



## **METHODS OF DETERMINING THE INTEGRATIVE CREATIVITY OF SOCIO-HUMANITARIAN TEACHERS**

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### **ANNOTATION**

*This article argues methods for determining and assessing the professional creativity of teachers, characteristics of creative skills, criteria for professional creativity, outcomes as well as analysis of scientific research in this field.*

**KEY WORDS:** *creativity, indicator, formation of creative skills, cognitive aspects of creativity, tests for creativity.*

### **INTRODUCTION**

President Sh. Mirziyoyev recommends that "Uzbekistan, in terms of science, capacity, contemporary personnel, high technologies, is a must for the intellectual world." Intellectual improvement of a country as well as development of social fields are closely related to the scientific along with professional enhancement of foreign affairs. From the first days of the 21st century, globalization in the enterprise, political changes in the world, socio-economic and cultural transformations are visible in the quality. Nowadays, the improvement of our country is primarily based on science and higher education. If we do not approach science as well as education with a new quality based upon high technologies, it is unlikely to achieve high goals in this field. Today, the most important task is not to lose the existing opportunities, to preserve and develop all the good aspects of higher education, and to raise the quality of individual training. Scientists and teachers, creative ideas as well as knowledge are the foundation on which the modernization of the higher scientific school rests. For this reason, creative teachers in a broad sense are the "beginning" of all processes related to the enhancement of the scientific individual potential of the country.

### **MAIN PART**

Creative enlightenment is the thinking of contemporary managers, teachers, students, as well as participates in the process from the lowest stages of the continuous education system to its highest stages, it is a means of improvement, growth, development, expansion and moderate maintenance, it is its main weapon.

Creative enlightenment performs the most significant functions of education in the modern world. The creative thinking of the teacher manifests itself in the process of planning, organizing, implementing, analyzing, justifying as well as controlling the results of the modern educational process.

Having creative qualities of pedagogues working in the higher education system gives them special opportunity to create new ideas different from the traditional approach to the organization of educational processes, to avoid stereotypes, originality, initiative, non-standard thinking, and timely advancement of innovation. Motivation, values as well as personal characteristics play a key role in the professional development of a teacher of a higher education institution.

The issues of educating creativity, formation of creative skills (Dj. Gilford, Dz. Gilmer, K. Rodgers, E. Torrens, etc.) were studied as well as analyzed on a scientific basis.

In the model (concept) proposed by E. Torrance, if the expert's IQ is below 115-120, intelligence and creativity are the only factor, if the IQ is above 120, creativity is an autonomous value.

J.S. Renzulli reflects the interaction between three main groups of gifted qualities, which are above average general capabilities, high participation in the task and high level of creativity. According to the author, creative people have such a system of qualities and they are able to apply these kinds of qualities in any field of their scientific works.



E.P. According to Torrens, creativity includes a high sensitivity to the lack or inconsistency of knowledge in the process of solving problems, actions aimed at identifying these kinds of issues, searching for their solutions based on hypotheses, testing and changing hypotheses, and forming a result.

Scientists, who have conducted scientific research in the direction of the problem of creativity, recommend the usage of different tests, personality questionnaires and activity analysis to assess the creativity of a person.

*E. Torrens lists the following as criteria of creativity:*

- fluency - the number of thoughts that occur per unit of time;
- originality - the capability to produce unique ideas that differ from the generally recognized ones;
- adaptation - the significance of this parameter depends on two situations: firstly, this parameter allows to distinguish individuals who are flexible in the process of solving problems from those who indicate persistence in solving them, and secondly, it can distinguish individuals who solve real problems from those who show false originality.
- sensitivity - sensitivity to unusual signs, contradictions and uncertainty, readiness to quickly switch from one idea to another;
- metaphor - willingness to work in a completely unexpected context, a tendency to symbolic, associative thinking, the ability to see the complex as simple, to simplify the complexity;
- enhancement (satisfaction with activity) - the feeling of understanding that the problem has been solved, creativity

