Humor as a means for developing student creativity

El humor como un medio para desarrollar la creatividad estudiantil

Olga GNEVEK 1; Mariya MUSIJCHUK 2; Sergey MUSIICHUK 3

Received: 30/07/2018 • Approved: 20/08/2018

Contents
1. Introduction
2. Methodology
3. Results
4. Conclusions
Bibliographic references

ABSTRACT:
From a psycholinguistic point of view, verbal humor is the result of cognitive-affective activity of a person's consciousness aimed at detecting and removing a logical contradiction revealed in a statement. In this sense, humor is close in nature to creativity understood as a psychological peculiarity of an individual, contributing to elaboration of unconventional solutions to various life problems. The article describes a methodology for developing creativity in psychology students based on analysis and subsequent independent generation of humorous statements. The relevance of the study is determined by a search for optimal means of developing creativity in higher school students.

Keywords: students' creativity development, humorous statements as the main means of teaching, system of learning activities, information-cognitive, research, and creative-practical problems

RESUMEN:
Desde un punto de vista psicolingüístico, el humor verbal es el resultado de la actividad cognitivo-afectiva de la conciencia de una persona dirigida a detectar y eliminar una contradicción lógica revelada en una declaración. En este sentido, el humor es de naturaleza cercana a la creatividad, entendida como una peculiaridad psicológica de un individuo, que contribuye a la elaboración de soluciones no convencionales para diversos problemas de la vida. El artículo describe una metodología para desarrollar la creatividad en estudiantes de psicología basada en el análisis y posterior generación independiente de declaraciones humorísticas. La relevancia del estudio está determinada por la búsqueda de medios óptimos para desarrollar la creatividad en los estudiantes de la escuela superior.

Palabras clave: desarrollo de la creatividad de los estudiantes, declaraciones humorísticas como los principales medios de enseñanza, sistema de actividades de aprendizaje, información cognitiva, investigación y problemas creativo-prácticos

1. Introduction
Practical readiness for self-learning presupposes creative abilities in a learner. Creative abilities are understood as psychological peculiarities of a person, contributing to elaboration of unconventional solutions to various life problems, formation of an unfailing interest in research activities and self-development, and ensuring generation of new ideas and
approaches.
Psychological and pedagogical literature contains an impressive number of approaches to the development of children, adolescents, and university students, but humor is rarely studied as an effective means of building creativity. This research is dedicated to studying possibilities of humor in the development of creativity in psychology students. Following A. Schopenhauer (2015), the authors believe that humor is a phenomenon perceived as seriousness concealed behind a joke. In other words, from a psychological point of view, humor is qualified as a cognitive-affective activity of an individual’s consciousness, aimed at detecting and removing the revealed contradiction (the seriousness behind a joke). What is meant by an affect in this research is manifestation of an individual’s emotional-sensory experience in laughter activity.

From the psycholinguistic point of view, humor is verbalized speech acts, whereby, against the background of a positive sentiment, a description of a contradiction (problem) and a way to overcome it (solution) are proposed. From a philological point of view, humor is a bantering attitude towards something or someone implemented through a special selection of linguistic means.

A complex characterization of humor allows the authors to consider it as a special means of teaching, while examining which it is possible to identify specifics of the actual mechanism for unconventional cognition style formation. The proposed approach has been implemented in practice as an introduction to meta-subject course “Dozen of Wit Devices” for aspirant psychology teachers, developed by M.V. Musiychuk (2008).

The proposed approach effectiveness is largely conditioned by revealed characteristics of humor as a means of teaching.

1.1. Literature review
Selection of humorous statements from world fiction books that are the best, according to the authors, as the main means of teaching is associated with phenomenological nature of the funny in general, namely, with the presence of a great cognitive and affective potential. Cognitive potential means there is an abundance of unconventional ways to remove contradictions revealed in humorous statements. The ontological significance of laughter, according to L.V. Karasyov (1991), lies in the fact that laughter “overturns the habitual relationship of man and the world. ... Illogical, contradictory, able to connect with any working of the heart, laughter is aimed at the future and unconceivable without it. ... Laughter does not only contemplate the future, laughter fore-tells it”. 
Jean-Paul Richter (1981) qualifies humor as an activity equally connected with feelings and reason and serving as a universal way of cognizing the world. F. Schlegel (1983) deduces the main way of cognition through the funny (“paradoxical’), denoting it as “an absolute synthesis of absolute antitheses”.

