially understand the literal meaning) during the Ascertain stage, but has answered with his/her own, unique answer during the Control stage. This latter answer is ranked 0 (cannot understand the literal meaning).

Regardless of the cause, the percentage of negative differences is small enough to be explainable by some kind of mistake during the application of the pedagogical interaction in the Build stage.

Table 3: Distribution of the differences in children's answers between the Ascertain and Control stages

Experimental Groups (1–3)			
Difference	Number of answers	Percentage	Cumulative Percentage
–6	0	0%	0%
–5	6	0%	0%
–4	4	0%	1%
–3	11	1%	1%
–2	22	1%	3%
–1	30	2%	5%
0	591	38%	43%
+1	110	7%	50%
+2	300	19%	69%
+3	162	10%	79%
+4	96	6%	85%
+5	214	14%	99%
+6	14	1%	100%
Totals	1560	100%	

Even though 38% of all the answers show no change in rank, this should not be taken as an indication of the ineffectiveness of the skill-forming program, since this percentage includes answers indicating an understanding of the metaphorical meaning even in the Ascertain stage – in other words, they are answers given by children who have been ranked 4, 5 or 6 on the Skill Scale at the start and subsequently, during the Control stage, have given answers close to their original ones. As the grey cells in *Table 4* show, 69 of the children's answers have retained their Rank 4, while a further 141 of them have retained Rank 5.

As is evident in *Table 3*, 19% of the children's answers have gained 2 ranks; 10% have gained 3 ranks; 6% have gained 4 ranks, while 14% have gained 5 ranks! This means that in 14% of all the answers after the application of the skill-forming program, the children have developed

their skills from Rank 0 (cannot understand the literal meaning) to Rank 5 (rationalizes the metaphor with a general explanation) – this can also be seen in *Table 4*, where a total of 214 children's answers which have increased in rank can be seen in the white cells.

Table 4: Changes in Skill Scale rank of children's answers between the Ascertain and Control stages

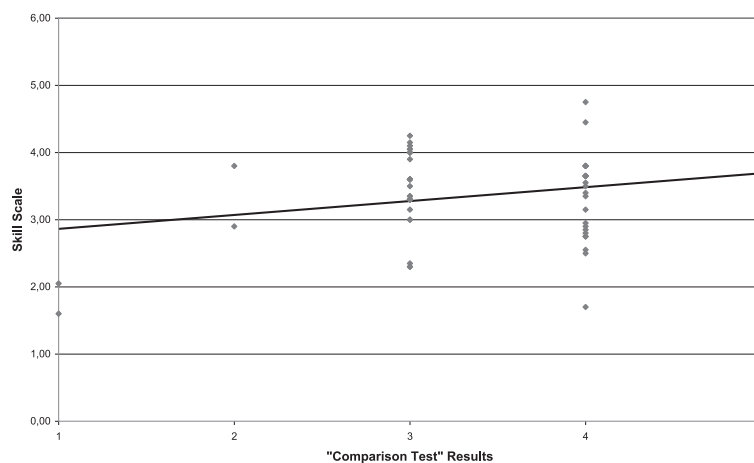
Ascertain Stage	Control Stage							Total
	Rank 0	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	Rank 6	
Rank 0: Cannot understand literal meaning	165	10	160	16	93	214	14	672
Rank 1: Partially understands literal meaning	1	0	2	0	1	1	0	5
Rank 2: Understands literal meaning	13	2	152	18	81	142	2	410
Rank 3: Partially rationalizes metaphorical meaning	2	0	6	60	9	55	3	135
Rank 4: Rationalizes metaphor with example	4	0	4	2	69	68	4	151
Rank 5: Rationalizes metaphor with general explanation	6	0	9	5	16	141	3	180
Rank 6: Rationalizes metaphor with other metaphor	0	0	0	0	0	3	4	7
Total	191	12	333	101	269	624	30	1560

The data in *Table 4* actually proves one of the sub-hypotheses of this research – that there is a natural consistency in the process of building the skills under research: from not being able to understand even the literal meaning of the phrase (if there is one), through the stage of understanding it, followed by an initially partial, eventually full, deduction of the metaphorical meaning, which is illustrated by giving an example of a particular situation to which it applies, or by formulating a general

theoretical interpretation of the sentence's allegory. This is mostly evident by the fact that 57% of all the answers show a positive change, moving up one to six ranks. In addition to this, as already noted earlier, *only* 5% of the answers have decreased in rank, i.e. 5% of them (answers, not children) have not developed or remained in the same category, but have stepped backwards, while 38% of the answers remain unchanged in rank (but these are, as we have already shown, mostly answers from the higher ranks – a total of 274 answers that have retained their Rank 3, 4, 5, or 6, versus 317 answers that remained in Ranks 1, 2, and 3).