## **METHODS OF ASSESSING THE CREATIVE POTENTIAL OF A PERSON (MULTIPLE APPROACH)**

Assessment of the cognitive component of creativity. Tests of this category are designed to measure the basic processes of thinking, which support to determine the divergent indicators of a person - fluency, adaptation as well as originality. Including:

- A. Binet, T. Simon's "Ink spot" test - diagnosis of imagination (using answers to the question "What does a person see in an ink spot?"), the number of answers is counted and their nature is evaluated;

- test for literary imagination (A. Binet, T. Simon) - allows to determine the widening of a person's literary imagination by randomly choosing from given nouns and verbs and making a sentence with them. In these tests, the number and nature of the constructed sentences are assessed;

- M. M. Wallach, N. According to the task, test for the divergent generation of ideas proposed by Kogan. . In these tests, the total number of ideas and the quality of original answers are evaluated;

-V.V. Moroz identifies five groups of tasks as a diagnostic dimension of creativity. These allow you to diagnose a person's creativity through enumeration, unusual use, analogy, interpretation of numbers and drawings.

-E. Torrens tests for creative thinking offer an assessment of quantitative (adaptation and fluency) and qualitative (originality) aspects of creative thinking.

-Insight (a function of spontaneous brain activity in creative individuals that supports to comprehend a problem on its own and quickly find a way to solve it) and long association methods are aimed at measuring creative potential, because solving this type of problem requires the ability to selectively encode, compare and combine .

- R. Sternberg, D. Davidson, S. *A test of tasks aimed at learning the concept offered by Medniks;*

- K. Dugan, E. Schiff, L. *Welsh word-object association tests;*

- *tests for metaphor (F. Barron);*

- *test for identifying distant associations (S. Mednik);*

- *creativity questionnaire (D. Johnson).*

## **METHODS OF DETERMINING THE COGNITIVE ASPECT OF CREATIVITY**

The word cognition is derived from the English (Latin) word "cognize", which means to know, understand, comprehend and to consider, or "cognition" - to know, to understand. On the other hand, cognitive activity is a phenomenon related to a person's direct perception and feeling of reality. In the process of perception of reality, a "subject-object relationship" appears, based on the mutual opposition between the performer of cognitive activity, that is, the subject, and the object of this activity.

Cognition is an educational activity that leads a person to the process of thinking, motivates cognitive activity to get into the essence of a problem with unclear, unknown new elements and directs them to their solution, leads to the growth of a person's consciousness, independent thinking, creativity and intellectual development.

Essentially, the following methods developed for the assessment of individual characteristics related to creativity in determining the cognitive aspects of creativity are recommended:



- *personality questionnaire NEO-PI (R. McCray, P. Costa) - used to measure openness, extraversion, emotional stability, conscientiousness as well as friendliness;*
- *uncertainty tolerance methodology (F.Zenasni, T.Lyubart) - used to measure risk tolerance and uncertainty tolerance;*
- *a list of personal qualities proposed to measure specific personal characteristics (G. Gou);*
- *scale of diagnostic assessment of level characteristics of skills (D. Renzulli, R. Hartman, K. Kalahen);*

#### **And as cognitive styles**

- *a scale for assessing specific personal characteristics of a person belonging to Myers Brigs (diagnosis of level characteristics of capabilities);*
- *Methodology for measuring motivation, attitude to creativity developed by K. Shefer (allows to evaluate the desire and interest in creativity of each person);*
- *E. Torrens' system of self-report tests based on measuring the scale of creative motivation, i.e. extrinsic and intrinsic motivation (used in the study of cognitive aspects of creativity) is interpreted.*

#### **To determine the emotional aspect of creativity**

So as to measure the emotional (emotional) variables affecting the development of creativity, the set of "Questionnaires and tests for emotional intelligence" recommended by D. Meyers, P. Selovey, D. Gouldman is used.

