

Searching for Wisdom in Children's Dialogues: A Mixed Approach in Educational Practice

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ABSTRACT

The paper presents an analysis of diagnostic and exploratory the author's studies carried out in various Polish cities, whose main purpose was to identify and analyze specific manifestations of wisdom (with creativity as its strong predictor) in older preschool children. Such research and analysis of collected research material would only be possible using mixed methods. Integration of quantitative and qualitative analyses enabled the analysis of collected research materials to be more in-depth and broader. Likewise, when drawing wider conclusions, the use of this approach allowed to generalize results. Combination of quantitative and qualitative analysis of the research material also allowed to compare research results against a number of studies and concepts supporting child development, especially in cognitive sphere.

INTRODUCTION

Creativity as one of wisdom predictors

Wisdom is a discursive notion: it is understood as a complex and ambiguous characteristic and its descriptions involve various conditions revealing and developing it (e.g. Ardelt, 2003; Baltes & Staudyngier, 2000; Hall, 2010; Sternberg, 1990). Sternberg's (2003; Sternberg, Jarvin, & Grigorienko, 2009) WICS (Wisdom, Intelligence, and Creativity Synthesized) concept is the theory of wisdom that is closest to the assumptions supporting a child's development in a holistic way. Within this concept, wisdom integrates and oversees analytical, creative, and practical intelligence during positive activity. Moreover, according to Sternberg's research, wisdom is characterized by unique kinds of thinking that should be used during problem solving: (1.) Reflective thinking - This allows for development of specific strategies for actions to be taken, analysis and monitoring of their effec-

tiveness, and modification in order to find the best solutions that account for short- and long-term interests of both the individual and society. (2) Dialogical thinking - This allows for accounting various perspectives and points of view when acting. (3) Dialectical thinking - A requirement for integration and synthesis of two varied points of view (Sternberg et al. 2009, pp. 106-110).

Wisdom is one of the characteristics that guarantees proper use of intelligence and creativity when solving various problems, as it allows for accounting of both individual achievements and the common good, and then for their combination. In this understanding, wisdom is part of practical intelligence and its use results in effective implementation of socially useful ideas (Sternberg, 2003, 2005). Analytical intelligence is the basis for cognitive functioning, namely gathering and processing information. However, its functioning in isolation from other types of intelligence can lead to difficulties in using some knowledge in practice when solving various problems. Practical intelligence, which develops as first in practical learning from early childhood (Vygotsky, 1978), is also necessary when solving school, professional, and life problems, and in relations with others (Sternberg, 1996). However, creative intelligence is closely linked to personality development and growth; the emotional and motivational sphere (Maslow, 1954; Runco, 2005). It is based on abstract thinking, associations, deduction and induction, metaphorization, or transformation (see Houtz, 2003). Creativity also includes characteristics and abilities that form the basis of wise action and thinking, such as openness and sensitivity to identifying and solving problems, cognitive curiosity, and critical thinking, the ability and motivation to draw comparisons and make decisions, to seek solutions and improve upon them. Thus, it can lead an individual to school and life achievements (see Sternberg, 1996, 2018).

Contemporary psycho-pedagogical literature emphasizes developmental and educational significance of the creative process (e.g., Craft, 2002; Cropley, 2001; Runco, 2005), and reflection in constructive criticism (cf. Hamilton, 2005; Paul & Elder, 2005) forms the basis for thinking in a similar way about supporting wisdom (see more: Płóciennik, 2013).

OWN EMPIRICAL STUDY CONCEPT

The following question was asked in own study: Do preschool children exhibit features defined in the concepts of wisdom, such as those associated with creative, reflective, dialogical and dialectical thinking, the ability to evolve and evaluate ideas, show ingenuity in solving dilemmas and social problems, or self-reflection? What set of methods for data collection and analysis will allow for identification of the wisdom of children when solving open tasks?

Course of Studies

Studies of preschool children always have specific objectives, due to the psychophysical development of children at this age. They require openness and flexible attitude. Besides, the literature provides no indicators of children's wisdom, no tools for identifying and analyzing wisdom in children. Thus, in conducted diagnostic and exploratory studies the basic subjects of cognition and analysis were the manifestations of children's wisdom, identified during face-to-face interviews with children of senior pre-school age that had to solve open tasks. The interviews were based on verbal test tasks, supported by images.