The second statistical null hypothesis states that there is no connection between the mean value of the Diagnostic Scale for individual children and their results in the "Comparison test" subcategory of the Readiness for School Test. Applying a correlation analysis can prove the existence of a connection between the skills for interpreting allegory in sayings and proverbs and the skills for comparison, as seen in *Fig. E*.

Figure E: Correlation between "Comparison Test" Results and Average Skill Scale Value

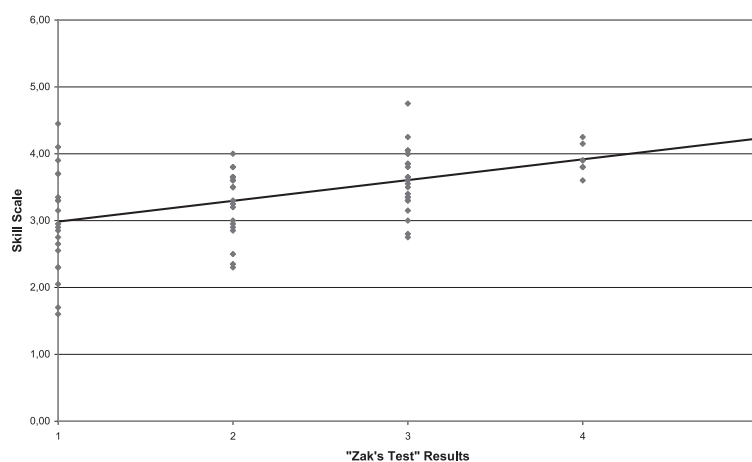


There is a statistically significant connection, whose level can be measured by the correlation coefficient R – in this case $R=0.30$. According to one of the measuring scales for interpreting the correlation coefficient

(Goev, 1996, p. 151), values of R between 0.00 and 0.30 indicate a weak correlation, whereas values between 0.30 and 0.70 suggest a moderate correlation. A more precise interpretation scale (Dimitrov&Yanev, 1998, p. 310) has values of R between 0.00 and 0.30 indicating a weak correlation, while values between 0.30 and 0.50 suggest a moderate correlation. The R-value sign shows that higher ratings in the Comparison Sub-test of the Readiness for School Test correspond to higher mean values in the Skill Scale and vice-versa (keeping in mind that the Test results are graded in 5 ranks, Rank 5 being the highest). In other words, there is a statistically significant correlation between the ability to interpret allegory in proverbial phrases and the skills for comparison that, according to the correlation coefficient interpretation scales, can be defined as a positive correlation bordering between weak and moderate in strength.

The third statistical null hypothesis was that there is no connection between the mean value of the Diagnostic Scale for individual children and their results in the "Zak's Test". The existence of a connection between the ability to interpret allegory in proverbs and sayings and the development of theoretical thinking can once again be shown using correlation analysis (Fig. F).

Figure F: Correlation between "Zak's Test" Results and Average Skill Scale Value



There is, once again, a statistically significant correlation. In this case, $R=0.56$. According to the first of the aforementioned scales for interpretation of the coefficient, values between 0.30 and 0.70 indicate a moderate correlation, whereas according to the second scale, values between 0.50 and 0.70 suggest a strong correlation. The R-value sign once again shows that higher rankings in "Zak's Test" correspond to higher mean values on the Skill Scale and vice versa. In other words, there is a statistically significant connection between the ability to interpret allegory in proverbial phrases and the skills for theoretical thinking that, according to the correlation coefficient interpretation scales, can be defined as a **significant positive correlation**.