#### **To identify the social aspects of creativity**

Tests of this category are aimed at measuring the conditions of professional activity and the degree of influence of the social environment on creativity.

T. Amabayl, N. Grinkevich stated that "Questionnaire for evaluation of the quality of the social environment focused on creativity" as methods of assessment of conditions of professional activity;

T. Amabayl, B. The usage of 'CASE', developed by Hennessy, is widely used.

S. Isaacsen's methodology for assessing the creative atmosphere in an educational institution (organization) is used to evaluate the impact of the production environment on the development of creativity.

### **METHODS OF EVALUATING THE MANIFESTATION OF CREATIVITY**

#### *A) Assessment of creative activity*

The results of creative activity - products (assignments, drawings, ideas) are evaluated by colleagues and teachers. This method is more subjective, the comparison of evaluations according to established criteria as well as indicators is more reliable due to the large number of experts.

#### *B) Methods of evaluating creative achievements (product)*

Objective evaluation is carried out by assessing the number of creative products (articles, compositions, musical works, developments) created during a certain period of time.

#### *C) The method of forming a list of creative achievements*

In this case, the combination of processes related to creative activity is focused on self-evaluation based upon objective criteria (according to the number and nature of creative products created):

- *the scale of manifestation of creativity during life (R. Richards) - a structured interview that allows collecting information about the creative success of a person;*

- *assessment of creative products. A methodology for evaluating creative products created by a team for a limited time.*

- *7-point Likert scale (T. Amabayl, T. Lyubart, R. Sternberg) - creative product evaluation methodology. The grade ranges from 1 (low creativity) to 7 (high creativity) depending on the quality of the product created.*

Creative enlightenment is fostered by creating acquiring situations that are incomplete or open to the integration of new elements, where learners are encouraged to ask several open-ended questions.

For this crucial reason, a pedagogue with creative qualities has a creative approach in organizing his professional activity, activeness in creating ideas that serve to develop students' educational activities, personal qualities, independent study of advanced pedagogical achievements and experiences, as well as the experience of constant, consistent exchange of ideas with colleagues about paying attention to pedagogical achievements.



In the sphere of economics, an indicator is understood as a numerical indicator that shows changes in one or more economic, financial values, while in chemistry it is understood as an indicator of the reaction of a substance, alkali and acid, which is added to the studied solution to determine the chemical process that occurs (coloring, dissolution of sediment).

In social sciences or sociology, indicator (indicator in Latin - indicator) is a tool, device, information system for monitoring as well as measuring alterations that occur in the process of monitoring the object being studied, a set of parameters developed for direct research and evaluation of changes in other properties of the object.

Based upon different indicators developed to identify and evaluate creativity, we applied several methods in the process of pedagogical experimental work. As part of the experimental work, we used the following questionnaire to evaluate the creative abilities of teachers.

### Determining the teacher's creative competencies

#### QUESTIONNAIRE

Dear colleagues! We ask you to answer the following questions in order to determine the means of improvement and development of professional activity. Here are the questions. There are no right or wrong answers. Put a "+" next to the answers that reflect your opinion. Please try to give an unbiased answer!

Your age is \_\_\_\_\_, your teaching experience is \_\_\_\_\_, category \_\_\_\_\_

**If you are given the opportunity to share your experience with the teaching community (for example: at conferences, methodological associations, professional development courses, etc.) (select one option)? You.....**

- 1) I will not participate at all
- 2) I will not participate for now
- 3) yes or no depending on the situation
- 4) I often attend
- 5) I always attend

**Comment:** Explain your answer or add your own:

- (no, it takes too much time; too expensive in terms of material resources)

- 
- (yes, it allows me to learn about the experience of colleagues, Summarize your experience.)

