

JARMILA NOVOTNÁ

*Dubnický technologický inštitút v Dubnici nad Váhom*

SR

*Fakulta sportovních studií Masarykovy univerzity v Brně*

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## CREATIVITY AS THE ULTIMATE AND INSTRUMENTAL VALUE OF THE YOUTH

**ABSTRACT.** Novotná Jarmila, *Creativity as the Ultimate and Instrumental Value of the Youth* [Kreatywność jako ostateczna i instrumentalna wartość młodzieży]. *Studia Edukacyjne* nr 25, 2013, Poznań 2013, pp. 243-268. Adam Mickiewicz University Press. ISBN 978-83-232-2610-9. ISSN 1233-6688

The author considers cognitive and creative teaching method to be one of the significant ways of developing creativity in the adolescents. The aim of this article is not only to provide the characteristics of creativity as the ultimate and instrumental value of the contemporary youth but also to hint at the possibilities of its formation under the conditions of current school, in particular in foreign language teaching, namely in teaching the English language. The article provides the information on one of the author's study, which scientifically records the development of creativity in factors such as fluency, flexibility and originality, as well as pupils' attitude towards this phenomenon; the author has also attempted to identify the personality traits determining the development of creativity. The findings of this natural experiment are quantitatively processed and qualitatively interpreted. Issuing from the research findings, the author formulates conclusions for theory, methodology and educational practice. The leitmotif of the article is the idea that the age of adolescence is suitable not only for the development of critical and creative thinking but it is also an opportunity to incorporate these phenomena into the value system of contemporary youth.

**Key words:** creativity, value, creativity as ultimate and instrumental value, adolescence, cognitive and creative teaching methods, experiment, research findings and interpretation, research conclusions

### Introduction

The necessary part of our socio-historical development is, besides other things, the change and qualitative transformation of values and their acceptance. On one hand, it is obvious that perceptions of many standards have undergone a major modification; and I dare to claim that their latest

version is not the last one. However, on the other hand, in the history of mankind, there are values formulated as direct orders to human beings that we have been strictly following for several centuries.

In this context, we can also observe particular axiological development of specific groups of social stratification. The historical development manifests changes in value systems of not only the people in productive age but mostly changes in the value hierarchy of the *youth*.

It should be our interest to realize the actual cause of value transformation depending on the actual historical facts, among which the most observable is the increase of the information and the ways of obtaining them; de facto it means that mastering the greatest possible amount of *knowledge* has become inevitable. Subsequently, *to know* has become more important than *the cognitive process itself*; but the cognitive process is more effective in achieving the goals. The thing is, when we present and mediate the values to the youth, we always present the values that are valuable to us and we do it our way with no actual regard to the changes in the young generation. We simply we tend to overlook them.

In the course of history, the very concept of youth has been often understood in contradictory ways. This social group is extremely often viewed through *axiological optics* based on traditions. Such optics implicitly establishes the conflict, which only rarely ends in positive evaluation. This act of social conflict or misunderstanding is specific not only in terms of comparison against traditions and the classic; the traditional standards and values represent the basic platform for thought and action. It is obvious that the compliance between “the new” and “the traditional” can be achieved only by such behaviour and values that copy the traditions as much as possible; but by doing so they manifest the resignation of new trends in thinking.

Then, it is quite a paradox that in many cases the modernity or trendiness is judged as a positive phenomenon transgressing the old and petrified traditions because once it comes to the youth and their values based on their actual life situation (determined by us, the adults and sensible) the optics applied is much less enthusiastic. It seems as if the youth has always been viewed through the same optics... and it is rarely a positive one. We can call this awkward discrepancy any names, but basically, it is the problem of divergent *axiology*.

In terms of values and standards neglected by the society, some serious relations should be pointed out. Since the people judge and assess everything on the basis of standards and regulations that are not interiorized, their status is only consensual. It is obvious that the standards of different ideologies are different; but these standards as such are completely equal, since they are the part of norms and acts the group considers to be

acceptable.<sup>1</sup> No matter if it is truthfulness, goodness, the law, education, etc., these values are always relative towards potentially stable basis or perspective of the general value system.

We, the adults, do like to forget about the two actual facts.

In our opinion, the first problem, and the basis of a “possible” fundamental future view, appears to be the adoption of *cognitive relativism*. According to this strategy, each basis of normative reward or normative recognition is just as good and valid as any other, if internally accepted. In the 19<sup>th</sup> century, the development of social and historical research in human sciences gradually adopted the idea that each era has its specific structure of thinking, beliefs and unique context.

The second problem is not of theoretical nature but it is rather embodied in actual relations and procedures and it is a result of the disregard of the youth, their situation, value hierarchy and needs.

In our culture, the concepts of *science*, *rationality*, *objectivity* and *truth* merge into a unified complex. We are used to associate the search for truth with rational thinking and therefore we consider the education and training to be always of scientific nature; to be the rational paradigm. To be true to rationality and to method is considered to be an act of responsibility.<sup>2</sup> In this context, teacher becomes a rational prototype of man only as far as *they selflessly face the harshness of the facts*.

One of the consequences of this style of thinking is that each curricular subject, each academic discipline aiming at being established as academic one must pretend to imitate the science.

The belief of unalterable factuality of reality on one hand, and the weakness of our will and desires, the objectivity versus our subjectivity on the other hand is, in this case, more than problematic. We feel the need to define new terminology and start over.

We should not approach the education and teaching as a traditional sphere, in which the human mind meets the outside world; the mind is neither an encyclopaedic or doxographic tool. Similarly, the teachers are not impartial people silently examining the impact of supernatural powers. The role model can be identified by a completely different way; by such way that is not based on distinction of objective facts and something other, something less objective, less defined and less infallible; the role model can be identified by a *creative way*.

So the *creativity* of contemporary youth as not only *the ultimate value* but also *the creative act itself as an instrumental value* should be the

<sup>1</sup> N. Reschner, *Hranice kognitívneho relativizmu*, Filozofia, 1993, roč. 48, č. 4, p. 194-209.

<sup>2</sup> R. Rorty, *Veda ako solidarita*, [in:] *Za zrkadlom moderny*, eds R. Rorty, K.O. Apel, J. Habermas, Bratislava 1991.

desired objectives of present day education of the youth. Why? To teach the youth of this informational era to lead creative life through the means of assessment, analysis and personality formation (it is a regulative activity, which determines the relation of man to the world and their roles in it).