Initially, it was assumed that the studies in question would be based on measuring manifestations of wisdom in the thinking of children of senior pre-school age while solving tasks (a quantitative approach). However, it was taken into consideration that they would require all kinds of descriptions, interpretations and explanations also in the context of the effect exerted by the environment in which the child develops (Flick, 2007). It was further considered that because of the developmental abilities of children, these studies, required the technique of pedagogical dialogue understood as personal intellectual and emotional contact between equal partners jointly attempting to solve problems (e.g., Guba, 1990; Lee & Wright, 2017; Wood, Bruner, & Ross, 1976;).

Because of the lack of descriptions of studies covering children conducted from the perspective of the Sternberg's WICS concept, it was assumed that it was possible to propose some working hypotheses and to formulate the basic theoretical model and indicators of wisdom when developing the research tool. Due to the lack of standardized research tools, in order to conduct the planned studies within the quantitative paradigm it was necessary to develop test tasks that would measure manifestations of wisdom in the thinking of children. This required elaboration of not only scoring for the purposes of statistical analyses, but also an approach resulting from the qualitative strategy that would need to consider the age of the study participants, adjusting the instructions and content of the tasks to the cognitive capabilities of the children, thinking through the selection of open tasks in terms of their purpose depending on the wisdom model adopted, and providing for the possibility of modifying the course of interviews with the children whenever they had problems with understanding the tasks or instructions. What was also taken into consideration was the fact that one cannot predict all the possible responses (and thus create a complete list of answers or indicators of wisdom in the thinking of children), determine full scoring for the children's answers in the case of open tasks, or determine the approximate number of interviews (tests) that would make it possible to saturate the data. Above all, the tasks required children to give advice on various situations in which

their peers participated and this triggered activity in the area the following abilities: ability to generalize; ability to connect causes and effects; ability to give reasons; ability to define characteristics; cognitive courage; dialogical thinking and empathy; dialectical thinking; self-reflection and the ability to assess oneself; ideational fluency; adaptational flexibility; originality; ability to make transformations; ability to use metaphors; ability to elaborate (Płóciennik, 2017).

ANALYSIS OF THE OBTAINED DATA

During the studies, research material was collected based on the responses of pre-school pupils to open tasks (divergent in nature), which required not only calculating the number of the children's ideas, but also their qualitative analysis. Thus, after the initial (quantitative) analysis of the research material collected, two methods drawn from the qualitative paradigm were used, namely the phenomenographic method (Marton & Booth, 1997; Richardson, 1999) and qualitative analysis of products. It was assumed that audio recordings and their transcripts should be used in the studies, which would allow for recognition and analysis of the way children specify, refine and modify their answers when providing ideas for solving open problems in prepared tasks. Statistical techniques offer no such opportunity.

Children's recorded and transcribed answers were analyzed for their proposals for different interpretations of dilemmas and resolutions to social situations. These were carried out using statistical methods, descriptive analyses of products, and phenomenography. As such, it was possible to recognize potential manifestations of wisdom in thought and action in children of senior pre-school age. This also helped identify the individual experiences of children in recognizing and naming wisdom. Such actions are also required by the teachers' analysis of the status of different skills and competencies of pupils, and of results of the didactic and educational influence. An approach of this type fosters obtaining nomothetic explanations (based on information and results in the form of numbers and demographic data) and idiographic explanations in the form of descriptions and interpretations.

Apart from open test tasks, the studies used the phenomenographic method in order to describe the plurality and diversity of the way the world and the same phenomena are experienced, understood, or perceived (Marton, 1997). These kinds of social studies allow for identification of diverse ways of perceiving environmental problems, and for constructing meanings and notions as a result of individual experiences in cultural conditions that differ for each individual. Still, the diversity of the image of these problems comes down to a relatively limited number of possibilities, which proves the collective character of individual representations resulting from the supra-individual system of the forms of thinking.

It can therefore be concluded that these studies were conducted and summarized using a flexible research approach and mixed data analysis methods: open tasks, flexible research conditions, comparison of data from different sources (369 pre-school pupils from different cities and kindergartens), and analysis of the research material collected using different methods (Figure 1).

