

<http://dx.doi.org/10.16926/pe.2022.15.15>

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**Kontakt:** [m.piasecka@ujd.edu.pl](mailto:m.piasecka@ujd.edu.pl)**Jak cytować [how to cite]:** Piasecka, M. (2022). The Phenomenon of Imagination in Contemporary Education. Competence Essential for the Development of Children Supported by the Creative Visualisation Technique. *Podstawy Edukacji. Na jakie ważne dziś pytania szukamy odpowiedzi?*, 15, 217–237.

## The Phenomenon of Imagination in Contemporary Education. Competence Essential for the Development of Children Supported by the Creative Visualisation Technique

### Abstract

The rapidly changing world forces the necessary changes in education consisting of the development of teaching strategies that prepare the student for unpredictable, non-standard, and fluid situations. The author discusses the problem of supporting competence essential for the development of school-age children and their functioning in such a world. The article may be of interest to early school education teachers, but not only. The strategy of education using imagination, which covers the method of designing educational opportunities, refers in the conducted research to competence triad, i.e. independence-innovativeness-cooperativeness. To support the said competence, the author constructed a technique of creative visualisation and developed an educational programme for two parallel groups based on the method of designing educational opportunities, and in one of the groups, an innovative factor in the form of creative visualisation techniques was implemented. In the research, the qualitative and quantitative style was used implementing participant observation, humanistic interpretation (works of art and statements) and tests for creative thinking (drawing and verbal). The qualitative analysis consisted of description and interpretation concerning the analysed set of competence with the use of their manifestation. The quantitative analysis aimed at answering the question about a significant increase in competence required the use of a method based on the t-Student test. The results of the qualitative and quantitative analyses showed the beneficial impact of creative visualisation in the area of the competence in question.

**Keywords:** imagination, education, competence development, independence, innovativeness, cooperativeness, child.

## Introduction to topic

Modern world is becoming more and more complicated, chaotic, unpredictable, even life-threatening. Progressive alienation of people and the feeling of loneliness in the crowd leads to a lack of responsibility for actions that are often schematic, stereotypical, externally controlled, forced by things, situational systems, and driven by clocks (Bauman, 2006). Living in such a huge semiotic density and entanglement, a person often feels lost and helpless. Meanwhile, new civilisation expects them to assume the role of a Homo Creator, which requires creative and reflective activities favouring the happiness of individuals and entire societies. New civilisation expects a person to slow down, to take time to act and not to act which is so necessary to calm down, to focus life energy on regeneration of physical and spiritual potentials (Bronowski, 1988).

Considerable redirection of values that leads to creative, innovative behaviours tailored to the modern world must take the following directions, amongst others: from closing down into openness, from necessity to potentiality, from production to experiencing, from determined purpose to intentionality, from adaptation to creation, from learning what is to design to what can be (Jungk, 1981). The author believes that such a change can occur first individually in ourselves, and only later on the social level. Thus, education has to face a great and responsible task.

If we point out the directions of openness, intentionality, potentiality, creativity for education, we return to the source. The return to the source is understood as a reversal of the direction of thoughts from bringing heaven to earth to lifting earth to heaven, that is, enchanting the world again using imagination (Weber, 2011). Imagination, discovering more and more subtle levels of a human mind, allows us to build more and more subtle, possible worlds that exist parallel to the real one.

That is why, the “open universe” (Popper, 1996, p. 25), entangled in the relationship of the “three worlds” (Popper, 1997, p. 20) is favoured throughout this piece of work. What are these worlds? The first one is the physical world, the second one is the world of all conscious experiences but probably unconscious ones as well, and finally, the third world is the world of objective products of a human mind (Popper, p. 21). And what is the relationship between them? K. Popper claims that we cannot understand the second world, which is the world inhabited by our mental states, if we do not understand that its main function is to produce the objects of the third world and to be influenced by them. The second world interacts not only with the first world, as Descartes thought, but also with the third world. Objects of the third world can interact with the first world only through the second world, which acts as an intermediary link (Popper, 1998, p. 17).

So, is the imaginary reality that is somehow experienced, which consumes our consciousness, mind, and heart in such a way that it is lived through, experienced, and inhabited by us sufficient to assure its existence? The answer to this intriguing question is that “shaping reality is our work” (Popper, 1997, p. 43). Therefore, it is our consciousness, imaginations, dreams, desires, thus we, with our enormous imagination potential, that are its creators. An interesting but controversial thesis is presented by G. Bachelard. He recognises (as a result of the constant struggle of his thoughts with feelings, scientism, and intuitionism) the possibility of human existence in any imaginable reality (Bachelard, 1998).

The issue that this article discusses is creating the reality of imagination as desired by man and whole societies. Even if imagining is the assumption of an unreal world, the reality of imagination would be the realisation of unreality.

In the modern, endangered world, a man truly needs the imagination to acquire competence of creating a better future and of thinking about their own future in connection with the fate of other people and the surrounding reality. This article focuses on the reality of children's imagination and educational ways of building possible better worlds on the way to their independence, innovativeness, and cooperativeness. However, the stimulation of the said competence in school-age children is certainly only a stage for their further growth into adulthood and affects lifelong learning.

## **Theoretical bases of studies**

The theoretical foundations of the studies undertaken are complex and multifaceted. Frameworks of conceptualisation cover all the areas that were the necessary foundation for the development of (and then carrying it out and reviewing) the original educational programme entitled “Home Among the Four Elements”. The starting point for my considerations on the phenomenon of imagination in education is an attempt to establish what it truly is. Analysing the meanders of many theories, anthropological, psychological, and pedagogical features that refer to imagination can be found. Then, the focus is placed on the strategy of educating with the use of imagination, on the description of the method of designing educational opportunities, and on a short description of creative visualisation as a technique used to stimulate imagination.