## Creativity as the ultimate and instrumental value

The aim of creative lifestyle is to achieve not only the universal creativity but mostly the personal creativity. Creative personalities should manifest themselves in progressive or transgressive behaviour. This behaviour should be the result of implementing the holistic process, which is characterized by development of methods, functions and content through dynamization of one of the mental functions.

*Creative personality* cannot be reduced to a number of basic signs. It is a complex system of social relations and experiences, which regulates the relations of man and the world. Man comprehensively participates in its creation by all their qualities and mental processes. The creative process presupposes implementation and development of creative abilities, personal traits, values, and also the facilitation of conditions necessary for expressing and implementing this human potential.

Today, creativity is the principle of humanistic educational conception. Its representatives (Rogers, Maslow, Gordon and others), consider such personality to be *free, independent creative and authentic*. It is a self-aware personality, the individual, which is aware of their potentials and aspirations *to become themselves*.<sup>3</sup> *It is an individual who "is a subject... creates the world, in which and by which they develop themselves"*. This means that the man is the subject of their own activities and they are able to control themselves.

By making the choice, the man chooses himself. To choose means to be aware of the individual responsibility for continual self development and fulfilment of positive options with regard to the others and with the others. These relations facilitate the needs for higher values, such as goodness, truth, beauty and justice. *Self-actualization* is considered to be an innate source of healthy personality development as well as the basic motivation; it is an instinctive direction of all-skills development leading to maturity and enrichment of life. It is manifested in higher autonomy and responsibility of a personality and subsequently, of the youth.

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<sup>3</sup> In: J. Dargová, *Tvorivé kompetencie učiteľa*, Prešov 2001.

Mental and more than likely also physical parts of individuals are affected by their acts, thoughts and feelings; thus *the self-concept* becomes the central aspect of any personality. It reflects the stable, complex and ongoing relation of the individuals to themselves. It is mainly the emotionally saturated part that facilitates the self-assessment followed by value creation. *Self-assessment* turns into *self-comprehension*, which forms the core of the personality and is facilitated by introspection. It is complex and produces the image of uniqueness and individuality of each human being. In spite of its complexity, we can identify *cognitive* (rational perception of one-self, self-knowledge), *emotive* (emotive self-experience), and *conative* (tendency to act in a particular way in accordance with the values perceived) elements. Thus, the personality consists of structure (it is relatively stable) and dynamics (variability) including several areas, such as identity, personality traits, behaviour, and above all, the area of self-assessment, which transgresses the values. It expresses the complexity of human *self-experience*. This relativity and variability condition each other and create the *personality dynamics* consisting of the two most significant needs: positive acceptance by the others – the *acceptance* – and the need of *self-acceptance*. An individual uses the two to establish the trust to the world and to one-self; based on that, one forms individual self-concept in accordance with the tendency of actualization. The highest achievement that a personality should desire for is the *self-transgression*. It is manifested in the openness of experiences and the ability to accept and embrace personal experiences, which helps to improve the quality of life and trust in the organism, that is, the individual personality; the personality is more open towards the objective knowledge. The individual lives and facilitates the best possible way of living.<sup>4</sup>

This framework provides the basis to our understanding of the creativity of the youth, and it is also the leitmotif of its formation and development. We distinguish *the two basic dimensions of personality: cognitive*, the top of which is the human wisdom, knowledge, intelligence, education and **creativity**; and *non-cognitive*, which includes such significant personality traits as human feelings, experience, activity, motivation, social behaviour, independence, **values**, self-regulation, self-reliance and creativity as a lifestyle.

The objective of education meeting the above paradigm *should be creativity, which should become the goal or even the sense of life* of all young people as well as it should be an *instrumental value*, through which they attempt to pursue their *self-actualization*.

Creativity in this model of education represents a cognitive dimension of individual development. Dimension of humanism is developed in non-

<sup>4</sup> Ibidem.

cognitive area. These dimensions are interrelated and they complement each other; after all, they are a unity; they merge into one stream of life in order to form essential background of quality life of an individual and the youth themselves.

### **The age of adolescence and creativity development options**

Even though the requirement of creative existence is current and relevant in any stage of life, with regard to the objectives of our research and in relation to our research sample, our focus is on the age of adolescence.

The creativity development in this stage of life is rated very positively.<sup>5</sup>

*Psychological development* of this stage of life is characterized by intellectual improvement of personality. The development of abstract thinking culminates; the cognitive activity becomes more effective (an adolescent masters the complex logical processes), the vocabulary is enriched (it comprises mainly abstract concepts). However, adolescents do lack the actual life experiences, which is evident in solving the problem situations and in creating alternative problem solutions. But the lack of experiences has its positives, too. The adolescents have not fixed stereotypes nor acquired the schematized thinking so typical for older age.

*Personality development* of this period is characterized by personality integration, which includes self-knowing, self-awareness and a formation of a real self-conception. This determines *logical thinking about one-self*, about specific opportunities and abilities, about perspectives, *the realistic assessment of one's options and competency*, to which the individual performance is related; true *emotional experience* (emotional life as well as value orientation are more stable as in the puberty despite the fact that it is still difficult to name one's feelings) and *self-assessment and assessment of the others and by others*, to which the adolescents are still very sensitive but almost never willing to correct their value judgements.

Motivational system of adolescents has already been established in the way of facilitating the saturation of the highest needs – the self-fulfilment. The needs of self-fulfilment (intellectual, ethical, aesthetical, social) are manifested in frequent discussions of philosophical, ethical and aesthetic issues. Adolescents are more tolerant in these debates; they are able to admit their mistakes and correct distorted views; they establish their own

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<sup>5</sup> L. Končeková, *Vývinová psychológia*, Prešov 2010; J. Langmeier, D. Krejčířová, *Vývojová psychologie*, Praha 2006; Vágnerová M., *Vývojová psychologie*, Praha 2000.

world view and their attitudes to the issues of family, marriage, work, children, education, career, the money and other values. Based on their emotions, they prefer fast and radical solutions; still, they learn that some situations require the implementation of compromises.

When implementing ideas and interests, they are persistent, fast and well-oriented in information; they have rich imagination, sense of humour and commitment to their beliefs, which is often associated to openness towards the outside stimuli enabling the development of their creativity.

In this period, it is significant to find one's place in the social group; to saturate the needs and acclaim appreciation, which a young man experiences very intensively (if a young man is not acclaimed and appreciated, they can develop the inferiority complex; vice versa, if one is extremely acclaimed, the superior complex or megalomania can be established).

*Social and moral development* is in this period characterized by positive attitude towards the adults and will to discuss things with them, provided that the adults will not be underestimating them nor preaching them. Adolescents expect to be accepted by the adults; the adults expect the responsible behaviour in return. They learn to appreciate, tolerate and respect the others through their often ambivalent friendship, cooperation and rivalry; they improve their constructive communication. Their adolescent idealism turns to realism.