The connection between humor and an insight is established by A. Schopenhauer (2016): “The cause of laughter in every case is simply the sudden perception of the incongruity between a concept and the real objects which have been thought through it in some relation, and laughter itself is just the expression of this incongruity”. The scientist considers a witticism, its “illegal” variety – a pun (innuendo, play on words), a joke, a parody to be the product of laughter activity.

In psychological science, the comic is characterized as a semiotic counter-sign that differs from other verbal signs in the following terms: in a creatable context, it does not fulfill the characteristic “denomination function, but is a means of deforming those already existing signs, destroying the definitiveness of their signifiers, eroding their meanings ... Characteristic of the conventional sign, the validity of content is lost in the counter-sign, ... what is before us is not a “void” sign, but a sign meaning “equality”, equiprobabaility of alternating contents” (Borodenko, 1995: 8-9).

A fairly detailed study of humor was conducted by S. Freud (1995), who created a classification of witticisms based on the criterion of a speaker’s goal sets. He considers the
speakers’ focus on expressing a logically correct idea in logically incorrect ways to be a common feature of wit as a process. Such perspective unites S. Freud’s point of view with the generally accepted qualification of wit. However, unlike other researchers, the psychologist strongly believes that wit, to a greater extent than other forms of appearance of the comic, involves the affective component of laughter activity.

The affective component of humor is studied particularly thoroughly by R. Martin (1998). He considers humor as a behavioral pattern (a tendency to frequently laugh, tell jokes and make others laugh); an ability (to remember jokes, to tell, create, and understand them); a character trait (cheerfulness); an aesthetic reaction (laughter over certain kind of things); an attitude (a positive attitude toward the world or funny people); a view of life; a strategy to overcome difficulties (the tendency to overcome adversity through the prism of humor). Humor is seen as a communication skill that increases the effectiveness of communication, along with such psychotherapist qualities as empathy and sincerity (Martin, 1998, 2000; Olson, 1994; Rutherford (1994) and others).


M.M. Bakhtin was one of the first to call laughter the main means of relieving various phobias and a condition to start a real analysis of the phenomenon under study: “Laughter is a close-up form, it highly zooms an object in, destroys any distance and remoteness (eminence) of the object, created by piety or fear; the world cannot be funny when perceived at a distance. Therefore, laughter is the prerequisite of realism: it draws the object into the zone of modernity and familiarity where one can touch it, decompose, penetrate into its entrails and examine them” (Bakhtin, 1986: 514) Laughter over misfortune, adversity, death is inherently recognition of immortality of human spirit associated with all the aspects of human existence. Laughter over the world around is a realization of its inconsistency and a search for new ways to overcome it. Laughter at oneself is an attempt at self-improvement of the intellectual-sensual experience available, which eventually enriches all of mankind.

Intellectual, emotional, and personality disturbance mechanisms of sense of humor are described in research of Ye.M. Ivanova, S.N. Yenikolopov, and M. Yu. Maksimova (2005; 2008). B. Borcherdt (2002) made efforts to study a contribution of humor to mental health. The data in these works are consistent with the authors’ comprehension of the phenomenon of “humor”. In humor as a process, ability, and a product, as in no other psychic formation, a complementary relationship of the intellectual and affective principles is manifested, its destruction resulting in destruction of the phenomenon itself.

A. Cann and C. Matson (2014) consider sense of humor to be a socially desirable phenomenon facilitating establishment of contact between communicants. Various aspects of implementing the contact-establishing function of humor are explored in detail by Dorien Van Mieroop and Stephanie Schnurr (2018).

D. Tamblyn (2003) proves that humor helps to better learn, and teachers and trainers should consider the possibility of integrating humor into the learning process. Please note the fact that D. Tamblyn argues that this is especially true in academic environment, because critical thinking develops according to the laws of creative thinking. The work of Eleni Petrarki and Huy Hoang Pham (2016) maintains that use of humor in the learning process as a contact-establishing agent and a switching means creates a situation of psychological comfort. The possibility to create a psychologically comfortable environment through humor as a means of teaching in higher education is reflected upon by Masoud Azizinezhad and Masoud Hashemi (2011). Verbal humor is considered by Lore Van Praag, Peter A.J.Stevens, MiekeVan Houtte (2017) to be a means of smoothing relations of social inequality between students, as well as a means of alleviating psychological stress and
tension that accumulate during the training period.