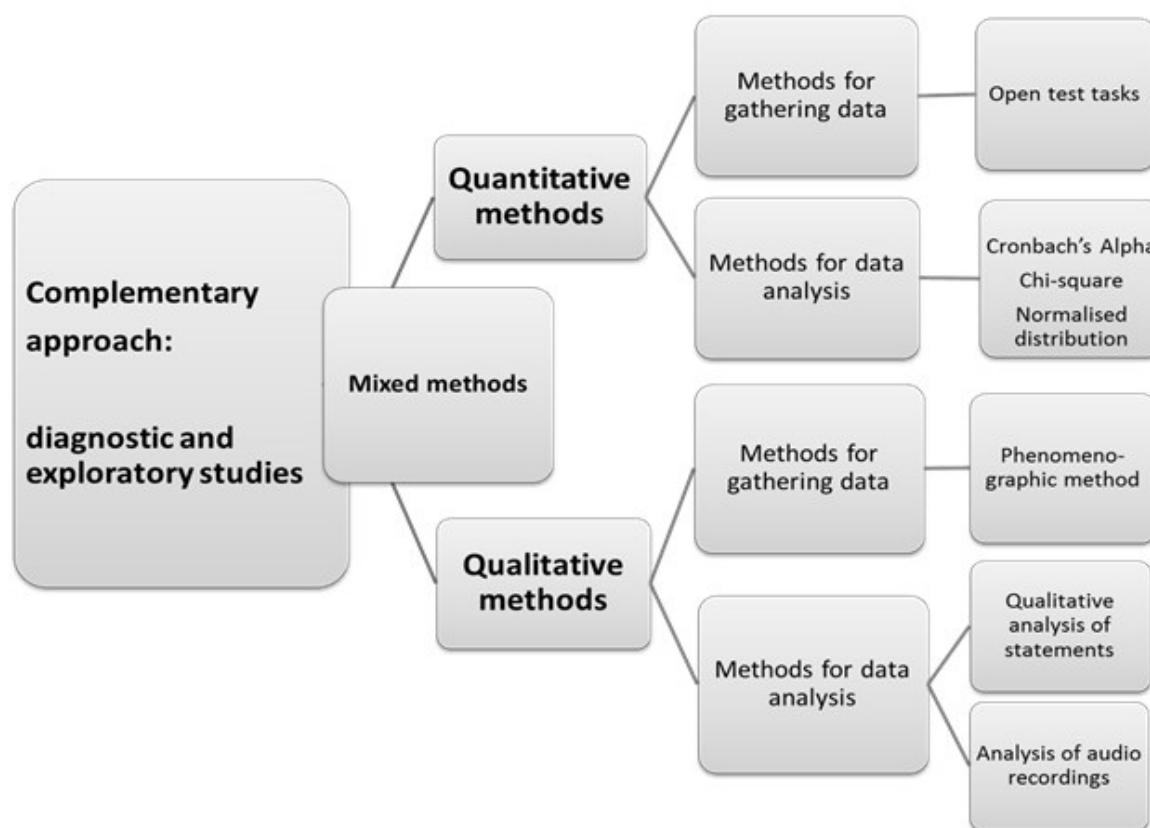


Figure 1. A simplified model of our studies

Such a research approach has characteristics of a worldview referred to in the literature as pragmatic, concurrently involving a triangular strategy (Creswell & Plano Clark, 2007) and mixed-methods research (Creswell, 2009; Johnson & Onwuegbuzie, 2004). It allows for quantitative data to be obtained and analyzed, and descriptions of individual cases that can be supplemented for uniform interpretation of the whole.

RESULTS

Manifestations of Wisdom in Children

In our own studies, we saw that the majority of participating children were successful in completing tasks that assessed and evaluated the behavior of characters presented in educational situations; they were able to give advice in order to improve or change the behavior of the characters presented to them (at the same time referring to universal norms and values), propose changes in the behavior of the characters, evaluate the use-

fulness of their own ideas, and enter into self-reflection. Thus, the tasks prepared were not too difficult for most of the preschoolers; however, they did diversify their aptitudes in the theoretical model of wisdom thus developed.