**If you are invited to participate in a professional skills competition, you...:**

- 1). I will not participate at all
- 2). I will not participate for now
- 3). yes or no depending on the situation
- 4). I often attend
- 5). I always attend

**Comment:** Explain your answer or add your own:

- (no, because I feel uncomfortable in front of many people, I don't want to, I'm no different from others, because of my age or my family doesn't allow it) \_\_\_\_\_

- (yes, if it is some benefit, advantage, some achievement, if there is an order from the administration, if there is support from family and friends, if there is help from colleagues);

-(I always take the initiative and do not miss such an opportunity, which gives me the opportunity to better understand the meaning of my profession) \_\_\_\_\_

**Do you think it is difficult to introduce new pedagogical technologies into practice?**

- 1). it's really difficult
- 2). In many cases it is difficult
- 3). It may or may not be difficult depending on the conditions of a particular institution
- 4). Maybe it won't be difficult
- 5). No, it's not difficult. There is nothing complicated about it



**Comment:** Explain your answer or add your own:

- (yes, lack of time; lack of material and technical resources; low level of financial incentives;

\_\_\_\_\_

- misunderstanding with the administration, colleagues, parents; low awareness of teachers; high labor costs of the teacher; lack of special methodological developments that fully ensure the process, pedagogical conservatism) \_\_\_\_\_

- (no, because whoever wants to, finds his way and does not look for excuses)

**Is there anything preventing you personally from introducing innovation (developments, new pedagogical concepts, technologies, methods) into mass practice?**

- 1). Of course, there are many obstacles
- 2). It often destroys
- 3). sometimes depending on the situation
- 4). almost nothing stands in the way
- 5) nothing interferes, I am always engaged in innovation

**Comment:** Explain your answer or add your own:

- (no, because whoever wants to, finds a way, does not look for excuses)

\_\_\_\_\_

-(Yes, misunderstanding with the administration, colleagues, parents; low information awareness of teachers; high labor costs of the teacher; lack of special methodological developments that fully ensure the process, pedagogical conservatism)

**Do you personally have any motivation to innovate in the pedagogical process?**

- 1). there is no reason to make me innovate, nor can there be.
- 2) I don't think so, innovation is not for me
- 3). sometimes there may be some reasons depending on the situation,
- 4). There are often reasons. yes
- 5). of course yes, I have many reasons for this

**Comment:** Explain your answer or add your own:

(yes, the desire to increase your reputation; the desire to create something new; the desire to be recognized; the desire to increase efficiency and effectiveness; the desire to move to a new level)

\_\_\_\_\_

(development, teaching and upbringing of students; desire for self-expression; desire for material rewards; dissatisfaction with existing results;)

\_\_\_\_\_

(imperfectness of available educational materials, study guides, methodological guides and developments; lack of developments for lessons) \_\_\_\_\_

(no, innovation and innovation is not for me) \_\_\_\_\_

**Can you say that you are skilled in the use of modern pedagogical technologies?**

- 1). of course yes
- 2) Yes
- 3) partially, 50/50
- 4). Often not
- 5). Absolutely No

**How many educational technologies do you know?**

- 1). Not a single one
- 2). 1-2
- 3). 3-5



- 4). 5-10
- 5). More than 10

**How do you think you would score on a test about the characteristics of modern students?**

- 1.minimum score
- 2.below average score
3. average score
4. above average
- 5.high score

**How do you rate your level of knowledge in your specialty (subject you teach, field of study)?**

- 1.minimum
2. sufficient
3. Average
- 4.above average
- 5.high

**10. Do you know the specifics of different Programs (state, copyright programs, collective programs, partially related programs) recommended for your field (specialty)?**

1. I don't know the features of any program
2. I know, I can tell about the features of 1-2 programs
3. I know, I can tell about the features of 3-4 programs
4. I know, I can tell the features of 4-5 programs
5. I know I can tell you more than 5 features of the program

**In the last 3-5 years, how many times have you participated in professional skills competitions? (shows, festivals, competition, competition)**