The characteristics listed are prerequisites to creativity development.

## **Research focus and methodology**

*The basic objective of our research* was to determine to what extent the cognitive and creative teaching methods could develop creativity of the youth; in particular the creativity of pupils at secondary schools.

Based on this universal objective, partial objectives were defined. The aim was to choose such cognitive and creative strategies that would meet the need of teaching English as the foreign language and would be easy to implement under the conditions of the particular school. (Not even similar research had been conducted under these conditions in Slovakia, so our research was very much the first one). In addition, we intended to determine how much cognitive and creative methods would affect the qualities of a creative personality; the impact on their attitudes towards creativity, and especially determine which creative factors (fluency, flexibility, originality) would change significantly.

Cognitive and creative methods are those methods that allow people to manipulate with the information by analogy, analysis, synthesis, induction, deduction, summarization generalization, evaluation and those

that seek the new genuine relations on micro creative subjective level of creativity (the discovered novelty is genuine only for an individual) or on macro creative level (the innovations are original and objectively creative for groups) and mega creative level (the innovations are original for large groups, such as a nation, state, the world). The justification of these methods is significant in terms of the actual fact that majority of pupils is used to gain the knowledge through memorizing and in verbally passive way. The tendency to change the established method requires pupils' activity, that is, not only mechanical adoption and imitation of knowledge but active thinking about its application, especially deductive and inductive thinking, understanding of relations and discovering the new ones between phenomena and analogies; i.e.: to apply the knowledge under the new conditions and ultimately produce new ideas.<sup>6</sup> (available online <http://rudolfkohoutek.blog.cz/1003/vyucovaci-a-ucebni-styly-a-strategie-z-hlediska-pedagogicke-psychologie>)

*Research hypotheses and rationale.* Based on the study of scientific literature and previous research, the basic hypothesis was formulated, and the partial hypotheses were derived:

H: The cognitive and creative strategies are to increase the creativity level of EG in comparison to CG.

H1: The cognitive and creative strategies are to increase the creativity level measured by performance tests, i.e. in the fluency, flexibility and originality factors in EG in comparison to CG.

H2: The cognitive and creative strategies are to have a positive impact on the creative qualities of personality of pupils in EG in comparison to CG as measured by self-assessment tests.

H3: Experiences with the implementation of cognitive and creative strategies in education is to improve attitudes of pupils in EG towards creativity.

The above hypotheses test the effect of the following variables: cognitive and creative strategies (independent variable); creativity of pupils (dependant variable). In our research we use the method of natural experiment with parallel groups (experimental and control group). In both groups we carried out the input and output measurements (ante and post measurements), which allowed us to observe the tested variable during possible and hypostazed changes. Due to the organizational reasons, we were not able to carry out the random sampling; but the groups were randomly assigned experimental and control conditions.

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<sup>6</sup> R. Kohoutek, [online]. Dostupné 2010. z <http://rudolfkohoutek.blog.cz/1003/vyucovaci-a-ucebni-styly-a-strategie-z-hlediska-pedagogicke-psychologie>.

We assume that changes in creativity will be caused by cognitive and creative strategies (specifically by brainstorming, problem-solving tasks, dramatic and situational methods, EUR strategy de Bono's hats, corners, etc.), which are oriented on creativity stimulation, and in addition, they set the social atmosphere at ease and facilitate the creative climate.

The tasks were formulated and conceived so that they would systematically develop the processes of fluency, flexibility and originality; cognitive and creative methods were chosen to facilitate the creative production. We believe the interesting creative teaching that includes activation and experience of free production to positively affect the attitudes towards creativity, and perhaps, be the cause of change of personality traits. We assume that these changes will occur in the experimental group. We do not expect such transfers in the control group.

*Research sample.* The research was conducted at the Secondary Grammar School of M.R. Štefánik in Nové Mesto nad Váhom, Slovakia, with pupils of the third grade in the school year of 2010/2011. The experimental group (hereinafter EG), in which the pupils learnt by the active way comprising cognitive and creative strategies, consisted of 15 pupils. The control group consisted also of 15 pupils but they learnt the English in the traditional way (vocabulary, text, grammar, revision by filling in the exercises); no special attention was paid to motivation, activation or creativity development. In this group, the teaching methods such as exposition, explanation, mechanical filling-in exercises and traditional dialogue (grammar method) were applied.

Experimental teaching was implemented during 72 classes of English language. Along with the pupils, the two fully qualified English teachers with approximately same length of teaching practice (14 and 12 years of practice) participated in the research.

The controlled variables that were assumed not to affect the programme were the following: *sex of pupils, number of pupils, school grades, teaching conditions, education of teachers and their teaching practice.*

Variables, which were assumed to cause the expected changes were *cognitive and creative strategies, tasks focused on divergent thinking and value-judgement thinking, motivational strategies (individual relationship frameworks, collative variables, causal attributes, etc.), the climate of demands, openness, empathy and personality of the teacher.*

*Research methods.* In the research, the following research methods were used (all research methods used were already tested on our population therefore we did not validate them in pre-research):

*IPOT (Personal ideas about creativity)*, a scaled questionnaire determining whether our ideas about creativity are correct or incorrect (cognitive element); whether our attitudes towards creativity are positive or negative (affective element) and whether the subject is willing to do something to increase their creativity (activating element). The questionnaire was designed by M. Zelina and it is particularly suitable for experiments, in which the change of attitudes is assumed.

*WKOPAY (What kind of person are you?)* is a self-assessment questionnaire for creative qualities, qualifications and personality. It observes the qualities conditioning the creativity, such as curiosity, self-confidence, intuition, diligence and sensitivity. Torrance and Khatena, the authors of the questionnaire, assumed that the higher the score, the higher the personal creativity predispositions (according to the self-evaluation).

*Torrance's test of figural creativity (Figural TTCT)*. In our research, we used the test Circles and Incomplete figures test. Tests measure the three basic creativity factors: fluency, flexibility and originality (figural and verbal). The development of these abilities is crucial for our research. In order to increase the reliability of the research results, we deliberately used two measuring tools. Both tests measure the same variables but they use different means. The tests were adjusted to meet the domestic conditions by Jurčová.

*Inventory of creative activities done on one's own initiative* (hereinafter AS – Activity sheet), designed by Torrance. It is a list of creative activities, from which the person being tested selects the activities that they have recently done on their own initiative.