An example of statistical analysis used for the description of obtained data is analysis of the demographic data in terms of similarities and differences between preschoolers from different cities and kindergartens (in terms of their age and gender), environmental conditions (education and age of the parents), as well as data significant from the point of view of the influence of the kindergarten environment (age, professional experience and advancement level of teachers). These analyses were conducted to verify the research tool so as to analyze the equivalence of study groups and conditions. In order to verify the concordance between groups in terms of gender and age, a chi-square test was used, which demonstrated a similar ratio of boys to girls [$\chi^2(2) = 1,38$; $p = .502$]. On the other hand, in the case of the children's age, the chi-square test demonstrated that in City 3 there were significantly more children below 5 years of age, in City 2 there were significantly more children aged 5-6 years, and in City1 there were significantly more children over 6 years of age than in the other cities [$\chi^2(6) = 31.79$; $p < .001$], which might have been of significance for interpreting study results when comparing the number and quality of the manifestations of wisdom in children from different cities.

The chi-square test also showed that these groups did not differ in terms of age [$\chi^2(5) = 1.79$; $p > .01$] or education [$\chi^2(7) = 8.67$; $p < .05$] of the parents of preschoolers participating in the studies. It further showed that groups of pre-school teachers taking part in the studies did not differ significantly in terms of their age [$\chi^2(5) = .27$; $p > .05$], professional advancement level [$\chi^2(7)=4.67$; $p>0.05$], or professional experience [$\chi^2(5) = 1.20$; $p > .05$]. The analyses presented above show that individual and group differences between the results of the test studies covering children lie only in their age, differences in manifestations and interpretations of their wisdom when solving test tasks, and their previous experience in this respect.

Statistical analyses were also used when analyzing distribution of the results in the area of average and standard deviation, leading to the indication of the Gauss distribution function and verification of the research tool using Cronbach's Alpha. Analysis of all test results showed that the distribution was close to normal (slightly rightward skewed). On the other hand, Cronbach's test indicated that satisfying measurement cohesion was achieved within individual tasks in all groups. As such, it can be stated that the proposed tasks are reliable and adjusted to the capabilities of participating children, who came from different environments in the three different areas in which the studies were conducted (Płóciennik, 2017).

Statistical analyses were also useful when identifying concentration of a specific manifestation of wisdom in children. One example of this is the analysis of the way participating children used negation (in answers about heroes changing negative behavior in the given task-related situations to positive behavior) in the form of the Polish ‘not’ particle (e.g., *not carry a crayon in your mouth; not run; not put the rope around your neck; not put so much in your mouth; not turn the gas on* etc.). Such a message shows how they should not, or must not, behave. However, when the answer is positive (does not contain negation), it expresses and confirms an expectation and an imperative, thus showing the possible, proper or expected action. Quantitative analysis of the issue can be found in Table 1.

Table 1

Ideas for changing the behavior of heroes with analysis of the use of prohibitive and imperative forms by the children

Categories of ideas	Data from City 1	Data from City 2	Data from City 3	In total	% of answers
Ideas for changing the behavior	142	147	79	368	50%
Transformation – imperative form	97	123	62	282	38.3%
Negation with the ‘not’ particle – prohibition	45	24	17	86	11.7%
In total (number of answers)	284	294	158	736	100%

However, after the quantitative analysis, it was necessary to present example ideas of children in the imperative form, showing proper behavior and instructions on how to act correctly (e.g., *Watch out, watch their step when they’re running; Play cowboys in a different way; pretend they are horses; use something else as horses; play with horses made of thick sticks; Go to the country and ride real horses; Swallow one thing first, then another; Lean over the table; Ask someone to feed her*).

Combination of these two analyses leads to the conclusion that most preschoolers are able to formulate such advice and that the children’s potential in this respect is not always developed by their environment equally effectively (generalization based on the statistical analysis). This also makes it possible to describe this potential in qualitative terms and to refer it to contemporary psycho-pedagogical theories, such as the previously described children’s developmental abilities in explaining and interpreting the surrounding world (see Bruner, 1983).

Other qualitative analyses were made of the number of the children's answers indicating specific categories of the way they understood the notion of 'wise behavior' and their ability to come up with an analogy/metaphor for the notion of 'a wise man.' However, these analyses were always supplemented with methods of qualitative analysis of the children's products in the form of their statements and generated ideas. Analyses of the research material clearly showed that children at this age are able to offer advice, ideas for solving problems, comparisons and transformations, and that their ideas differ. For example, some children (those who attempted to provide an answer to this task, i.e., 31.71% of all children) gave answers inconsistent with the instructions: instead of creating a metaphor, they described a wise person giving some characteristics (e.g., *Singular they can read a lot, they know how to read; Because they behave well, they don't take toys away from others, and don't yell; They don't tease others, steal or show anger*).