When analyzing the results, it is interesting to note that proverbs and sayings are not equally easy to interpret by children. In order to see if this can be proven statistically, we have formulated an additional statistical hypothesis: that proverbs and sayings are equally easy or difficult for children to assimilate, i.e. the mean Skill Scale value for the 13 proverbs is not significantly different from the mean value for the 7 sayings.

Table 5: Mean Skill Scale values for 13 proverbs and 7 sayings for all Experimental Groups.

Metaphorical sentences	Skill Scale mean values		Mean differences	Standard deviation of mean differences	Amount of interpretations (totals)	t	Significance level
	Ascertain stage	Control stage					
Proverbs	1.53	3.04	1.51	1.99	468	16.41	0.000
Sayings	1.89	3.60	1.72	2.02	1092	28.04	0.000
Averages (both)	1.78	3.43	1.65	2.01	1560	32.46	0.000
Statistical significance of the difference between sayings and proverbs						1.83	0.034

The change for both proverbs and sayings is statistically significant (see *Table 5*). At the same time, the change for proverbs is significantly

smaller than the change for sayings. This can be taken to mean two things: that sayings are harder for children to understand and assimilate, or that sayings are harder for children to assimilate verbally when spoken out of context. Since the latter is always true for this research method, and taking into account research into the relevant literature, it can be assumed that this is, in fact, the reason. In other words, this diagnostic procedure necessitates interpretation of metaphorical sentences spoken out of context and this, along with the differences between the two genres regarding their logical content and syntactic structure, means that a proverb has a better chance of being adequately interpreted by children than a saying, because the saying, by its very nature, is not a self-sufficient logical or syntactical whole.

Conclusions

By combining viewpoints from the areas of psychology, pre-school education, language tuition and literature theory, the psychological-pedagogical research project discussed in this publication has outlined the development of skills for the interpretation of the allegorical meaning of sayings and proverbs in children aged 5–7 years. A key moment in the skill development process was the adoption of Vygotsky's formulation of the differentiation between the concepts of *meaning* and *significance*, as well as the current psychological theory concerning the circumstantial nature of people's experiences.

The outlined psychological-pedagogical prerequisites for building the skills under research were sought in the development of the child's psyche in general, giving special attention to children's mostly visual comparison abilities, as well as early indications of abstract thinking in the ages under research.

While in the beginning we relied on the scientific literature in order to formulate the hypotheses, after completing this research project and receiving the experimental data analysis results, we can derive the following main **conclusions**:

1. This research project has proved the adequacy of the criteria and indicators used for it and hierarchically displayed in the *Diagnostic scale for interpretation skills of allegory in sayings and proverbs*. The natural development in the process of building the skills under research is the following: from not being able to understand even the literal meaning of the sentence, through the stage of understanding it, followed by an initially partial, eventually full, deduction of the metaphorical meaning, which is illustrated by giving an example of a particular situation to which it applies, or by formulating a general theoretical interpretation of the sentence's allegory.
2. The use of the uniqueness of each child's interpretation of the allegory as an additional criterion is necessitated by the need for observing and encouraging each child towards realization of the practical importance of pedagogical situations. The registration and research of those self-contained interpretations is valuable material which can assist not only the analysis of each child's thinking and speech processes, but also the detection of general tendencies in the mechanism of realization of the allegorical meaning.
3. By observing the process of pedagogical interaction and taking into account the results of this psychological-pedagogical experiment, the dynamic of building ability to interpret the allegorical meaning of sayings and proverbs in children aged 5–7 years was outlined. In relation to this, the process by which the child reaches an adequate interpretation of the allegory is divided into two main levels: moving, on one level, from the literal to the metaphorical meaning of the saying or proverb, while on the other level (that of the allegory), moving from the child's own personal *significance* of the allegory towards the commonly, socially-accepted *meaning* of the phrase. It is therefore apparent that the teacher has to *lead* the child in this process.
4. By taking into account the specifics of the saying's and proverb's genre, it was noted that a child with better-developed compari-

son skills exhibits better development of the *ability to interpret the allegorical meaning of sayings and proverbs*. Therefore, it is advisable to work towards developing children's comparison skills from the start of the pre-school period of their lives – in accordance with the typical way of thinking for that age.