At the very beginning of considerations, the opinion of G. Bachelard must be presented. One can feel that throughout his work, G. Bachelard affirmed imagination, stating that it is the basis for both his scientific and poetic work (Bachelard, 1975). This is confirmed by Irena Wojnar, who pointed out the fact that the idea of creative imagination crystallised and verified in scientific activity is a common bridge for Bachelard’s considerations on science and art (Wojnar,

1966, p. 268). While defining Bachelard as a radical anti-realist, it should be emphasised that for him nothing is given directly, and everything is a construction of the mind (G. Bachelard, 1998, p. 265). His way of thinking is consistent in this area with K. Popper, who was mentioned in the introduction (who wrote parallel to Bachelard). Therefore, Bachelard's epistemology is the philosophy of creative consciousness. It is a great hymn to freedom of creation, intellectual and artistic freedom (Wojnar, 1966, p. 235).

G. Bachelard was not afraid of metaphors and was not afraid of romanticism in science. This statement is the starting point for further detailing of imagination and tracing its basic paths, namely symbolisation and metaphorisation. Imagination draws from the anthropology of the phantasm. Its character is of a scenario played out in imagination combined with craving, and desire, it is a kind of "peculiar theatre of the soul" (Janion, 1991, p. 141). M. Janion underlines that the first liberation of imagination was Romanticism (Janion, 1991, p. 8). Undermining the classicist dogmatism, he made imagination to cease to be an iconoclastic, cursed "mistress of errors and falsehood" (Durand, 1986, p. 33), but it became the power of creation, "an intermediary between thought and being" (Janion, 1991, p. 8).

Pointing out symbolisation as one of the paths followed by imagination, the spiritual understanding of the symbol is assumed in the article. In this regard, the reference is made to psychoanalytical concept of C.G Jung and to the world of brought-to-life archetypes that develop and take different forms of image symbols thanks to the work of the unconscious mind (Jung, 1976, 1995; Olchanowski, 2013). Imagination is the power to create mental images for Jung, images which are not a random set of ideas, but a natural attempt of internal expression of the deepest layers of soul (Prokopiuk, 2008, p. 117). M. Eliade underlines that "the timeless, ahistorical part of a human being called imagination is full of symbolism, being still fed by myths and archaic theologies" (Eliade, 2022, p. 119).

P. Ricoeur (1985) writing about the so-called semantic role of imagination, uses the expression "rhetorical figure" to describe the metaphor. This expression implies that utterance takes on corporeal form in metaphor, showing forms and features. By giving the message a kind of shape, metaphors make the utterance visible in the form of an image. The plasticity of successful metaphors depends on the ability to "make sense for the eyes" (Ricoeur, 1984, p. 275). A stream of images appears, shown through sense, meanings of words create images that recreate and refresh sense experience. Ricoeur emphasises the important role of the so-called *epoché* (suspension), which is the work of imagination and can project new possibilities to create visions. It is due to giving figures to metaphorical expressions that we act on imagination, which is capable of creating images, "creating not beyond differences, as in the concept, but despite and through differences" (Ricoeur, p. 281).

When educational strategy related to using the phenomenon of imagination is pointed out, the emphasis is made that it requires alternatives (Łukaszewicz, 2002, 2005). In addition to intellectual cognition, it inspires cognition through intuition, art, and creativity. The concept of education with imagination by R. Łukaszewicz (to which reference is made) presents a different approach to education, which is in line with the post-modern understanding of a dialogue between man and nature (Łukaszewicz, 1994). The overriding theme of this dialogue is the dynamic and creative relationship between the radical change of the world image and the state of the human condition (Łukaszewicz, 1997). This dialogue is also the creation of an image of an open world in which matter is active, the imbalance is the source of order, the concept of time and creativity is built into everything, and randomness and instability bring diversity (Łukaszewicz, 2000). Education with imagination is a creative transgression, which means that a person knows/learns to transform vision into the orders of the possible and/or desired world (Łukaszewicz, 2010). This further means that its deepest meanings refer, on the one hand, to creative imagination as an internal wealth, consisting in using the continuous stream of images, symbols, and metaphors of the human family, and on the other hand, to the evolutionary processes of self-transcendence. A practical answer to the question about the sense of such education is the method of designing educational opportunities. It requires considering the following elements, which constitute a constant triad: **Initial conditions – open and/or closed tasks – choices**. Two elements, in particular, require clarification. The initial conditions concerning an interesting and inspiringly arranged initial moment of a meeting. Choices mainly concern preferences for the system of ideas and values, thanks to which we can distinguish and choose those from the range of future possibilities that we consider desirable for us (Łukaszewicz, 2019).

In the article, the technique of creative visualisation, which was used in the developed educational programme, will be discussed briefly. Creative visualisation supports the process of creating a desired vision in the mind, which then updates itself in action in the form of cultural phenomena. Its causative power lies in the fact that it allows us to fulfil our dreams and desires with passion thanks to our imagination. A significant and important from the point of view of the very structure of an educational programme using creative visualisation technique is Allan Paivio's theory of double coding (Muszyńska, 1999, 2013). Double coding is made possible thanks to the relationship between the two systems, whilst reproduction of the image is more disrupted by visual activity than by listening or speaking words. Therefore, the developed technique of creative visualisation uses storytelling while relaxing. Visualisation when one is relaxed (with eyes closed) prevents visual perception. From this point of view, it is the

state of consciousness of mind that is most favourable for revealing the stream of images, and therefore the imagination.