Children were able to abstract the characteristics of different object classes and combine them through analogies with characteristics of a wise person: adults, peers, animals, religious objects or figures, or fantasy characters. Here are example analogies provided by the preschoolers: A wise person is like... *a scientist, because they read a lot and know a lot; a computer, because it's almost never wrong; a rabbit, because it never wants too much*. Some of the children were also able to provide metaphors connecting very distant notions, in order to find analogies, for instance: A wise person is like... *the world because they are nice and are not a stranger; ...a message because they can tell the truth like a message; ...a cheetah because it's fast and the person in their thoughts, and they write... and devour... they are a devourer of books, for example*.

In the studies conducted, the phenomenographic analysis was very significant for drawing conclusions about the manifestations of wisdom in children. Using this method, repeated categories of the manifestations of wisdom and the definition of wisdom as it was perceived by the children were identified. Analysis of the material collected was made not only the way the children understood and evaluated the behavior of heroes presented in pictures, understood and interpreted problems and behavior of heroes of task-related situations, or interpreted the notion of wisdom, but also the manifestations of wisdom in children when solving tasks. Such analysis is only possible using a description and explanation of the acts of thinking and their results, also in the area of previous experience and tacit knowledge. In such a case, the phenomenographic method allowed, on the one hand, the unique characteristics of individuals to be determined, and on the other, what was typical of the entire group of children taking part in the study to be established. It was thus possible to identify certain patterns in verbal statements and the task-

related activity of the children, as well as some recurring ideas, meanings, interpretations and definitions. Within such an approach, the analysis covered more than one case; it was a cross-sectional analysis of many cases or a cross-sectional analysis after presentation of individual cases (see Yin, 2003).

The example, analysis of manifestations of wisdom exhibited by children taking part in the study while performing task-related activities (Table 2) shows indicators that might lead to a definition of wisdom in children of senior pre-school age. Based on those, it can be concluded that these children have an aptitude for thinking and behaving in a wise manner in the context of the adopted theoretical model of wisdom (based on Sternberg's WICS concept, referred to previously).

Table 2

Fragment of analysis of an audio recording of statements given by one of the study participants, with classification of the manifestations of wisdom in children

Child's statement	Manifestation of wisdom in thinking	Category
C1/89MS17a		
Ch: <i>Mmm...</i> (pondering: EP) <i>very difficult.</i>	Pondering and making decisions Recognizing one's own preferences The sense that one's own activity is effective Openness and courage in undertaking new tasks Internal motivation for acting	Analytical and reflective thinking Self-awareness Transgressive behaviour Management of one's own behaviour
Ch: (a moment of silence: EP) Ch: <i>Improper.</i> Ch: <i>Because the girl destroyed what the boy built.</i>	Pondering and analyzing conditions Identifying cause-and-effect relationships Explaining relationships and rules Evaluation and justification Analyzing the situation in order to identify the main problem Ability to adopt the perspective of others	Analytical and reflective thinking Making responsible decisions
Ch: (advice: EP) <i>Take a ladder and climb it to take it down.</i> Ch: <i>For example, take a stick and throw it at it.</i> Ch: <i>And they could ask someone older for help.</i>	Analyzing conditions Using tacit knowledge Providing advice Openness to ambiguity Coming up with a few alternative solutions	Social awareness Analytical and reflective thinking Practical action Dialogical and divergent thinking
Ch: (advice for a girl: EP) <i>So that she mixes doughnuts with the apple, creating one mass, and eats it.</i>	Pondering and analyzing conditions Explaining relationships and rules Creating a synthesis Providing advice Formulating instructions	Analytical and reflective thinking Dialectical thinking Practical action
.....		

Many of the example answers provided, are based on dialogical, dialectical, reflective, and creative thinking. Also, several manifestations of social and emotional competencies were identified in the children's statements, which are parts of practical intelligence, and are thus closely connected with wisdom and maturing to it: self-awareness, social awareness, management of one's own behavior, making responsible decisions when solving task-related problems, and self-reflection (see Nelson, 2007). Some of the children taking part in the study used interrogative thinking when considering social situations, trying to specify the conditions of the task by asking questions. They are also able to consider its value: their knowledge covers all aspects of wisdom listed in academic definitions.