The results were processed by standard statistics methods. Our objective was to compare the results of ante and post measurements in EG and CG. To do so, the Wilcoxon's pair test was used. To compare the input and output of EG and CG the Mann Whitney's U-test was used. The test was designed to determine statistically significant differences in a smaller number of respondents. It is more precise with such samples as, for instance, the t-test; in addition, it allows generalization of the findings and its application to the wider population even with smaller number of respondents. The obtained data were subjected to quantitative and qualitative analysis.

The research is specific due to its interdisciplinary nature. The criteria are focused mainly on the psychological phenomena, whereas the cognitive and creative strategies are the problem of pedagogy. This fact demonstrates the close relation of pedagogy and psychology in educational practice; the result interpretation belongs to the realm of psychodidactics.

## Research results and their interpretation

Before the research was conducted, we had assumed that cognitive and creative strategies implemented during 72 classes of teaching the English language to the experimental group would cause the changes in the three areas: the increase of the score of self-assessment scale measuring creative potentialities, the increase of creative abilities level in fluency, flexibility and originality, and the improvement of attitudes of pupils towards the creativity and practical creative activities.

The research results are provided in the following charts sorted according to the research methods used.

### *Changes in the self-assessment of creative abilities (creative potentialities)*

Khatena and Torrance questionnaire focused on the following areas:

- Curiosity, interest in problem-solving, motivation to creativity, will to solve complicated tasks;
- Self-confidence, self-esteem, nonconformity, critical approach to the environment;
- Intuition, imagination, fantasy, playfulness;
- Diligence, determination, consistency, persistence in problem-solving;
- Sensitivity, openness to the outside stimuli, sense of humour and adventure, altruism.

These qualities correspond with the traits of a creative personality and therefore we can conclude that the higher the individual score, the greater creative manifestation.

Table 1

Self-assessment of creative qualities (creative potentialities) of pupils in CG and EG in WKOPAY questionnaire before and after the experiment

Variables	Control group		Experimental group		Sign.: /CG-EG/		Sign.: ante-post	
	ante	post	ante	post	ante	post	CG a-p	EG a-p
	A.M.	A.M.	A.M.	A.M.	p-level	p-level	p-level	p-level
Curiosity	12.2	12.33	13.4	13.26	0.4753	0.5178	0.9773	0.6948
Self-confidence	12.06	12.06	12.06	10.13	0.7080	0.2444	0.9321	0.0354*
Intuition	6.13	5.4	4.73	5.66	0.0372*	0.9329	0.0711	0.1823
Diligence	7.33	6.2	5.93	6.46	0.0785	0.7526	0.1141	0.6496
Sensitivity	7.26	7.6	7.06	6.26	0.7370	0.0551	0.7896	0.0593
Total	45.0	43.6	43.2	41.8	0.5608	0.5061	0.7896	0.3942

Notes:

EG-experimental group A.M.-arithmetic average \*differences are statistically significant  
CG-control group p-level-pair, unpaired minimum at 0.05% level.  
Sign.-differences significance

The first important finding is the fact that the input differences between CG and EG were statistically insignificant except intuition. Measurements show that pupils in CG were more intuitive, more playful and had better imagination and fantasy than pupils in EG. This difference between the groups is statistically significant at 0.05% level in favour of CG (CG-6.13; EG-4.73). The intuition factor is also interesting in terms of further development. Whereas the pupils in CG were significantly better in ante measurements, the post measurements did not validate the result; moreover, the post measurement results were in favour of EG (EG-5.66; CG-5.4). It means that during the experimental period, the intuition of CG pupils dropped (6.13-5.4) and even better, the score of pupils in EG increased (4.73-5.55). We assume, the change in EG was caused by applying the divergent tasks, which were mainly aimed at intuition development.

Based on the observations of ante and post measurements in CG as well as in EG, we can conclude that statistically significant shifts occurred only in one area. As the chart shows, the change occurred in EG, in which self-esteem and critical attitude towards environment dropped (at 0.05% level). We assume that creative tasks solving, which requires divergent thinking was not interiorized by the pupils and so it led to the re-assessment of their views leading to reduction of self-assurance and decrease in criticism of the surrounding environment. We assume that the tasks initiated the self-reflection of pupils as well as their self-criticism. We do not consider this change to be negative in terms of qualitative point of view, although quantitatively, it is in contradiction with the research hypothesis.

In the other areas observed, the score of post measurement in comparison to ante measurement did not significantly change in either group. The experimental teaching in the duration provided did not significantly affect such qualities as curiosity, diligence, and sensitivity to stimuli. Since these are relatively stable personality traits, we assume that to affect them significantly a longer experimental period would be needed. In general, the second sub-hypothesis of our research was not confirmed.

### **Changes in creativity skills of pupils**

The key to our research was the creative abilities development. Due to the overall duration of the experiment, we assumed that the greatest changes would be just in this area, too. Our experimental program focused mainly on the development of these creative thinking characteristics.

Table 2

Creative abilities of pupils in CG and EG before and after the experiment  
("incomplete figures" test)

Variables	Control group		Experimental group		Sign.: /CG-EG/		Sign.: ante-post	
	ante	post	ante	post	ante	post	CG a-p	EG a-p
	A.M.	A.M.	A.M.	A.M.	p-level	p-level	p-level	p-level
Fluency	9.46	9.53	8.86	9.33	0.1234	0.6629	0.7150	0.0629
Flexibility	2.66	2.86	3.20	4.13	0.0356*	0.0003**	0.3104	0.0050**
Figural originality	0.93	0.86	1.53	3.20	0.1629	0.0009**	0.7531	0.0022**
Verbal originality	0.13	0.13	0.33	0.93	0.3082	0.0088**	0.7150	0.0629

Notes:

EG-experimental group A.M.-arithmetic average \* differences are statistically significant

CG-control group p-level-pair, unpaired minimum at 0.05% level.

Sign.-differences significance \*\* - minimum at 0.01% level

(Originality) figur.- figural, verbal.- verbal

The input measurements of CG and EG were not equal in all variables observed. There was a statistically significant difference /at 0.05% level/ in flexibility factor in favour of EG. The differences in other factors were insignificant.

The output measurement results produced the following results:

As expected, no significant changes occurred in the CG.

The comparison of ante and post measurements in the EG showed the increase of creative abilities in factors of flexibility and originality /figural/ up to 0.01% level of significance.

The output comparison of CG and EG is in favour of the experimental group. The EG is significantly better than CG in the three out of four / flexibility, figural and verbal originality/ observed variables. These differences are at 0.01% of statistical significance, which is, regarding the objectives of our research not only extremely gratifying but especially important.