## **The subject, goals, and research problems**

The subject of the research were specific determinants of a child's development, i.e. such abilities that enable the child to increase its competence in terms of independence, innovativeness, and cooperativeness (IIC).

Being independent is understood here as the ability to self-control and control over the states of the environment, a sense of agency, perseverance, and resistance to obstacles.

Being innovative is understood here as the ability to develop imagination, the ability to anticipate events, the ability to create possible, desired, and ideal states.

Being cooperative is understood here as the ability to achieve goals beyond personal ones, the ability to understand emphatically, the ability to cooperate.

The main goal of the research was to determine whether the use of creative visualisation as an “innovative factor” introduced to the initial conditions in the method of designing educational opportunities based on the original programme entitled “Home Among the Four Elements” is essential in maximising the development of 8-year-old children.

Implementation of the goal formulated this was to be achieved by responses to a number of detailed research problems contained in the following questions:

1. How is the ability to self-control and to control the states of the environment manifested in children as a result of using creative visualisation?
2. How does the introduced “innovative factor” affect the sense of agency?
3. How are perseverance and resistance in overcoming obstacles manifested and is there an upward trend in this disposition as a result of the influence of creative visualisation?
4. How big and important is the influence of creative visualisation on the development of imagination?
5. What mechanisms of imagination does creative visualisation use to create possible, desired and ideal states?
6. How is the increase in the ability to anticipate events manifested as a result of the impact of creative visualisation?
7. How is the influence of creative visualisation manifested in shaping the ability to achieve goals beyond personal ones?
8. How is the capacity for empathetic understanding manifested in children as a result of the influence of this “innovative factor”?
9. How does creative visualisation support the ability to collaborate?

## Methodological assumptions

Methodological assumptions of the presented research concern: firstly – a structure of the educational programme and its implementation, secondly – methods of obtaining and analysing data as a result of the original educational programme.

### Structure of the programme “Home Among the Four Elements”

The programme covered two models defined by the initial conditions in the method of designing educational opportunities. Basic sequence selected for the needs of the research, entitled “Home Among the Four Elements” defined the nature of the designed opportunities/activities. The only difference in the proposed models of the programme was the implementation in one of them a creative visualisation stimulating the mechanisms of imagination. The titles of individual classes in both models were identical, as well as tasks using artistic and verbal expression. The names of the tasks were assumed to be metaphorical and symbolic. The use of artistic expression required the use of various techniques. These were drawing techniques, graphic techniques, decorative painting techniques, modelling, spatial forming, as well as mixed techniques and others adapted specifically to the research programme. The implementation of the programme also required a variety of materials (art, nature) and tools. All children’s creations were digitised and archived.

The presented educational programme was therefore implemented according to the following 2 variants:

**M (1)** – model of the programme that uses creative visualisation as an innovative factor in the method of designing educational opportunities. The requirements of this model covered:

#### **Creative visualisation – Open and/or closed task – Possibility to choose the task with the use of visual and verbal expression**

The visualisation was carried out using stories written by the author especially for this model (30 short stories with fairy-tale and fantastic themes), which referred to individual themes of the selected sequence entitled “Home Among the Four Elements”. The titles of the stories corresponded to the titles of individual planned educational opportunities (workshops/classes). These were, for example: Earth: *The Garden of Gems, The Tale of Charbrook*; Air: *On the Wings of the Wind, Air Sculptor*; Water: *Drops of Diamond Dew, Everything Flows*; Fire: *Rays of the Inner Sun, Sunflowers in Golden Crowns*.

Metaphors were used as a discourse of stories, and the plot was constructed referring to symbols – figures and things. A different music background was prepared for each visualisation.

**M (2)** – the model of the programme without visualisation that uses a classic triad of designing educational opportunities.

**Initial conditions – Open and/or closed task – Possibility to choose the task with the use of visual and verbal expression**

The initial conditions in this model covered a variety of props, illustrations, slides, maps, books, and mood-setting music.

**The course and organisation of the programme:**

**Time** – 6 months, 4 times a week with each group: 2 times with a group in which the M(1) programme model was implemented, and 2 times with a group in which the M(2) programme model was implemented. One workshop lasted an average of 90 minutes and was held as part of extracurricular activities.

**Place** – Public Primary School; a specially arranged classroom.

**The size and representativeness of the groups:** a 40-person group of 8-year-olds: the M(1) group – 20 children, the M(2) group – 20 children deliberately selected according to the established criteria. The choice of 8-year-olds was dictated by the principles resulting from the psychological image of a child at this age, e.g., relative emotional stability, developing social skills in communication, observance of rules in a peer group, as well as regularities in the development of certain intellectual abilities, especially the ability to develop imagination.

## Research strategy and methods

The description, interpretation, and measurement of the effects of work with children were made in the context of the research problems concerning development in terms of independence, innovativeness, and cooperativeness, adopting the strategy of qualitative and quantitative research (D. Kubinowski, 2013, 2016; K. Rubacha, 2008, 2013).

The leading method in obtaining empirical material was a participant observation, as a result of which extensive data was collected in the form of the so-called cultural texts, i.e. stories about personal experiences during verbal expression, works of art created thanks to artistic expression, as well as behaviours and activities.

The supplementary method was the so-called experimental trial using tests of creative thinking. The following were used: The Test for Creative Thinking – Drawing Production (TCT- DP) by K. Urban and The Test for Creative Thinking –



Verbal (TCT-V) by K. Urban, H. Jellen. The supporting methods were: an interview with teachers-tutors, school principals, school educators, conversations with children, analysis of documents, including school organisational sheets, school journals.