In their practice, the authors of this research have encountered situations of using humor as a means for manipulating the school community in the context of implementing humor as a means to establish a creative environment. In this regard, the authors have confined themselves to using verbal funny statements as a means of teaching.

As a whole, generalization of the studies mentioned in the review has made it possible to infer a number of provisions important for the experimental work organization:

1. Humor is a cognitive-affective phenomenon whose essence lies in a verbal presentation of an unconventional way to resolve a contradiction against the background of a new approach to the contradiction and a new attitude towards it.

2. With all the diversity of humorous statement creation, the following ways to create them described by S. Freud are distinguished:
   - Concentration: a) with mixed word formation; b) with modification.
   - Use of the same material: c) the whole and its parts; d) permutation; e) small modification; e) the same words used in a new sense, thereby losing their original meaning.
   - Ambiguity: g) denomination of a proper name and a thing, h) metaphorical and real meaning of words; i) play on words; j) double interpretation; l) ambiguity with a hint.

3. In the process of mastering general ways to create humorous statements, approaches and attitudes to real-life situations change.

4. The mechanism for using humor as a means of teaching has not been studied; therefore, it is more appropriate to use this material as a means of teaching, a subject matter.

5. Sense of humor, as well as the ability to take jokes, is a sign of human mental health.

6. People having a sense of humor are characterized not only by a high tolerance for stress, but also by creativity manifested in the appearance of special personal qualities.

2. Methodology

During a research into the topic, both theoretical methods (logical-historical analysis, method of interpretation, modeling) and experimental methods of research (method of focal objects, brainstorming, synectics, morphological analysis) were implemented. The research materials are intended for university professors and senior school teachers.

At the beginning of the experiment on devising a model for creativity development in psychology students, the authors did not consider humor as the main didactic tool, focusing instead on main features of the abilities themselves: flexibility, facility and originality of thinking. A system of exercises, which would have an internal logic defined by understanding the content of such abilities as flexibility, facility, and originality of thinking, was deemed to be the most important for methodical model development.

Flexibility refers to the ability to quickly change the content and direction of ideas that accompany switching from one object class to another. What is meant by facility is “lightness” of a flow of ideas, actualized in substantiation of verbal reasoning. Originality is understood as a number of uncommon answers with simultaneous introduction of meaningfulness criterion, as well as identification of a new attribute in an object class and the substantiation quality of such identification.

Data analysis of various technologies for creativity development in students has allowed the authors to create the following classification, or typology, of creative problems: information-cognitive (gnostic), research (predictive, constructive, and projecting), and creative-practical problems.

Information-cognitive problems are understood as problems whereby a student gains new knowledge and work methods to solve non-routine problems. Research problems include such problems solving which students perform an exercise of judgment of the phenomena and processes under study, using research methods known to them. Provided that, when solving the first two types of problems, students prepare themselves for immediate creative activity, they simultaneously develop all the procedural creativity characteristics and
The information-cognitive block includes problems the authors nominally named “Grammar of Fantasy”. These problems assume independent creation of poetic and prosaic narrative texts by students, whereby heterogeneous phenomena of different types should be associated. Establishment of such connection requires a rejection of stereotypical classification methods and a search for new criteria for their creation. The need to present a plot poetically optimizes the process of searching for grounds for heterogeneous phenomena classification and underlies anticipatory generalization of the known and newly formed decision-making strategies.

The research problem block notionally named “Wit Devices” is compiled as an analysis of humorous statement and plot samples created by word painters. Simultaneous analysis of actualized methods and techniques for creating such fragments (dichotomy, retrospective analysis of a phenomenon, a clash of retrospective and synchronous analysis of a phenomenon, etc.) broadens the general range of solutions, “provokes” modification of various techniques implemented in different ways.

The final block of creative-practical problems is represented by problem situations described in various world fiction books (WFBs), which students themselves should formulate as problems and determine ways to solve them.

The system of heuristic problems developed by the authors for effective development of students’ creativity is focused on simultaneous development of flexibility, facility, and originality of thinking.