To increase the reliability of our research results, we used parallel test "Circles" for measurement of creativity production factors. Measurement results are presented in the chart no 3.

Table 3

Creative abilities of CG and EG pupils before and after the experiment  
(Circles test)

Variables	Control group		Experimental group		Sign.: /CG-EG/		Sign.: ante-post	
	ante	post	ante	post	ante	post	CG a-p	EG a-p
	A.M.	A.M.	A.M.	A.M.	p-level	p-level	p-level	p-level
Fluency	21.86	23.4	18.86	25.13	0.1969	0.4848	0.4412	0.0413*
Flexibility	3.8	5.86	3.73	7	0.7811	0.2012	0.0131*	0.0026**
Originality	0.46	1.13	0.2	2.26	0.5553	0.0433*	0.0356*	0.0006**

Notes:

EG-experimental group A.M.-arithmetic average \* differences are statistically significant

CG-control group p-level-pair, unpaired minimum at 0.05% level.

Sign.-differences significance \*\* -minimum at 0.01% level

The ante measurements in the performance test “Circles” showed insignificant differences between CG and EG. However, during the experimental period, several interesting shifts occurred. It was interesting to observe that compared to ante measurement, in CG the score of flexibility (3.8-5.86) and originality (0.46-1.13) increased at 0.05% level of statistic significance. We do not assume the observed changes to be influenced by the teaching methods in CG. In our opinion, the results can be influenced by the fact that during the output measurement the pupils were already familiar with the test and could be well prepared (the test is easy to remember). This assumption is based on the fact that we personally administered the tests and we noticed that CG pupils were very motivated to complete the tests. Our opinion is also supported by the results of Incomplete figures test (this test is significantly harder to remember and so the chance of distortion of the results is significantly lower), in which no changes in flexibility or originality in CG pupils occurred.

In EG the score changed in all the three observed factors. The ability to produce divergent ideas – fluency –significantly increased (at 005% level). The increase in flexibility and originality of thought was repeatedly confirmed. Similarly to the Incomplete figures test, the score increased up to 0.01% level of significance.

The comparison of CG and EG is also in favour of our research. Whereas the CG input measurement is better in all tested variables (fluency: CG-21.86; EG-18.86, flexibility: CG-3.8; EG-3.73, originality: CG-0.46; EG-0.2); in the output measurement the situation is reversed (fluency: EG-25.13; CG-23.4, flexibility: EG-7; CG-5.86, originality: EG-2.26;

CG-1.13). The difference in the originality factor in post measurement in favour of CG is statistically significant at 0.05% level.

We observe that the creativity level of EG pupils measured by performance tests has increased. The Circles test shows the increase in fluency, and both tests show significant increase of flexibility and originality scores. These findings speak in favour of use of cognitive and creative strategies in education, and they are also a significant confirmation of our first sub-hypothesis.

### Changes of attitude towards creativity and practical creative activities

The experimental teaching was conducted with the aim to change also the attitudes of EG pupils towards creativity; the creativity should become a value recognized by contemporary youth. We assumed that positive experiences gained through experimental learning including creative task solving as well as the overall educational climate in the English classes would affect the attitudes of pupils and would inspire them to be creative also outside the class. We used IPOT questionnaire and Creative Activity Sheet to follow the hypostazed changes. The results are summarized in the chart below.

Table 4

Attitudes to creativity and creative activities of pupils  
in CG and EG before and after the experiment

Variables	Control group		Experimental group		Sign.: /CG-EG/		Sign.: ante-post	
	ante	post	ante	post	ante	post	CG a-p	EG a-p
	A.M.	A.M.	A.M.	A.M.	p-level	p-level	p-level	p-level
IPOT	10.73	10.8	10.2	11.06	0.2002	0.9827	0.7836	0.1094
AS	1.2	16.46	13.93	15.26	0.5194	0.3086	0.8067	0.2092

Notes:

EG-experimental group A.M.-arithmetic average Sign.-differences significance  
CG-control group p-level-pair, unpaired

Issuing from the results in the chart no. 4, we conclude that no statistically significant changes occurred in either group. Despite this fact, we would like to point out some changes that occurred in EG and are, in our opinion, rather significant. In comparison with CG, EG reached higher

score than CG in IPOT questionnaire (10.2-11.06) and also in AS (13.93-15.26). We recorded several qualitative shifts in EG pupils. These shifts regarding their attitudes towards creativity are predicative enough to be noted. Before the experiment, 7 pupils out of 15 said that creativity could not be increased by training. We were positively surprised that after the experiment only two students did not hold this view. We were also interested in the answer to the question whether the majority of people thinks creatively every day. Before the experiment, 5 pupils answered this question negatively; at the end of the experiment, the number increased up to 7 negative answers. We assume that some pupils have realised that creativity does not come naturally; it requires a lot of effort. From this point of view, it is obvious that creative ideas do not come naturally; however, the correct answer to the above question should have been positive.

Another area showing some interesting shifts are the reasons that, according to the pupils, are obstructive to their own creativity. Before the experiment, 6 pupils wrote that they had no creative abilities; after the experiment, only 2 pupils held that view. During the experiment, 4 pupils – almost 27% – have changed their minds and discovered their creative abilities. Another fact shows that the pupils were reconsidering themselves and reassessing their attitudes: Whereas before the experiment the laziness was marked as a creativity obstruction only by 8 pupils, after the experiment their number increased up to 14 (93.3%), which is an increase of 40%. The fact provided is related to the issue of self-assessment and self-understanding, which tends to be overly critical. We believe precisely these facts to mark the areas, which should be in the focus of a future analysis; it would help to identify the motivational factors influencing the conative element of attitude towards creativity and actual creative activity based on the individual initiative.

At the same time, we assume that despite the statistic insignificance of differences of ante and post measurements in EG, we succeeded in changing the attitudes of pupils towards creativity. In EG, the pupils reached higher score after the experiment than before the experiment in both methods /IPOT, AS/. So there was the increase in a positive direction but it was statistically insignificant, and so our third sub-hypothesis was not confirmed.

## **Global conclusions on the creativity research**

At the beginning of our research, we formulated the hypothesis including an assumption that cognitive and creative strategies can increase the level of creativity of pupils in EG in comparison to pupils in CG. Based on

the main hypothesis, other three sub-hypotheses were formulated. The results and findings are as follows:

Out of the three hypotheses, only one was confirmed. Sub-hypothesis no 2, which assumed positive increase in creative potentials, was not confirmed. We believe this fact to be a result of the situation that our experiment duration could not influence such deep and change-resistant elements, such as motivation, diligence and sensitivity. Sub-hypothesis no 3, which assumed the improvement of attitudes towards creativity, was not confirmed as well but the actual opinions of the pupils are basically positive. In regard to this fact, we are aware of some persisting deficiencies and the need of more effective influence on motivation of pupils to creative activities.