The products (statements, works of art, and activities of children) were subject to humanistic description and interpretation. In this analysis, it was assumed that each educational activity is a symbolic-cultural activity, and its product is a symbolic-cultural object embodying the features of such an activity. Therefore, their interpretation involves giving answers to questions and explaining the states of affairs mentioned in such questions. Data on which the interpretation is based determine the meaning of action taken by a given person, or the meaning of the product. Interpretation is an explanation of cultural texts, but it is not limited to texts of culture, in the meaning of texts of literature and works of art. P. Ricoeur reveals the convergence between the theory of the text and the theory of action. Introducing the concept of narration into the subjective structure of action, he recognised that one can talk about the semantics of action. In the structure of action, it is not possible to separate the subject that acts from the narrative. Therefore, an action, like a work of art, becomes a text, or rather a quasi-text (Śleszyński, 1995, p. 22). In the research, an interpretation scheme characteristic for the hermeneutic strategy was adopted: author – TEXT – INTERPRETING PERSON – interpretations.

Traditional methodology uses the notion of indicators, which are resigned from in this article as a result of the qualitative strategy adopted in this part of the research. Subjecting the collected empirical material to qualitative analyses, including humanistic interpretation, makes it possible to use signs concerning independence, innovativeness, and cooperativeness. The concept of a sign derives from the general theory of a sign and humanistic interpretation, and denotes a cultural activity or cultural object, the purpose of which is to communicate a certain state of affairs due to a given knowledge (Kmita, 1977, p. 211; Kmita, Banaszak, 1991).

An example of signs in relation to children's creations, i.e. statements and works of art, is presented below

- statements – signs in the formal layer: the type of sentences, the variety and complexity of the plot, the duration of the speech; signs in the representational layer: realistic – fantastic, stories reflecting reality – stories looking into the future; using metaphorical phrases; symbolism of the speech,
- works of art – signs in the formal layer: shape, colours, value, composition; signs in the representational layer: typical – unusual, realistic – symbolic, mandalic forms as ideal states,

The set of competence subject to research, which is independence – innovativeness – cooperativeness (IIC), according to the previously established signs,

constitutes an organic whole. Its individual elements constitute the whole and, vice versa, the whole constitutes its elements – so it can be interpreted as a whole and as individual elements, which means that a qualitative increase in one part causes a qualitative leap of the whole. Drawing conclusions on the effectiveness of creative visualisation in supporting the said competences is to result from a comparative analysis of empirical material obtained as a result of the conducted 2 models of the educational programme entitled “A Home Among the Four Elements”.

## **Presentation and analysis of main research results**

### **Qualitative analysis of research results**

Empirical material from research covers: firstly – data contained in the works of art obtained as a result of plastic expression; secondly – data contained in children’s statements obtained as a result of verbal expression; thirdly – data from participant observation concerning behaviours and activities.

Globally, data for qualitative analyses includes: 30 hours of recorded children’s statements, almost 1000 works of art, about 50 hours of recorded workshop activities, hundreds of photos documenting the implementation. The analysis used the method of humanistic description and interpretation due to the tested set of competence: independence – innovativeness – cooperativeness. Interpretations were based on the established signs concerning products (works of art and statements) and activities, showing a qualitative leap, i.e. an increase in the discussed abilities in the research groups M(1) and M(2).

Selected works of art, statements, and activities of children were carefully described and interpreted in the perspective of the assumed research problems.

In the beginning, the attention will be focused on presenting the analysis of the development of imagination in products of artistic expression and in products of verbal expression. However, the most important conclusions regarding the remaining skills in terms of independence, innovativeness, and cooperativeness will be briefly presented. Significant in conducting comparative analyses of the discussed abilities was the fact of relying not only on the difference but also on the similarity of the results obtained in research groups M(1) and M(2). The chronology of the classes to show trends in the studied abilities was used in the analyses. In the article, due to limited editing frameworks, selected examples concerning the development of imagination in products (artistic and verbal) on the symbolic – realistic line will be used.

## **Growth of imagination**

The analysis of works of art consisted in showing a significant difference between the research groups M(1) and M(2) in the formal content concerning the shape, colour, value, composition, as well as in the representational content on the symbolic – realistic line. The analysis of the statements consisted in showing a significant difference between the research groups M(1) and M(2) in the formal content concerning the type of sentences, the complexity of the plot, duration of the speech, as well as in the representational content on the symbolic-factual line.

The obtained results showed an upward trend in both research groups. However, the growth of this ability was much faster in the M(1) group in which programme using creative visualisation was used in the initial conditions of the method of designing educational opportunities. Creative visualisation as a specific “innovative factor” in this method stimulated the mechanisms of imagination – symbolisation and metaphorisation, which were revealed in works of art and statements. Symbolism in works of art manifested itself in the symbols of the self, which are characterised by mandalic shapes. The pictorial-visual metaphors (as a kind of coupling of conscious and unconscious mechanisms) very often included mandalic forms in the composition (Sikora, 2006). Similarly, symbolism in statements was manifested in the use of symbols and metaphors. Works and symbolic statements were original creations.

### THE EXAMPLE OF THE WORKS OF ART

Classes entitled “Everything Flows” were devoted to the element of air. Children were given the task of “weaving” enchanted flying carpets. They used the mosaic technique made of various natural materials. Dried multi-coloured flower petals were the main material, however, there were also live flowers, leaves, cereal grains, chestnuts, as well as some confetti and crinkled tissue paper.