This system is implemented by the following methods and techniques: the method of focal objects, brainstorming, synectics, and morphological analysis tasks. Moreover, each problem block (versification, wit devices, and heuristic methods) performs a specific function, while increasing the degree of emotional attractiveness of problems.

The problem block on versification “Grammar of Fantasy” requires rhythmic organization of “poetical compositions”, increases the degree of emotional impact on an individual; the metaphorical function of poetics contributes to the development of thinking; it performs a function of individual human orientation, being a way of self-reflection and self-awareness.

The problem block “Wit Devices” is to be solved with an extensive use of humor. The ability to recognize humor is a function of both the mind and feelings; humor serves as a mechanism to destroy semantic stereotypes; humor makes an individual’s goal sets and operational attitudes dynamic; humor serves as a means of strong emotional reinforcement.

The problem block “Heuristic Methods” 1) ensures pleasure from cognitive activity in solving practical (real-world) problems; 2) predetermines a high significance of cognitive performance; 3) causes pleasure with the opportunity to show independence and initiative; 4) fulfills the cognitive need in combination with a high need for achievement.

As several series of an educational experiment were conducted, the authors were convinced that humorous statements used as didactic material rather quickly “awaken” creative imagination and fantasy in students, while problems are solved in a positive emotional environment.

Having determined the didactic basis of the pilot work, the authors organized the recent educational experiment as follows. Information-retrieval problems were solved through implementation of the heuristic conversation method and partially searching method. Solution of the research problem block was organized as implementation of the problem-based method with brainstorming phased in. Solution of creative-practical problems was organized in the form of implementation of exclusively research methods: the method of focal objects, brainstorming, synectics, and morphological analysis.

A scheme for presenting information-retrieval problems has been identified empirically and corresponds to the presentation order in the table.

<table>
<thead>
<tr>
<th>Table 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block of versification problems “Grammar of Fantasy”</td>
</tr>
<tr>
<td>No.</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>7</td>
</tr>
</tbody>
</table>

An action plan is formed by the teacher in conjunction with students. For example, students are suggested to think of a word for work, say, “a stone”. The word is decomposed into constituent letters, and words beginning with these letters are recalled (in the experiment, they were: an armchair, an aquarium, a washcloth, a raccoon, notes, soft sign of the Russian alphabet [ь]) Then, a story is compiled of the words collected thereby, something like this: “A raccoon, sitting in the armchair, was wiping the notes that were floating in the aquarium with a washcloth.” Students offer their own plots that are derivatives from the word “stone”. There are a large number of options derived from the same initial “stimulus” word. Examples are offered from the recognized word painter G. Rodari’s oeuvre (1996). The master described in prose all the stories created using the method of a "stone thrown into the pond”.

At the initial stage of work, our testees are invited to create a story in prose. The mastering of technique occurs almost after the first test. The testees feel a rush of joyful emotions and at this moment the second setting follows – to rhyme the resulting story. The subsequent algorithms are mastered with less effort. Completed tasks (creating own rhymed story) are presented in the audience, in ten minutes, which were assigned to do the task. All the participants read in a row, in the form in which it has turned out here and now. This is important for creating an atmosphere of creativity. There is an acquisition of the "experience of many" when using the same method.

Another exercise from the "Grammar of Fantasy" block is "Fantastic Binomial". The purpose of the exercise is to form semantic spontaneous flexibility through the creation of fantastic stories. The exercise is developed on the basis of the position of G. Rodari that a fantastic story can arise only from the fantastic binomial. Words should be separated by a certain distance, so that one is alien enough to another and their neighborhood is quite unusual; only at this point the imagination will be forced to intensify, striving to establish a kinship between the said words, to create a single whole, in this case the fantastic whole, where both alien elements could co-exist.

The "What would be if ..." exercise is also a way of generating stories. The exercise is performed with the purpose of forming semantic spontaneous flexibility. To work according to this method, any subject and predicate should be substituted in the formula: "What would be if ...?" The work is performed according to the following algorithm: 1. Any noun is written down. 2. Any verb is written down. 3. The noun is connected to the verb by the hypothesis "What would be if ..." 4. The resulting story is written down.