- 1.never
- 2.one or more
- 3.I have wins and awards

**Please make your answer more specific**

You participated in competitions (at the level of an educational institution);

at the district level;

at the city level;

at the regional level;

At the republican level;

I regularly participate in various levels) \_\_\_\_\_

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**12. How often do you refer to scientific (professional) literature in your field (specialty)?**

1. rare
2. I apply, but relatively little
3. When and how, depending on the situation
4. often
5. regularly

**13. How often should you present your expertise at methodological seminars, methodological board meetings, conferences, etc.?**

1. never needed
2. rarely less;
3. sometimes;
4. often;
5. regularly

**14. How often do you revise and change your methodological and didactic materials?**

1. never, only once and do all



2. rarely;
3. sometimes;
4. often;
5. constant.

**15. Do you have experience in developing copyright programs (club program, elective course, extracurricular activities, copyright program, etc.)?**

1. No
2. yes, I made changes, adapted other people's (eg custom) programs
3. yes, I created my own original, authored program

**16. If you have the opportunity to change your field of activity (leave education), you:**

1. of course, I would leave without thinking
2. I can go
3. It is difficult for me to answer the question
4. I prefer to stay in the profession
5. I will not leave and prefer to remain faithful to the profession

**17. If your student or child tells you that they want to follow in your footsteps, You...:**

1. I strongly advise against doing so
2. I try to persuade you not to do so
3. warn about possible difficulties and problems
4. I will support and help him
5. I am proud of him

**18. Is it important for you to be a teacher because this profession has great social value?**

1. absolutely not
2. probably not
3. this question is difficult to answer
4. is partly so
5. Yes, it really is

**19. Are your personal goals compatible with your professional activities?**

1. no, they never match
2. is rarely, if ever, inconsistent
3. 50/50, depending on the situation
4. overlap
5. is the same in most cases

**20. How do you evaluate the creativity of your students?**

1. I don't have creative students
2. sometimes a creative student comes across
3. 50/50
4. most of my students are gifted and talented
5. all my students are creative

**21. Is it important for you that the teaching profession is a creative profession?**

1. No
2. No in most cases
3. Yes in most cases
4. yes, it affects my students and or colleagues

**22. Do you know how to behave when a problematic situation arises in the relationship with students?**

1. No
2. No in most cases
3. 50/50, depending on the situation
4. Yes in most cases



5. Yes, always

**23. Do you show enough determination and patience to complete the planned work within the scope of professional activity?**

1. No

2. No in most cases

3. 50/50, depending on the situation

4. Yes in most cases

5. Yes, always

**24. Can you get along with any student's parents?**

1. Yes

2. in part

3. This question is difficult to answer

4. probably not

5. No

**25. In personal pedagogical practice, what feelings do you feel the need to change?**

1. is negative

2. are often negative, but I know how to deal with them

3. does not evoke emotions; I don't care

4. I can find something positive in all the changes

5. I am always optimistic about the future

This questionnaire and a number of other tests listed above provided an opportunity to make a preliminary diagnosis of the professional creativity of teachers of the social and humanitarian direction of the higher education system and were used in the enhancement of the necessary methodological support for the first stage of experimental work.

Questionnaire analyzes according to the criteria proposed by E.Torrens. made it possible to determine whether the respondents have developed fluency, originality, flexibility, innovation, sensitivity to news, readiness to work in an unusual context, tendency to symbolic, associative thinking, the ability to see the complex in a simple way, the skills to simplify the complex, and the presence of job satisfaction.

## CONCLUSION

The whole methods are questionnaires aimed at the assessment of creative thinking and behavior, including self-assessment and expert assessment of creativity. These methods, despite having some disadvantages, are often used to measure the main aspects of creativity, because they allow quantitative assessment and comparative analysis in a short period of time. Taking everything into account, it can be said that the existing methods of creativity measurement and research show that the individual's creative qualities, creative aspects, diagnostic tools, nature, form, time limits and age characteristics differ.

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