Original work was created by Damian (Photo 1) from the M(1) group. Its composition is quite complicated and complex. The four peripheral mandalic forms are visible, with one of them in the lower-left corner being dominant in size. It is made of yellow flower petals on the outside and pink petals on the inside. It is made of multi-coloured confetti, and the surrounding open form resembles a halo that adds clarity. The dominant colours of confetti flakes used are blue and white. In the upper right corner, there is a spiral made of white daisies, with the centre being marked with a red petal. Two more mandalas in opposite corners were made similarly. Spherical forms made of wheat grains are decorated with green, fresh, and dried leaves as well as of dark dried flower petals. While the first two mandalas are very bright and luminous, the next two are clearly darker. The light and dark mandalas in the upper part of the painting

form a pair, which is clearly separated by a wavy S-shaped line made of wheat grain. This arrangement resembles the Chinese tai-chi-tu symbol, which represents opposing and complementary energies or two aspects of the psyche: yin and yang. The light element represents the conscious ego, and the dark element the unconscious part of the psyche (Pascal, 1998). The light and dark mandala in the lower part of the image is a clear transformation of information from the unconscious mind to consciousness. A large mandala in the lower-left corner, surrounded by a luminous halo, a sacred sign, reflects symbolically what a person considers to be the most sacred experience in life – the perception and feeling of the Self.



*Photo 1*

The example of the work of art

Source: own research.

#### THE EXAMPLE OF THE SPEECH

The verbal part of the “Everything Flows” classes consisted in answering the following question: “Where would you like to fly on this enchanted carpet, and what could you see there?”

Even though it was only the 6th class, there was a significant difference in the quality of the statements. The statements of children from the M(1) group, i.e. with creative visualisation programme, were longer and more complex than in the event of children from the M(2) group. The M(2) group gave single-sentence responses.

As far as the representational content is concerned, children from the M(1) group mostly expressed their opinions on a symbolic level.

Statements of children from the M(2) group were only on the actual level. This means that they wanted to fly on the enchanted carpet to places that existed in reality, which were repeated quite often in their statements, namely Rome, Mexico, France, the mountains, the seaside, the circus, the amusement park, the spaceship. The M(1) group responded differently. Here are some examples:

**Example 1**

I would like to fly on this extraordinary carpet to the world of Adam and Eve. I would like to see how life in Paradise looked like back then. (Patricia)

**Comment**

This statement reveals man's eternal yearning for the bliss of the lost Paradise.

**Example 2**

I would like to fly on this carpet to Peter Pan so that I could fly as he did. I would like to tell him this. And then, I would like to fly to heaven to see God. (David)

**Comment**

The statement reflects the depth of human experience. The enchanted world of fairy tales, fantasies and imaginations is the right path that can lead to mystical experiences, up to the feeling of the absolute.

### **Quantitative analysis of the research results**

In the presentation of this project, the focus was on the qualitative analysis of the research results. However, it has to be emphasised that the collected qualitative data was supplemented by the results of the research obtained as a result of the so-called experimental trial using tests for creative thinking. Many scientific studies emphasise the relationship between creative imagination and creative abilities due to the convergence of features characteristic for products of imagination and creative abilities. These common features are novelty and originality (Nečka, 2003; Limont, 1996).

In research the following was used:

1. The Test for Creative Thinking – Drawing Production (TCT- DP) by K. Urban
2. The Test for Creative Thinking – Verbal (TCT-V) by K. Urban, H. Jellen.

Both tests have an analogous formal structure. Their use for measurement was a consequence of the established research model including artistic and verbal expression.

The quantitative results of the pre-test and post-test studies carried out in 3 research groups: M(1), M(2), and K group (reference, random group) were scored by competent judges. Obtaining quantitative results using tests for creative thinking required the development and verification of the following working hypothesis: "The use of creative visualisation as «an innovative factor» in the initial conditions of the method of designing educational opportunities is important for increasing the growth of imagination in 8-year-old children".

To demonstrate the existence (or not) of significant statistical differences between the obtained pre-test – post-test results, the method based on the *t-Student* test with a confidence level of 0.05 and the critical value  $t_{2\alpha} = 3.88$  for  $df = 19$  was used, previously verifying (*using the  $\chi^2$ , concordance test*) whether the statistic of the tested variable is normally distributed.

1. The obtained pre-test results using the Test for Creative Thinking - Drawing Product (TCT-DP) in the three research groups M(1), M(2), and K established the initial level of the studied variable. It turned out that in terms of this ability, the groups were equivalent. This is indicated by the obtained mean values M (within the statistical error), respectively: M(1) -28.8; M(2) 29.7; K- 28.3.
2. The obtained pre-test results using the Test for Creative Thinking - Variable (TCT-V) in the discussed research groups showed a diversified initial level. The mean values were as follows: M(1) - 47.8; M(2) - 34.6; K- 41.3.
3. Post-test results show an increase in mean values in all groups.

However, the differences between the achievements of groups M(1), M(2) and K are statistically significant only in groups M(1) and M(2), with the most significant difference in the M(1) group. The differences in group K are statistically insignificant.

The value of the variable *t* as a result of the application of the Student's test with a confidence level of 0.05 and the critical value of 3.88 for  $df = 19$  is:

The M(1) group:	TCT- DP = 6.3976 TCT-V = 7.0855
The M(2) group:	TCT- DP = 4.0171 TCT-V = 4.9294
The K group:	TCT- DP = 0.6712 TCV-V = 0.9141

Such results indicate the beneficial impact of the examined "innovative factor", i.e. creative visualisation in the method of designing educational opportunities introduced to the M(1) group due to the model of the educational programme implemented in the group.