5. The results of this psychological-pedagogical experiment have shown that, bearing in mind the image-based way of thinking which is characteristic for children aged 5–7 years, promoting visualization as a principal stage of the process of building skills for the interpretation of the allegorical meaning of sayings and proverbs allows for the transformation of those skills using basic forms of abstract thinking. In this aspect, it should be noted that restructuring the problem from a verbal form to a visual one facilitates the adequate interpretation of allegory. A pedagogical interaction process specifically aimed at developing the skills under research can be optimized by incorporating suitable visual material that illustrates allegory.
6. During the ascertaining stage of the experiment, the largest percentage of answers (43%) were those showing that the child does not understand the meaning of the proverb or saying, while during the control stage most of the answers (40%) displayed an adequate general-theoretical interpretation of allegory by the child. Therefore, when treating the problem of interpreting allegory in direct connection with the development of the child's cognitive structures, we can discern a predominant correlation between the development of *abstract thinking* and the development of *the ability to interpret the allegorical meaning of sayings and proverbs*, especially at the end of the pre-school period. The analysis of this two-way connection has confirmed the importance of the skills under research for pre-school age children, not only as an indication of language competence, but as an overall achievement in the child's cognitive development. Therefore, the importance of laying the foundation for development of the skills under research during the ages of 5–7 years is a result of all the

psychological-pedagogical basics acquired by the child during this period – especially the development of comparison skills and elementary abstract thinking.

7. Even though it is a rare occurrence, the adequate explanation of one proverbial phrase through the use of another (something more frequently seen during the control stage in comparison to the ascertaining stage) shows that, when interpreting certain sayings or proverbs, some children can reach the highest level of development of the skills under research, something closely related to those children exhibiting a level of language competence which allows the child not only to *rationalize* the metaphorical meaning of a saying or proverb, but also (and without any further prompt) to give an explanation of the allegory using a metaphorical sentence similar in meaning.
8. At the end of the pre-school period, the unique, self-contained interpretations of allegory have diminished in number by 1/3 and by the age of 9 years there are none. This confirms the necessity of using the originality and uniqueness found in children aged 5–7 years as a means of developing the skills under research. Originality can be found in children even before the age of 5, but in most cases the child's abstract thinking isn't developed enough to help the child *adequately understand or rationalize the meaning* of a saying or proverb. When children reach 8–9 years of age, they have a well-developed skill of abstract thinking, but their interpretations lack the originality and uniqueness present in earlier years. It is that uniqueness which, when properly directed by the teacher, can help the child "endure" the metaphorical mechanisms, so as to be able to adequately interpret them.
9. Regarding the differences between a saying and a proverb, sayings are considered harder to interpret by children, mostly because of their specific logical structure. Proverbs, being in most cases a *sentence of deduction*, are easier for children to rationalize, even when spoken out of context. On the other hand, sayings are *situational expressions* so understanding their metaphorical

meaning requires a deeper elaboration on the context, on more levels than just the verbal delivery.

10. As already stated, towards the end of the research period, the ability to interpret the allegorical meaning are ever more clearly correlated with the development of *abstract thinking*. Therefore, the proposed diagnostic skill scale could be used not only for evaluating children's levels of allegory interpretation, but also as a gauge for a more general cognitive development of the child.
11. While building the ability to interpret the allegorical meaning of sayings and proverbs, children also develop *the ability to adequately understand the metaphorical forms in both artistic and everyday speech*, not just in the folk genre under research.
12. The sensory experience, cognitive and behavioural strategies of 5–7 year-old children are an important basis for adequately interpreting allegory, but they can also be enhanced as a result of proper teacher intervention towards that goal. In other words, *building the ability to interpret allegory has a positive effect on the overall psychological development of children*.

The modern way of life has generated new educational ideas and new ways to implement them, sometimes for the better, other times for the worse. Understanding how to use our cultural inheritance as a starting point from which to spread our wings towards new horizons is a possible key to success. The current paper shows that we could use proverbs and sayings as guides for "teaching" children how to interpret allegory in everyday life. By combining traditional with modern elements, we can preserve our birthright while keeping pace with the dynamically changing world around us.