Creativity and Wisdom Features in the Study Results

Statements of preschoolers were sources of information about their understanding and interpretation of the task situations and the behavior of characters in these situations, and about providing advice on their behavior. The tasks also facilitated identification of tacit knowledge, meanings assigned to task content, and the essence and content of the children's mental processes (Vygotsky, 1986; Wood, 1998; Wood, Bruner, & Ross, 1976). Children's statements thus became the means leading the study participants to metacognitive reflection (see Dewey, 1993). Characteristics of a wise person and descriptions of proper behavior allowed to name, specify, and elaborate on certain meanings. The statements with regard to tasks based on evaluation and interpretation of social situations, which the children were not previously familiar with, also revealed the children's self-control. At the same time, this allowed them to confront their knowledge with the conditions of the task, and the content of the pictures. Tasks of this type fostered development of personal knowledge and its deepening, modification and ordering, at the same time forming the basis for metacognition (see Fisher, 1998; Tarricone, 2011). Manifestations of metacognition in the children taking part in the study were also proved by the control they revealed over the effects of their thinking, their ability to get to know themselves, and awareness of their own knowledge. All these capabilities are components of wise thinking and acting.

Therefore, it is necessary to develop wisdom from the early years, to require arranging relevant student activities in order to make them solve problems together with their classmates, encourage them to ask questions and seek answers that require reasoning and heuristic analysis of problematic situations, to think and act on the basis of observation, and to participate in activities and make contact with their group, or other people. But Teaching for Wisdom is also part of the conditions for developing various personal traits. This is why teachers should arrange exercises for students based on reflection upon events, activities and emerging ideas. This should be done as part of critical thinking

about available information and information found by them, preliminary data analysis, generation of alternative, axiologically justified ways of acting, and by identifying and rejecting what is useless, worthless, inadequate, or undesirable. In the didactic process of promoting the development of wisdom, it is also advisable to draw on the methods for creative problem solving (such as seeking alternatives, possibilities, making choices, underlining disadvantages, advantages, and questions). Such teaching activity can help develop thinking, openness to ambiguity, and abilities to cope with various problems in children. It can prepare them to seek out and produce alternative solutions. It allows the teacher to teach children how to engage in dialogue efficiently (using argumentation and asking explanatory questions) and to respect other opinions.

The children carried out tasks requiring analysis, assessment and evaluation of different behaviors, situations and perspectives; they were also able to point out cause-and-effect relationships when describing the behavior of heroes of the tasks and anticipating possible consequences of their behavior (e.g., *She will have a tummy-ache if she eats something hot; The washing tin fell down because the child is playing with the washing machine; He could fall down because he's standing on tiptoe, leaning over; He could suffocate when a crayon gets stuck in his throat*). These statements show that the children are able not only to predict consequence of negative behavior, but also to consider in their descriptions the knowledge of safety rules and probable emotions of characters in the task situations, which proves their ability to demonstrate empathy.

These interpretations were supported with examples of characteristic skills, competencies and features recurring in the answers of different children, which were identified as part of the wisdom and creativity theory. This confirmed the potential of children of senior pre-school age to think and behave wisely in the context of Sternberg's concept. However, in the context of this paper, conclusions about the complementary approach adopted in the study are also of importance.

CONCLUSIONS

'Wise' activity occurs in discovery; namely, in learning about and having terms describing values explained (example through naming values, explaining examples of human behavior, talking and thinking about values when dealing with other people and their works).

It is possible and also necessary to use appropriate exercises that allow children to analyze wisdom; for instance, expressing their opinions, judgements and assessments, interpreting problems in their environment and finding different solutions, attempting to analyze negative events they have seen, determining the behavior of people they have met, producing ideas for positive activities for analyzed problems, as well as finding alter-

native solutions. Many of these features also apply to creative activity.

The use of exercises for children to design a process for including in the life of an individual, and a peer group, wise, valuable behavior, such as planning aid for a friend who needs it will also be beneficial for development of their wisdom (e.g. *What are they supposed to do? What would you advise them? What can be the effects of this behavior? How else can one's behave?* etc.).

Combination of quantitative and qualitative analyses showed that the tasks used were not too difficult for most children participating in the study. Some difficulties appeared only in the case of tasks requiring metaphorical thinking and transformation of ideas - they diversified the results of the study to a greater extent.