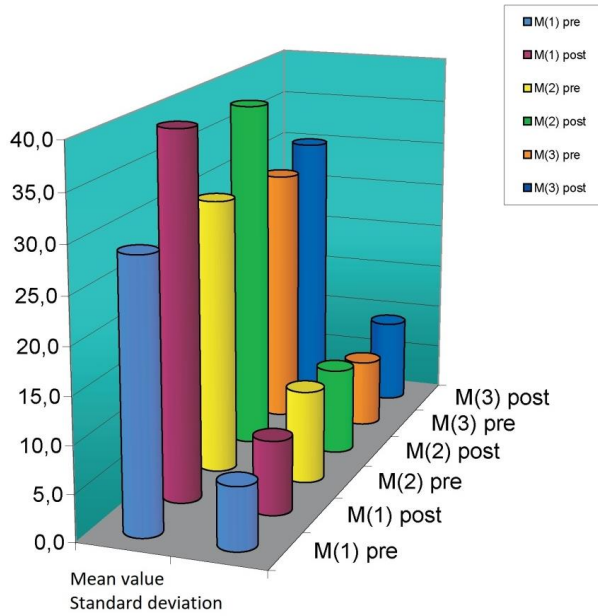


Diagram 1  
Results of mean increment for TCT-DP tests

Source: own research.

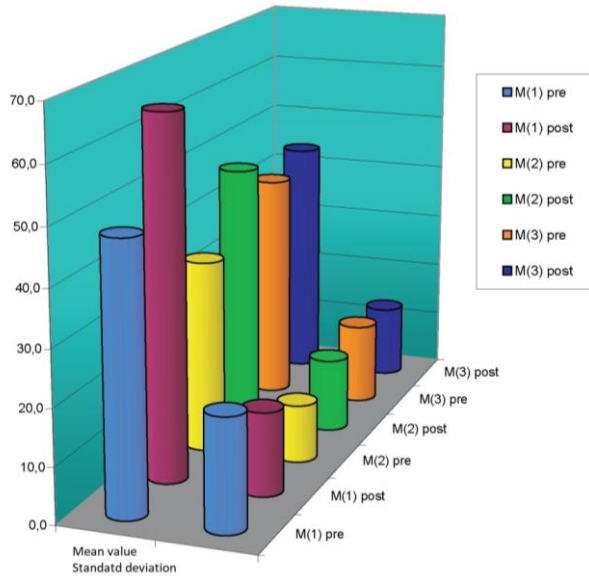


Diagram 2  
Results of mean increment for TCT-V tests

Source: own research.

## Discussion and conclusions

In the discussion, firstly, the conclusions from the comparative analysis of the growth of imagination based on a comparison of visual and verbal products in a temporal perspective are presented, and secondly – brief conclusions regarding the examined set of competencies: independence–innovativeness–cooperativeness are presented.

The following conclusions are drawn in terms of the growth of imagination as a key competence for the research presented in this article:

1. A comparative analysis of works of art obtained as a result of the implementation of two research programmes proved that the works of both groups revealed the mechanisms of creative imagination that led to its growth. However, the works of children from the M(1) group were more original than those from the M(2) group.
2. Qualifying them in terms of representational content on the symbolic-realistic line determined that the vast majority of works in the M(1) group with creative visualisation have symbolic meaning, whilst in the M(2) group most works are realistic.
3. In terms of formal content, increasing diversity of its elements was observed in both groups, i.e., shape, composition, nature of means of expression, and colour.
4. Symbolism of the works interpreted in terms of symbols of archetypal forms and pictorial-visual metaphors proved that the applied special educational measures supported the mechanisms of creative imagination. The use of creative visualisation in the initial conditions of the method of designing educational opportunities stimulated them better, which was shown by the interpretation of the works of arts of children from the M(1) group. These works, much more often than in the M(2) group, were the projection of mental images.
5. The analysis of children's statements in the two research groups M(1) and M(2) proved that the M(1) group performed better in terms of these abilities.
6. This group gave solutions much faster and more efficiently. In the M(2) group some people did not attempt to answer, despite the teacher's encouragement and persistent prompts from their peers.
7. In the M(1) group, the formulated ideas were more often atypical than in the M(2) group. The most original solutions were those that were symbolic statements. Much more of similar statements appeared in the group with creative visualisation. One may notice here a clear influence of unconscious mechanisms.
8. Responses in the M(2) group were mostly on the actual level.



9. The analysis showed that both groups M(1) and M(2) showed an upward trend. At the beginning of the programme, the groups showed a similar level, but after five planned opportunities/classes, one could notice differences. With time, in the subsequent classes, the difference grew, much faster in the statements of children than in the art of works.
10. It was observed that in the M(1) group, the increase was harmonious from one class to another, which was expressed by the increasing number of symbolic statements. In the M(2) group the growth was slower than in the M(1) group and, characteristically, it grew incrementally. In addition, there were moments of regression. In the middle of the programme, a clear breakthrough was observed in the M(2) group, which, however, did not increase the pace of growth of this ability, which was nevertheless expressed by a smaller number of statements at the symbolic level.

With regard to the set of IIC competence, research repeatedly shown the interpenetration and dependence of the indicated abilities for this set of competences. An increase in one of the IIC elements resulted in the same trend among the others. The influence of creative visualisation as an “innovative factor” in the method of designing educational opportunities resulted in a significant increase in the development of imagination as a kind of general effect, which in turn translated into an increase in the remaining tested abilities in terms of independence–innovativeness–cooperativeness.