The first sub-hypothesis, which assumed the creativity increase in performance tests, is crucial for our research. The significant changes in favour of post measurement in EG occurred in all creativity factors observed; especially the double increase in flexibility and originality up to 0.01% level of significance, which confirms our assumption that if we want to establish creativity as a value of contemporary youth, it needs to be done purposefully and strategically, taking step by step of creative process.

All changes provided are interpreted as the result of cognitive and creative strategies use, which motivate and stimulate pupils and develop their creativity in education. The most important criterion, that is, the performance tests, significantly increased in the post measurement. Generally, we can conclude that the creativity level of EG pupils increased and so the main research hypothesis was confirmed.

### **Experimental teaching as perceived by participants (pupils)**

*How did the pupils perceive the experiment?* We believe that the complex research evaluation should include also the opinions of the most important “elements” of the experiment – the pupils. Their opinions, along with the statistic results, determine the quality and effectiveness of the cognitive and creative teaching strategies. After the experiment was finished, we ask the pupils to express their opinions, insights and suggestions. Their answers are not quantified, we only provide their tendencies. In the field of language development, the pupils appreciated mainly the conversational methods, opportunity to participate actively in topic and problem discussions and more effective vocabulary learning using the methods, which were quite new for them and thus perceived as more effective in English language learning.

*We present the observations and opinions on other characteristics of teaching methods in their authentic form as given by pupils:*

...I think that these classes were very useful for us ...;

...these classes were more interesting than the previous English classes ...;

...the teacher behaved differently than other teachers. Different attitudes, different teaching methods but she was authoritative enough...;

...I was very satisfied with the teacher who could understand the pupils and approach them equally and she would listen to everybody's opinion... ;

...English has become a subject, which I have become consciously aware of /mostly/ and sometimes, I was even looking forward to it. No teacher has managed to raise my interest in the subject before....;

...it was a great experience for me. There has been a lot in it, not only English...

*What did we observe in the role of authentic observers?* As we were present in the experimental classes /in the role of observers/ we would like to express some of our observations and so make the results and findings interpretation more complex.

Before the actual experimental teaching had begun, we asked the teacher to give brief characteristics of the experimental group. The teacher had positively assessed the pupils' knowledge and identify the as non-problematic in terms of teacher – pupils relationship. Despite that fact, she had referred to the group as complicated. Pupils were mainly passive and were not interested in the subject and class activities. At the beginning of the experiment, we had to deal with the situation, too.

Breaking the ice and dealing with the pupils' apathy was not easy at all. In the course of the experiment, the situation began to change. The changes were slow and often accompanied by conflict situations but those were valuable. The conflicts occurred mainly during the group work, in which the pupils needed to come to an agreement on particular method or solution. The work was commented with statements such as "Everything must be as you say.", "You criticise everybody all the time. ", "It is impossible to come to an agreement with you.", etc.

The changes in the behaviour of the teacher and her teaching style did not go unchallenged. When there was no threat of "a bad grading" for the homework undone, one group of pupils understood it as a signal that the homework is not so necessary anymore. Another group of pupils protested that their homework was not adequately assessed because for them, no other evaluation was as valuable as the grade. These facts fully reflected the motivation structure of pupils towards learning, in which the outside motivation factors prevailed, especially the grades. The interest in the knowledge or individual personal development was only of secondary importance.

In the course of our experiment, several changes occurred. Due to the limited period of time for the experiment, no significant changes occurred in some assumptions but we still recorded a number of positive development tendencies. We consider active participation of some students in the class preparation to be successful. Their observations and suggestions were not only the source of inspiration but also the basis of qualitatively new partnership between the teacher and the pupils. The climate in the group started to change gradually. The behaviour of the pupils was more and more spontaneous; the pupils were more open towards the teacher. The group that, according to the teacher, was not able to show compassion or joy has suddenly opened up. The pupils started to show their emotions; the negative one first (disgust to do something, fear of being mocked by the group if they failed to pronounce the word correctly, etc.); then they expressed also positive emotions (joy of task well-done, humour in the class, etc.). The group has become a space, in which everybody could have a good laugh. The change was noted by the teacher: "I am teaching them for three years in a row now, but I have never seen them like this."

Alongside with the pupils, also we can agree that the experimental teaching was a great experience. We have heard and read a lot about significant positive changes produced by creative teaching methods and by implementation of innovative methods but it was the personal experience that has incredibly enriched us. Theory as well as practice experienced by many teachers speaks in favour of creative humanistic teaching. We had the chance to witness the change of pupils on our very own eyes. So today, based on our own experience, we can proclaim the atmosphere of honesty, acceptance, understanding and creative teaching using the creative and cognitive strategies to have open up the space for personal development of pupils and given us the hope that this phenomenon will become not only the ultimate value of the youth but also the instrumental value, which the youth will use to shape themselves as well as the world.

## **Discussion, conclusions and recommendations**

The aim of our research was to determine how much the cognitive and creative teaching strategies determine and dynamize the creativity of the youth.

We believe we have met our objectives. Our research has proven that it is the teacher who influences the personality of pupils, and their creativity level even under the conditions that, according to teachers, are not at all ideal for creativity development. Such are the conditions at our schools

characterized by oversized school curriculum, guidelines and regulations restricting the creativity instead of encouraging it. Moreover, the teacher must deal with the apathy of their pupils as well as their low motivation to perform any activities, which reflects the negative attitudes of pupils towards the school as an institution. Despite this fact, we were trying to prove that a motivated teacher with necessary knowledge and skills is able to influence a lot. They can, for instance, change their approach to pupils and to the teaching in general.

We believe that theoretical level of our research results have introduced supportive arguments for development of programmes targeted at the intentional creativity development. Specifically helpful is the contribution to the creativity development; particularly in the English language classes, in which our research is perhaps the first of its kind (mainly in terms of use of the creativity diagnostic tests). Our recommendation or rather a wish is to develop creativity programmes with similar focus in the future (collaboration of teachers, psychologists and university teachers), because they proved to be effective and applicable under the conditions of a common school.

Our research results can be applied into several areas of the teaching practice. It can be inspirational for teachers, methodologists and people working in education.