The prepared set of open tasks activating thinking facilitated identification of not only more intense skills of children within different types of intelligence, but also analysis of the diversification of competencies and skills in the model of wisdom based on Sternberg's concept.

Statistical methods allowed to identify the initial model of the studied phenomenon and to verify the test that the children had to perform. They also showed frequency of occurrence of the studied phenomenon in the test sample. In turn, the qualitative approach (especially the phenomenographic method), allowed for the description and interpretation of children's statements in the context of various theories.

Integration of quantitative and qualitative analyses made it possible to analyze the research material gathered in a more in-depth and broader way, and to draw broader conclusions. This approach made it possible to generalize the results.

Quantitative results gave a normal - similar to a representative distribution. Therefore, it was considered that the obtained data may be subject to further statistical and qualitative analyses.

Wisdom has not been the subject of recent academic discussions as often as it used to be in previous centuries. However, scholarly interest in it is constantly growing (see e.g., Glück et al., 2013). It can be seen increasingly often that wisdom is identified as a characteristic that can be identified and developed from childhood (Craft, Gardner, & Claxton, 2008; Meacham, 1990; Płóciennik, 2018). However, appropriate diagnostic methods are necessary. Searching and verifying them should also be a task in both quantitative and qualitative research.

REFERENCES

- Ardelt, M. (2003). Empirical assessment of a three-dimensional wisdom scale. *Research on Aging*, 25(3), 275-324. doi: 10.1177/0164027503025003004.
- Baltes, P.B., & Staudyngier, U. (2000). Wisdom: a metaheuristic (pragmatic) to orchestrate mind and virtue towards excellence. *American Psychologist*, 55, 122-136. doi: 10.1037/0003-066X.55.1.122 PMID:11392856.
- Bruner, J.S. (1983). *Child's talk: learning to use language*. Oxford: Oxford University Press.
- Craft, A. (2002). *Creativity and early years education. A lifewide foundation*. London - New York: Continuum International Publishing Group.
- Craft, A., Gardner, H., & Claxton, G. (2008). *Creativity, wisdom, and trusteeship. Exploring the role of education*. Thousand Oaks, C.A.: Corwin Press, A Sage Company.
- Creswell, J.W., & Plano Clark, V.L. (2007). *Designing and conducting mixed methods research*. Thousand Oaks, C.A.: Sage Publications Inc.
- Creswell, J.W. (2009), *Research design: qualitative, quantitative and mixed methods approaches*. Third Ed. Thousand Oaks, C.A.: Sage Publications Inc.
- Cropley, A.J. (2001). *Creativity in education and learning. A guide for teachers and educators*. London, England: Kogan Page.
- Dewey, J. (1993). *How we think: A restatement of the relation of reflective thinking to the educative process*. Boston: Houghton Mifflin Company.
- Fisher, R. (1998). Thinking about thinking: developing metacognition in children. *Journal Early Child Development and Care*, 141, 1-15. doi: 10.1080/0300443981410101.
- Flick, U. (Ed.). (2007). *The Sage qualitative research kit*. London: Sage Publications Inc.
- Glück, J., König, S., Naschenweng, K., Redzanowski, U., Dorner, L., Straßer, I., & Wiedermann, W. (2013). How to measure wisdom: content, reliability, and validity of five measures. *Frontiers in Psychology*, 4, 405. doi: 10.3389/fpsyg.2013.00405.
- Guba, E.G. (1990). The alternative paradigm dialog. In E.G. Guba (Ed.), *The paradigm dialog* (pp. 17-27). Newbury Park, C.A.: Sage Publications Inc.
- Hall, S. (2010). *Wisdom: From Philosophy to Neuroscience*. New York: Vintage Books Inc.
- Hamilton, S.J. (2005). Development in reflective thinking. Retrieved from https://www.reap.ac.uk/reap/reap07/Portals/2/CSL/keynotes/trudy%20banta/Development_in_Reflective_Thinking.pdf Accessed 20 June 2016.
- Howe, K.R. (1988). Against the quantitative-qualitative incompatibility thesis, or, Dogmas die hard. *Educational Researcher*, 17, 10-16. doi: 10.3102/0013189X017008010
- Houtz, J.C. (Ed.). (2003). *The educational psychology of creativity*. Cresskill, N.Y.: Hampton Press.