The analyses were based on the interpretation of the observed signs of activities leading to products.

**Independence** – in terms of this competence, there was:

- more frequent breaking of the traditional tendency to make children dependent on an adult in the direction of independent decisions
- increasing readiness to undertake the task
- increasing focus on the task
- an increase in the subjective feeling of the probability of success
- more frequent self-notification about task completion
- frequent symbolic level in works of art and statements.

**Innovativeness** – in terms of this competence, there was:

- guessing the topic of the lesson more often on the basis of text, props, music
- establishing an action strategy to ensure the successful course and completion of the task
- using typical tools in a non-standard way
- enthusiasm and positive attitude to the task
- the stories showed great ingenuity, and the predictions contained fantastic threads
- works of art were often symbolic
- statements often represented a symbolic level.

**Cooperativeness** – in terms of this competence, there was:

- increase of signs of cooperation
- giving help more often than expecting help
- moving away from destructive criticism to a positive and kind one
- increasing the ability to empathise with the states of others
- growing ties of group unity
- growth of the over-personal visions in products, i.e. works of art and utterances
- growth of symbolism in products.

The set of competence subject to research, which is independence-innovativeness-cooperativeness (IIC), constitutes an organic whole. An increase in the development of imagination as a kind of general effect translated into an increase in the remaining tested abilities in terms of IIC. Qualitative analyses have repeatedly shown the interpenetration and dependence of these abilities. The increase in one of the elements resulted in the same trend among the others. Qualitative analyses have shown a clear upward trend in the scope of the competence subject to research with the use of the creative visualisation technique.

Moreover, quantitative analysis using Tests for Creative Thinking (in literature often associated with the ability of creative imagination) showed that the influence of creative visualisation as an “innovative factor” in the method of designing educational opportunities resulted in a statistically significant increase in the development of imagination.

## References

- Bachelard, G. (1975). *Wyobraźnia poetycka. Wybór pism* (fr. ed. *La poétique de l'espace*, 1958) (transl. H. Chudak, A. Tatarkiewicz). Warszawa: PIW.
- Bachelard, G. (1998). *Poetyka marzenia* (fr. ed. *La poétique de la rêverie*, 1968) (transl. L. Brogowski). Gdańsk: Wydawnictwo słowo/obraz terytoria.
- Bronowski, J. (1988). *Potęga wyobraźni* (eng. ed. *The Ascent of Man*, 1973) (transl. S. Amsterdamski). Warszawa: PIW.
- Bauman, Z. (2006). *Płynna nowoczesność*. Kraków: Wydawnictwo Literackie.
- Durand, G. (1986). *Wyobraźnia symboliczna* (fr. ed. *L'Imagination symbolique*, 1984) (transl. C. Rowiński). Warszawa: PWN.
- Eliade, E. (2022). *Obrazy i symbole. Szkice o tematyce magiczno-religijnej* (fr. ed. *Images et symboles. Essais sur le symbolisme magico-religieux*, 1952) (transl. M. Rodak, P. Rodak). Warszawa: Wydawnictwo Aletheia.
- Janion, M. (1991). *Projekt krytyki fantazmatycznej*. Warszawa: Wydawnictwo Naukowe PWN.

- Jung C.G. (1976). *Archetypy i symbole. Pisma wybrane* (transl. J. Prokopiuk). Warszawa: Czytelnik.
- Jung C.G. (1995). *Podstawy psychologii analitycznej. Wykłady tawistockie* (transl. R. Reszke). Warszawa: Wydawnictwo Wrota.
- Jungk, R. (1981). *Człowiek tysiąclecia* (ger. ed. *Der Jahrtausendmensch. Bericht aus den werkstaten der neuen Gesellschaft*, 1981) (transl. A.D. Tauszyńska). Warszawa: PIW.
- Kmita, J. (1977). *Wykłady z logiki i metodologii nauk*. Warszawa: PWN.
- Kmita, J., Banaszak, G. (1991). *Spółeczno-regulacyjna koncepcja kultury*. Warszawa: Wydawnictwo Instytutu Kultury.
- Kubinowski, D. (2013). *Idiomatyczność, synergia, emergencja. Rozwój badań jakościowych w pedagogice polskiej na przełomie XX i XXI wieku*. Lublin: Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej.
- Kubinowski, D. (2016). Istota jakościowych badań pedagogicznych – wprowadzenie. *Jakościowe Badania Pedagogiczne*, 1, 5–14.
- Limont, W. (1996). *Analiza wybranych mechanizmów wyobraźni twórczej*. Toruń: Wydawnictwo Naukowe UMK.
- Łukaszewicz, R.M. (1994). *Edukacja z wyobraźnią, czyli jak podróżować bez map*. Wrocław: Wydawnictwo Fundacja WIE.
- Łukaszewicz, R.M. (1997). *Szkoła jako kawałek innego świata*. Wrocław: Wydawnictwo Fundacja WIE.
- Łukaszewicz, R.M. (2000). Edukacja z wyobraźnią jako kreatywne przekraczanie: od końca wizji do wizji końca. *Forum Oświatowe*, 12, 1 (22), 27–41.
- Łukaszewicz, R.M. (2002). *Studia nad alternatywami w edukacji*. Wrocław: Wydawnictwo Fundacja WIE.
- Łukaszewicz, R.M. (2005). *Inne drogi edukacji*. Wrocław: Wydawnictwo Fundacja WIE.
- Łukaszewicz, R.M. (2010). *Wrocławska Szkoła Przyszłości. Dla duchowości, dla wyobraźni dla praktyki*. Wrocław: Wydawnictwo Fundacja WIE.
- Łukaszewicz, R.M. (2019). *Wrocławska Szkoła Przyszłości Plus*. Wrocław: Fundacja WIE.
- Muszyńska, M. (1999). *Metafory w edukacji primaryjnej*. Toruń: Wydawnictwo UMK.
- Muszyńska, M. (2013). *Alegorie w estetycznych przestrzeniach pedagogiki. Dwoistość w ekspozycjach ironicznego alegoryka – badania jakościowe*. Toruń: Wydawnictwo Naukowe Grado.
- Nęcka, E. (2003). *Psychologia twórczości*. Gdańsk: Gdańskie Wydawnictwo Psychologiczne.
- Pascal, E. (1998). *Psychologia Jungowska* (eng. ed. *Jung to Live By*, 1992) (transl. G. Skoczyła). Poznań: Zys i S-ka.
- Olchanowski, T. (2013). *Pedagogika a paradygmat nieświadomości*. Warszawa: Eneteia. Wyd. Psychologii i Kultury.