The purpose of doing the "Fantasy Trio" exercise is to develop the ability to establish non-trivial connections between familiar objects. The testees complicate the task on their own initiative, introducing several "trios". And sometimes there are successful attempts to use all the proposed options at the same time. The emotional attractiveness of the task and the given situation contributes not only to its acceptance for implementation, but also to a
spontaneous transition to a higher level of complexity, which undoubtedly indicates the formation of the actor's position.

To perform the "Tautopoetry" exercise it is required to choose any letter of the alphabet (you can take the one with which your name or surname begins) and compose a poem. A feature of the tautogram genre poem is that all words in this poem must begin with the same letter.

The "Limerick" task is also conducted using examples from the literature. When doing this exercise, to increase the motivation for activities and enhance the self-esteem, students are read a selection of "Limericks". Under the guidance of the teacher, students are searching for a method of creating limericks, in fact, they reveal the genetically initial ground.

The second block of tasks, collectively known as "Wit Devices", provides for the formation of the ability to detect the genetically initial ground (to identify the method) used to create a particular story.

**Table 2**
**Block of "Wit Devices" tasks**

<table>
<thead>
<tr>
<th>No.</th>
<th>Problem</th>
<th>Problem objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A dozen of wit devices</td>
<td>identification of regularities, development of flexibility of thinking</td>
</tr>
<tr>
<td>2</td>
<td>Horns and Hooves</td>
<td>identification of contradictions, development of flexibility of thinking</td>
</tr>
<tr>
<td>3</td>
<td>Gabrovo anecdote</td>
<td>identification of regularities, development of flexibility of thinking</td>
</tr>
<tr>
<td>4</td>
<td>Humorous tasks</td>
<td>development of flexibility of thinking, identification of regularities</td>
</tr>
<tr>
<td>5</td>
<td>Phrases</td>
<td>transformation of an initial situation, development of flexibility of thinking</td>
</tr>
</tbody>
</table>

In this block, the examples from works of world fiction are also used in the exercises. However, in this block the implemented techniques of creating the comic are identified and generalized already in the process of analyzing humorous statements.

The purpose of doing the "Horns and Hooves" exercise is to stimulate thinking by moving away from stereotyped situations based on the realized humorous effects found in the content of comic announcements. In this case, it is advisable to follow the following order of doing the exercise:

- to listen or read 5 - 10 ads;
- to analyze the content: what is it about? why is it funny?
- to make it unfunny: change the ad so that the comic effect would get lost;
- to make it funny: to alter a specific advertisement (for example, from the Inventor and Rationalizer journal) so that a comic effect would appear;
- to compose own ad on a given topic;
- to compose an instruction on the topic: "How to write ads in "Horns and Hooves. "This task, as the long-term experiment reveals, has a stable potential for reinforcing the skill to distinguish the genetically initial grounds.

The purpose of applying the "Gabrovo anecdote" exercise is to develop the ability to create humorous statements by analogy or by the opposite task method.

The teacher reads aloud several Gabrovo anecdotes (5 - 10) and offers listeners to determine what the ingenuity of Gabrovians is aimed at and what methods are used to create the text. Then they need to finish the anecdote started by the teacher. Home task presupposes composing their own at least two new anecdotes.

The guidelines "How to write Gabrovo anecdotes" are drawn for making a set of anecdotes. Drawing up the guidelines alone is a good exercise, enabling to reflect students' own
creative activity and generalize the collective experience in reflecting such suprasystemic concepts as genre, style, composition and standards in relation to the Gabrovo anecdote. The "Phrases" exercise allows forming verbal fluency, by inventing humorous endings to the beginnings of phrases. Variants created by well-known humorists are offered as control answers.

As already mentioned, the following techniques are used as the basic heuristic methods aimed at solving non-standard problems: the method of focal objects (MFOs), classical brainstorming, synectics, and morphological analysis (Wighting, 1958; Osborn, 1963; Gordon, 1961).

Let us consider the application of heuristic methods in our experiment. According to the MFOs, to solve the problem by searching for new associations, one should open at random any catalog, dictionary, or book, choose any word and mate it with the initial word (the name of the object, the problem to be solved). This initial word is called the focal object. When mastering the method of focal objects, the authors are guided by the provisions set forth by us earlier, concerning the emotional acceptance of activity. The testees are offered to choose definitions for words using the method of focal objects (options for the definitions according to the "Notebooks" by Iliya Ilf are given in parentheses): an autumn fly (heavy, cast iron); a cats' eye (striped, like gooseberry); spring (ice-cold red-nosed spring); grand piano (there was a small grand piano, dense, shiny, like a young bull-calf); eyebrows (like the crescent moon in early April); the snuffles (subconscious). The options of the classic writer will be heard after the testees create their own ones, using the method of focal objects.