- Johnson, R.B., & Onwuegbuzie, A.J. (2004), Mixed methods research: a research paradigm whose time has come. *Educational Researcher*, 33/7, 14-26. doi: 10.3102/0013189X033007014
- Lee, W.Y., & Wright, S. (2017). Interlocutor-child interactions: Supporting children's creativity in graphic-narrative-embodied play. *Australasian Journal of Early Childhood*, 42 (3), 73 - 81. doi: 10.23965/ajec.42.3.09
- Maslow, A. (1954). *Motivation and personality*. New York: Harper and Row Publishers Inc.
- Marton, F., & Booth, S. (1997). *Learning and awareness*. New York: Erlbaum Associates.
- Meacham, J. (1990). The loss of wisdom. In R.J. Sternberg (Ed.), *Wisdom, its nature, origins, and development* (pp.181-211). New York: Cambridge University Press.
- Nelson, K. (2007). *Young minds in social worlds: Experience, meaning, and memory*, Cambridge: Harvard University Press.
- Paul, R., & Elder, L. (2005). *Critical thinking competency standards. Standards, principles, performance indicators, and outcomes with a critical thinking master rubric. A guide for educators*. Tomales, C.A.: Foundation for Critical Thinking.
- Płóciennik, E. (2013). Teaching for wisdom in modern early education. *Journal of Pre-school and Elementary School Education*, 4, 27-48; <http://cejsh.icm.edu.pl/cejsh/element/bwmeta1.element.desklight-ea4a1a61-115a-4236-bbe9-b7a3b4c6ec8d?q=bwmeta1.element.desklight-82d07083-1c85-4519-88ea-e32cfaa874c7;1&q=CHILDREN-STATELESS>
- Płóciennik, E. (2017). Divergent Tasks in the Diagnosis of Wisdom in Older Preschool Children. *The New Educational Review*, 47, 279-291. doi: 10.15804/tner.2017.47.1.22
- Płóciennik, E. (2018). Children's creativity as a manifestation and predictor of their wisdom. *Thinking Skills and Creativity*, 28, 14-20. doi: 10.1016/j.tsc.2018.02.009
- Richardson, J.T.E. (1999). The Concepts and Methods of Phenomenographic Research. *Review of Educational Research*, 69(1), 53-82.
- Runco, M.A. (2005). Creative giftedness. In R.J. Sternberg, J.E. Davidson (Eds.), *Conceptions of giftedness* (pp. 295-311). New York: Cambridge University Press.
- Sternberg, R.J. (Ed.). (1990). *Wisdom: Its nature, origins, and development*. New York: Cambridge University Press.
- Sternberg, R.J. (1996). *Successful intelligence: How practical and creative intelligence determine success in life*. New York: Simon & Schuster.
- Sternberg, R.J. (2003). *Wisdom, intelligence, and creativity synthesized*. New York: Cambridge University Press.

- Sternberg, R.J. (2005). The WICS Model of Giftedness. In: R.J. Sternberg, J. E. Davidson (Eds.), *Conceptions of giftedness* (pp. 327-340). New York: Cambridge University Press.
- Sternberg, R.J. (2018). Yes, Creativity Can Predict Academic Success! *Creativity. Theories - Research - Applications*, 2 (5), 142-14. doi: 10.1515/ctra-2018-0010
- Sternberg, R.J., Jarvin, L., & Grigorienco, E.L. (2009). *Teaching for wisdom, intelligence, creativity, and success*. Thousand Oaks, C.A.: Corwin A SAGE Company.
- Tarricone P. (2011). *The taxonomy of metacognition*. Hove: Psychology Press.
- Vygotsky, L.S. (1978). *Mind and society: The development of higher mental processes*. Cambridge: Harvard University Press.
- Vygotsky, L.S. (1986). *Thought and language*. Massachusetts: MIT Press.
- Wood, D. (2003). *How children think and learn*. Oxford, England: Blackwell Publishing.
- Wood, D.J., Bruner, J.S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychiatry and Psychology*, 17(2), 89-100. doi: 10.1111/j.1469-7610.1976.tb00381.x.
- Yin, R.K. (2003). *Case study research: Design and methods (2nd ed.)*. Thousand Oaks, C.A.: Sage Publications Inc.

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