- Popper, K. (1996). *Wszechświat otwarty. Argument na rzecz indeterminizmu* (ang. ed. *The Open Universe: An Argument for Indeterminism*, 1982) (transl. A. Chmielewski). Kraków: Wydawnictwo Znak.
- Popper, K. (1997). *W poszukiwaniu lepszego świata* (ang. ed. *In Search of a Better World*, 1984) (transl. A. Malinowski). Warszawa: Książka i Wiedza.
- Popper, K. (1998). *Wiedza a zagadnienie ciała i umysłu* (ang. ed. *Knowledge and the Body-Mind Problem: In Defence of Interaction*, 1994) (transl. T. Baszniak). Warszawa: Książka i Wiedza.
- Prokopiuk, J. (2008). *Mój Jung*. Katowice: Wydawnictwo KOS.
- Ricoeur, P. (1984). Proces metaforyczny jako poznanie, wyobrażanie i odczuwanie (The Metaphorical Process as Cognition, Imagination and Feeling, in *On Metaphor*, Sheldon Sacks, ed. The University of Chicago Press, 1978–1979, p. 141–147) (transl. G. Cendrowska), *Pamiętnik Literacki*, 75, 2, 269–286.
- Ricoeur, P. (1985). *Egzystencja i hermeneutyka. Rozprawy o metodzie* (fr. ed. *Existence et herméneutique*, 1965) (transl. S. Cichowicz [et al.]). Warszawa: Wydawnictwo PAX.
- Rubacha, K. (2008). *Metodologia badań nad edukacją*. Warszawa: Wydawnictwa Akademickie i Profesjonalne.
- Rubacha, K. (2013). Standardy badań społecznych. Problematyzowanie praktyki edukacyjnej. *Przegląd Badań Edukacyjnych*, 16, 43–51.
- Sikora, K. (2006). *Mandala według Carla Gustawa Junga*. Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego.
- Śleszyński, D. (1995). *Człowiek w działaniu: analiza empiryczna, fenomenologiczno-egzystencjalna*. Białystok: Wydawnictwo Trans Humana.
- Weber, M. (2011). *Racjonalność, władza, odczarowanie* (transl. M. Holona). Poznań: Wydawnictwo Poznańskie.
- Wojnar, I. (1966). *Perspektywy wychowawcze sztuki*. Warszawa: Nasza Księgarnia.
- Wojnar, I. (2000). *Humanistyczne intencje edukacji*. Warszawa: Wydawnictwo Żak.

## **Fenomen wyobraźni we współczesnej edukacji. Kompetencje istotne dla rozwoju dzieci wspomagane techniką twórczej wizualizacji**

### **Streszczenie**

Szybko zmieniający się świat wymusza konieczne zmiany w edukacji polegające na opracowaniu strategii nauczania, które przygotowują ucznia do sytuacji nieprzewidywalnych, niestandardowych, płynnych. Autorka podejmuje problem wspomagania kompetencji istotnych dla rozwoju dzieci w wieku szkolnym i ich funkcjonowania w takim świecie. Artykuł może zainteresować nauczycieli edukacji wczesnoszkolnej, ale nie tylko. Strategia edukacji z wyobraźnią, a w jej ramach metoda projektowania okazji edukacyjnych odnosi się w przeprowadzonych badaniach do triady

kompetencji, tj. samodzielności–innowacyjności–kooperacyjności. W celu wspomagania tych kompetencji autorka skonstruowała technikę twórczej wizualizacji i opracowała program edukacyjny dla dwóch grup równoległych bazując na metodzie projektowania okazji edukacyjnych, w jednej z grup wprowadziła czynnik innowacyjny w postaci techniki twórczej wizualizacji. W niniejszym badaniu został wykorzystany styl jakościowo-ilościowy przy wykorzystaniu metody obserwacji uczestniczącej, interpretacji humanistycznej (prac plastycznych i wypowiedzi) i testów myślenia twórczego (rysunkowego i werbalnego). Analiza jakościowa polegała na opisie i interpretacji ze względu na badany zestaw kompetencji przy wykorzystaniu ich oznak. Analiza ilościowa mająca odpowiedzieć na pytanie o istotnym wzroście kompetencji wymagała zastosowania metody opartej na teście *t-Studenta*. Rezultaty analizy jakościowej i ilościowej wskazały na korzystne oddziaływanie twórczej wizualizacji w zakresie badanych kompetencji.

**Słowa kluczowe:** wyobraźnia, edukacja, wzrost kompetencji, samodzielność, innowacyjność, kooperacyjność, dziecko.