In practice, it is more about the teacher's ability to transform the content of their subject into divergent and creative tasks and use the whole range of cognitive and creative teaching strategies. In addition, the teacher should be familiar with the broader philosophical basis of creative teaching in order to interiorize the principles of non-directive approach as well as the creative humanistic conception of the education and should be not afraid to experiment. According to the research results<sup>7</sup>, our teachers are not familiar with this kind of teaching. We believe that the situation should be addressed in two ways: Teachers in teaching practice should be offered specialised trainings, seminars and programmes of post-gradual nature, in which they could gain the necessary creative competency. In contrast, the prospective teachers should be prepared for such teaching style during their university studies, in particular during their pedagogical and psychological training.

We believe that the effort, time and money invested into the education of creative teachers will pay back in the form of more developed and mature personalities of pupils.

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<sup>7</sup> E. Sollárová, *Aplikácie prístupu zameraného na človeka (PCA) vo vzťahoch*, Bratislava 2005; E. Szobiová, *Tvorivosť, od záhady k poznaniu*, Bratislava 1999; M. Zelina, *Výchova tvorivej osobnosti*, Bratislava 1995; J. Dargová, *Tvorivé kompetencie učiteľa*, Prešov 2001 and others.

## Conclusion

We believe that nowadays, just like in the history, the images expressing self-awareness and self-assessment of an individual are going to be historically volatile, even in depiction of the existential level of man emanating from the values. Man, not only as a representative of the human race but also as an individual is an open being. At the social level comprising particular values, an individual is shaped by results of the activities carried out by his ancestors, their culture and actions; and by that, one constitutes the culture. However, the man is a limit to himself; he shapes himself by his projects and his actions, which encourage the formation and expression of his abilities and needs.

*Work is love made visible*  
Kahlil Gibran: The Prophet

The most important research findings are presented below in the clear graphical form.

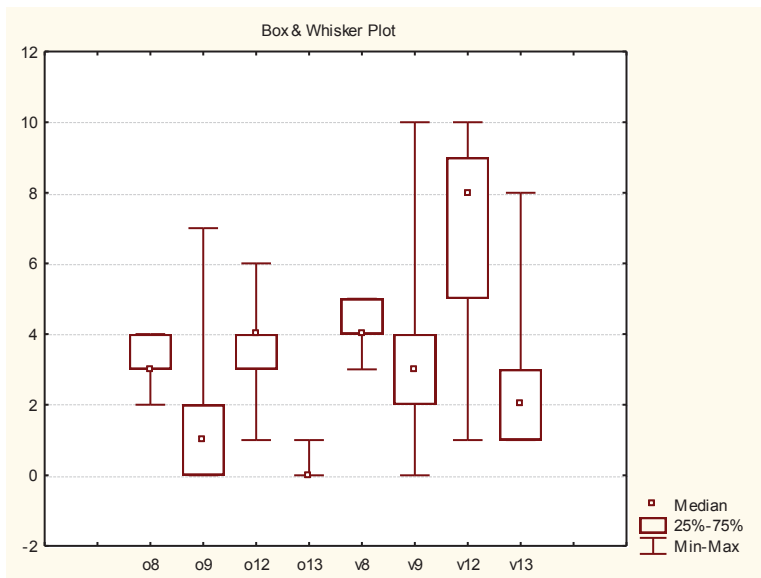


Fig. 1. Creative skills of EG pupils in flexibility and originality factors before and after the experiment

Notes:

o – input measurements 8 – flexibility (figures) 12 – flexibility (circles)

v – output measurements 9 – originality (figures) 13 – originality (circles)

Note: Graph shows statistically significant differences at least at 0.01% level.

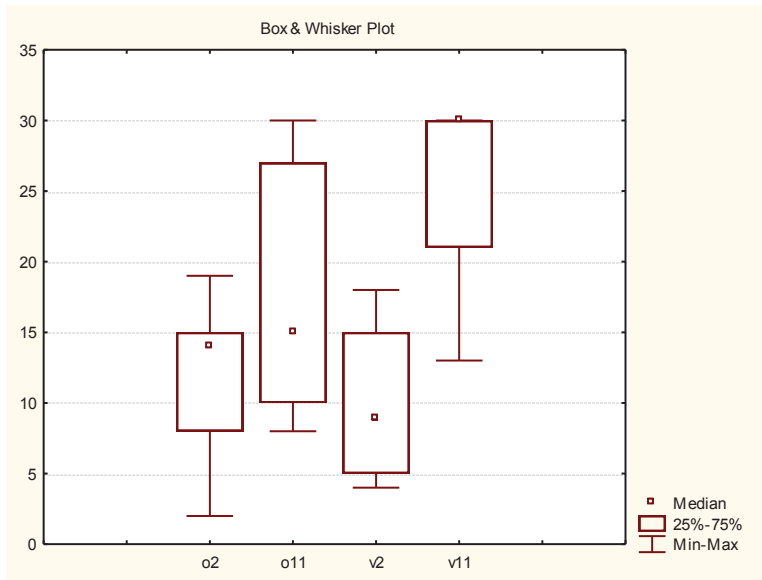


Fig. 2. Self-esteem and creative abilities of fluency factor of EG pupils before and after the experiment

Notes:

o – input measurements 2 – self-esteem /WKOPAY/

v – output measurements 11 – fluency (Circles)

Note: Graph shows statistically significant differences at least at 0.05% level.

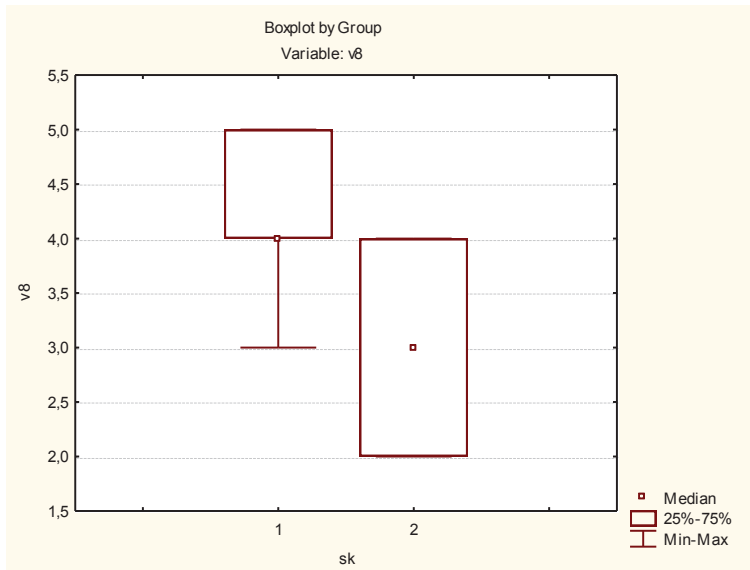


Fig. 3. Creative abilities of EG and CG pupils in flexibility factor after the experiment

Notes:

1 – experimental group v8-flexibility (figures)

2 – control group

Note: Graph shows statistically significant differences at least at 0.01% level.