The problems for solution should be selected from the inconsistencies of our daily reality. Any situation that needs improvement can be formulated as a problem. In the same way, the skills of transforming the initial situation are developed, when solving specific problems using methods of brainstorming, synectics, and morphological analysis.

The purpose of the "Pirate Symposion" exercise is to form fluency in thinking by generating a large number of ideas in a short time, in the process of working out the method of brainstorming. The exercise is conducted as follows: according to the legend, one pirate ship was wrecked, and the team, having got on an unfamiliar, possibly, hostile shore, got into a problem situation. The symposion was held according to the following rules.

1. The team was seated by rank in the circle. The shipboy spoke out the first, followed by the sailors, starting with the less experienced ones, the boatswain, the officers, and finally the captain.

2. The symposion continued until an acceptable solution was found. If the first round failed to do this, the second and third rounds were held.

3. In the absence of a specific serious proposal, it was necessary to tell an anecdote appropriate to the situation, to propose a riddle related to the problem under discussion, to describe a similar situation quick-wittedly, to give a funny characterization to the situation or offer an absolutely fantastic solution.

The purpose of the "Non-standard application of the object" exercise" is to develop the fluency and flexibility of the mind, the ability to see the object in the system of new links. To do the exercise, any object is taken, that is well-known to everybody - for example, a brick. The participants should name as many non-standard applications of a brick as possible. The exercise can be used both for individual work and for group work. Moreover, as practice shows, in the situation of a group solution the number of the proposed ideas increases significantly, due to the establishment of various new associative links.

To form the flexibility of thinking, it is advisable to use the heuristic method of "Synectics". The main principle of the synectics is the idea that it is necessary to teach the use of analogies as a means of targeting the problem posed. In this case the analogies of four types are used: direct, subjective, symbolic and personal ones. In the construction of analogies, the heterogeneous elements are combined. This method allows influencing the formation of flexibility of thinking.
It is advisable to apply the "Metaphors" Exercise to the development of skills in solving problems by means of the heuristic method of synectics. The purpose of the exercise is to develop the ability to equate the characteristics of one object with the characteristics of another, to better identify the essential characteristics of the object, for example: the mouth of the river, the hammerhead, the decision tree, to suppress resistance. This type of analogy was transformed into the technique of finding the "title of the book" metaphor. In literary creation, this method has been widely used for a long time. And it is applied to reveal the contradictory nature of the described characters or phenomena: "Guilty without Fault", "the Living Corpse", "the Flowers of evil", "Hot Snow", "Obvious Incredible".

The "Play on Words" exercise is used to form the ability to isolate the essence of objects and phenomena, by searching for distant analogies, reducing the influence of psychological inertia of thinking, fostering persistence in the search for a solution, in situations where the solution is not obvious.

To develop the method of morphological analysis, it is expedient to use an exercise called "Fantograms". The purpose of using fantograms is to broaden the range of the problem solution search, to systematically cover the main options for solving the problem. The author of the method is G.S. Altshuller. It is convenient to carry out the work under this method using a special table for obtaining fantastic ideas – a fantogram.

The fantogram is inherently a particular case of morphological analysis. The characteristics of the object are written down on the vertical axis of the fantogram, with the methods of fantasy creation being written on the horizontal axis. It is followed by the main thing: generating ideas for each square.

Thus, it can be seen that the fantogram contributes to the obtaining of a set of ideas that, with further development, may be used both in literary creation and in solving technical problems. This circumstance substantially strengthens the position of the actor.

When selecting tasks and exercises aimed at developing the creativity of the future teacher's personality, the focus was on the effectiveness of each individual task and the system as a whole.