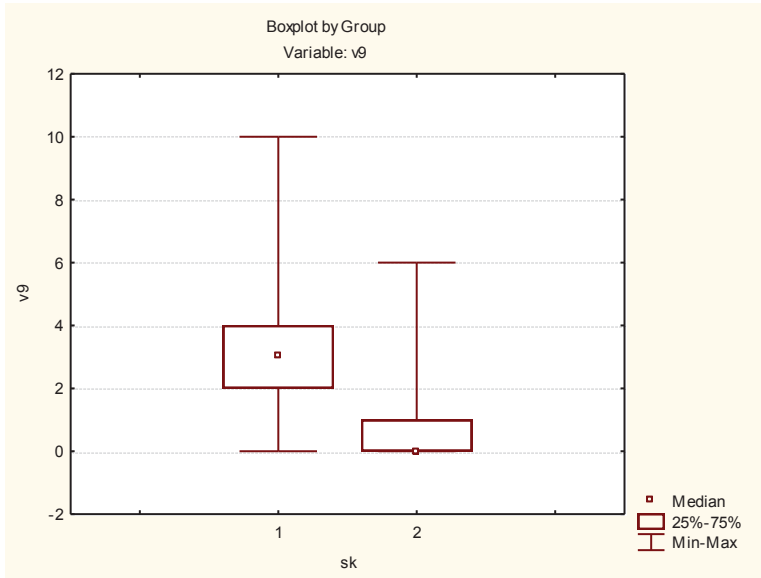


Fig. 4. creative abilities of EG and CG pupils in figural originality factor after the experiment

Notes:

1 – experimental group v9-figural originality (figures)

2 – control group

Note: Graph shows statistically significant differences at least at 0.01% level.

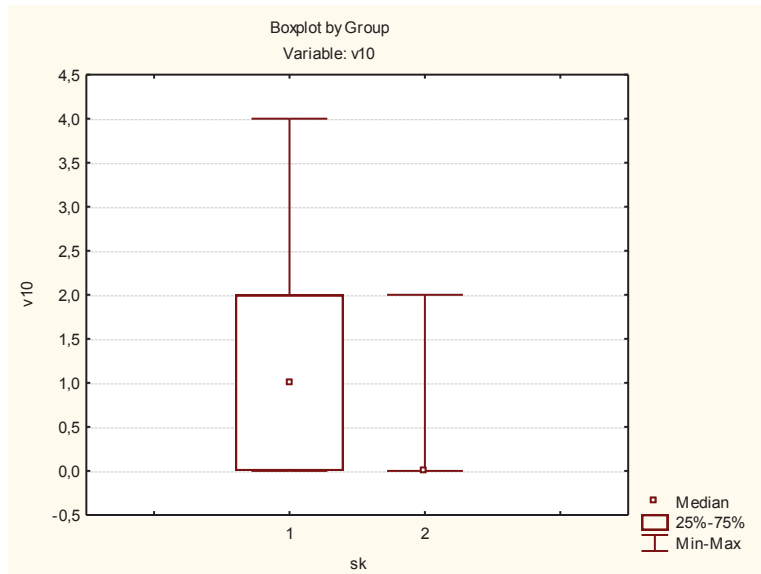


Fig. 5. Creative abilities of EG and CG pupils in verbal originality factor after the experiment

Notes:

1 – experimental group v10-verbal originality (figures)

2 – control group

Note: Graph shows statistically significant differences at least at 0.01% level.

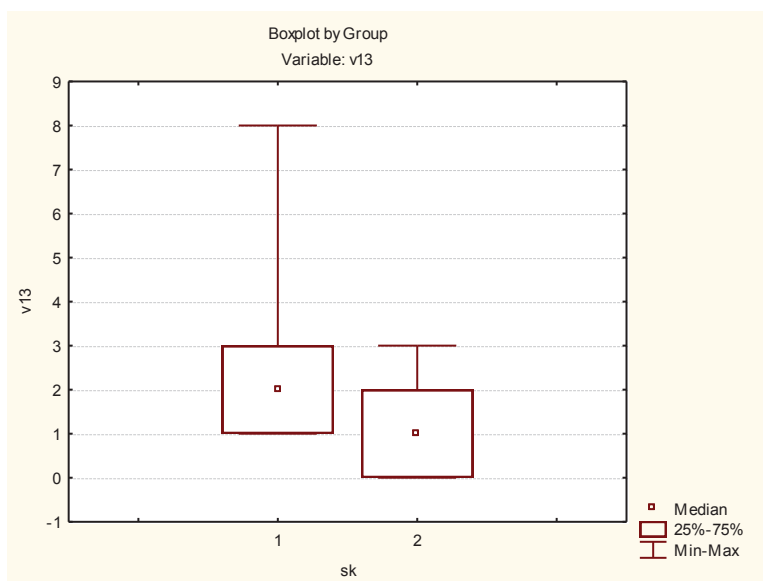


Fig. 6. Creative abilities of EG and CG pupils in originality factor after the experiment (Circles test)

Notes:

1 – experimental group v13-originality (circles)

2 – control group

Note: Graph shows statistically significant differences at least at 0.05% level.

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## **Kreatywność jako ostateczna i instrumentalna wartość młodzieży**

### **Streszczenie**

Autorka uznaje poznawcze i twórcze metody nauczania za jeden z najistotniejszych sposobów na rozwijanie kreatywności młodzieży. Celem niniejszego artykułu jest nie tylko udowodnienie, że kreatywność jest ostateczną i instrumentalną wartością współczesnej młodzieży, ale także wskazanie na możliwości jej rozwijania w warunkach współczesnej szkoły. Artykuł zawiera wyniki badań autorki, które ukazują dynamikę rozwoju kreatywności, a także postaw uczniów wobec tego zjawiska. Autorka próbuje także określić osobowościowe cechy dynamizujące rozwój kreatywności. Motywem przewodnim tego artykułu jest idea, że wiek dojrzewania to nie tylko wiek rozwoju krytycznego myślenia i kreatywności, ale także czas wdrukowywania kreatywności do systemu wartości.

**Słowa kluczowe:** kreatywność, dojrzewanie, poznawcze i twórcze metody nauczania