3. Results

To assess the effectiveness of the experiment, the authors identified a number of indicators that evaluate the effectiveness of creative abilities development:

- Motivation for creative activity was investigated with the help of self-actualization test.
- The level of cognitive activity was determined according to the following indicators: the number and degree of difficulty of the solved problems offered for selection in independent work, the number of questions asked to the teacher after independent study of the material, the desire to solve the problem independently.
- The formation of the actor's position was determined with the help of a test that reveals the creative orientation of the individual.
- The operational apparatus practicing was checked by revealing the level of formedness of skills and abilities and evaluated through written tests on the main types of educational and cognitive activities in order to determine the coefficients of: a) mastery of activities; b) capture of activities
- The level of reflection was assessed from the viewpoint of the focus on the identification of a generalized mode of action, with the help of written tests on theoretical and practical material. The following indicators were revealed: a) the coefficient of completeness; b) coefficient of strength.
- The impact of the system of heuristic tasks was verified by revealing the emotional state with the help of the vegetative coefficient. The procedure for ranking color cards (from the most pleasant color to the most unpleasant) allows calculating the indicator of the total deviation from the autogenic norm (TD) and the vegetative coefficient (VC). Calculation of the TD and VC values is carried out according to the formula of A. Yuryev and K. Shyposh, given in the methodical guidelines by V.I. Timofeev and Yu.I. Filimonenko (1995).
technique is focused on revealing the emotional state of recipients. According to this method, M. Luscher’s test has mobilizing colors associated with activity (red and yellow) and passive colors associated with inactivity (blue and green). The attitude of the testees to these two pairs of colors reveals their energy setting (the desire to spend energy, actively being involved in the process of performing the task or vice versa, to show passivity). The VC value is determined by the formula:

\[ VC = \frac{18 - \text{Red} - \text{Yellow}}{18 - \text{Blue} - \text{Green}} \]

where the places of the corresponding colors selected by the actor are used in the numerator and denominator (Table 3).

The statistical significance of the differences in the experimental and control groups was verified by the chi-squared test. In the experimental group, a value greater than the table five-percent significance level was obtained (\( T_{cr} = 5.991 \)), which proves the effectiveness of the proposed model for the development of the creativity in psychology students on the basis of humorous tasks.

### Table 3
Indicators of the creative ability development

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Levels</th>
<th>Experimental group</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Diagnostic stage</td>
<td>Forming stage</td>
</tr>
<tr>
<td>Motivational personality traits</td>
<td>self-actualization</td>
<td>High</td>
<td>13.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>62.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>24.0</td>
</tr>
<tr>
<td></td>
<td>self-efficacy</td>
<td>High</td>
<td>12.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>15.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>71.6</td>
</tr>
<tr>
<td>Operational skills of creative thinking</td>
<td>Flexibility</td>
<td>High</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>29.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>67.0</td>
</tr>
<tr>
<td></td>
<td>Fluency</td>
<td>High</td>
<td>22.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>23.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>55.0</td>
</tr>
<tr>
<td></td>
<td>Originality</td>
<td>High</td>
<td>23.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium</td>
<td>38.0</td>
</tr>
</tbody>
</table>
3.1. Discussion
The experimental verification of the worked out model for creativity development in psychology students in the process of using humorous statements as the main means of teaching showed its high effectiveness. At the same time, stable trends came into view, which were not related to the planned learning results. In addition to the bright positive results of creativity development in the future teachers, negative consequences were also obtained that were associated with "flirting", "overacting" of students, the transformation of humor from the means of teaching into a method, the way of dominance by students perceived as leaders of the group or wishing to seem so. A small percentage of students (from 5% to 12% in different years) regularly sought to use their own jokes and witticisms as a means of lowering the social status of their groupmates. At present, we are not ready to discuss the causes of this phenomenon and will dwell only on recording it.

4. Conclusions
Thus, the use of humorous statements as a means of developing students' creativity in the process of implementing the proposed teaching methodology provides an actual, stable and clearly manifested formation of the most important properties of creativity as a personality trait, namely fluency, flexibility, and originality of thinking.

Bibliographic references


---

1. Doctor of Education, Professor, Preschool and Special Education Department, the Institute of Humanitarian Education, Nosov Magnitogorsk State Technical University. Contact e-mail: olga.gnevek@yandex.ru

2. Doctor of Philosophy, Professor at Psychology Department of the Institute of Humanitarian Education, Nosov Magnitogorsk State Technical University.

3. Candidate of Sciences (Philosophy), Public Administration Department, Nosov Magnitogorsk State Technical University.