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THE ATTITUDES OF STUDENTS OF PSYCHOLOGY IN GRADING  
KNOWLEDGE AND CREATIVITY

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**Abstract**

Starting from Gilford's differentiation of thinking into convergent and divergent, research was carried out into the attitudes of the students of psychology towards quality and the objectivity of professor's gradings, representation of certain elements of grading, as well as the ways of forming the final grade on an exam. The results indicate that, in spite of the reforms in the spirit of the Bologna process, grading is still being approached in a traditional way. Professors' grading is of good quality and it is objective, but reproduction of the material rather than creativeness of individuals and their competence to practically apply knowledge is mostly given attention. The result refers to the necessity of changing the way in grading, as well as the need for greater appreciation of creative potentials of students.

**Keywords:** convergent thinking, divergent thinking, grading, creative achievement, the Bologna process.

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ОТНОШЕНИЕ СТУДЕНТОВ ПСИХОЛОГИИ  
К ОЦЕНКЕ ЗНАНИЙ И ТВОРЧЕСТВА

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**Аннотация**

Начиная с разделения мышления Джой Пол Гилфорда на конвергентное и дивергентное, были исследованы точки зрения студентов психологии на качество и объективность оценки преподавателей, наличие отдельных элементов этой оценки, а также способы формирования заключительной оценки на экзамене. Результаты показывают, что, несмотря на реформы в духе болонского процесса, подход к оценке продолжает быть традиционным. Оценка преподавателя качественна и объективна, но на экзаменах по-прежнему наибольшее внимание уделяется воспроизведению учебного материала, а в меньшей степени творчеству отдельных лиц и их подготовке для практического применения знаний. Полученные результаты свидетельствуют о необходимости внесения изменений проставления оценок, а также на необходимость более существенного уважения творческого потенциала студентов.

**Ключевые слова:** конвергентное мышление; дивергентное мышление; оценка; творческое достижение; болонский процесс.

## INTRODUCTION

There have been a great number of attempts to define creativity but according to Sarsani [10] they could all be classified into four groups: creative personality, creative product, creative process and creative environment. One of the definitions that sees creativity as a product is the one of Sternberg. According to him, creativity represents 'the ability to create a new, purposeful (useful) product of good quality' [12; 13, p.13].

In Vygotsky, as well as in Piaget and Gardner, creativity represents a cognitive process. Vygotsky sees creativity to be much broader than the creative process and views it through three time axes: creative process, life span of an individual, and a historical moment. He observes creativity and development in interaction, in a dialectical relationship, where, in the mutual influence, both processes are transformed together. [2, p. 84-96; 13, p.61-65]. Creativity is understood as 'growing, positive ability of healthy people, as a transforming force in everyone, which changes the creator himself and at the same time the culture in which it is happening' [13, p.61]. The theory of Vygotsky is not just a theory of creativity, it is something much broader:

'Creativity does not exist only there where great historical acts are happening, but also everywhere human imagination combines, changes and creates something new' [13, p.61].

Creativity has started being more intensely studied since 1950, when Gilford [5, p.444-454], at the time the president of American Psychological Association (APA) addressed the psychological public. He criticized insufficient dealing with this subject and invited his psychologist colleagues to be dedicated to thorough study of creativity and abilities that lie in its basis. After this there have been an increased number of papers in this area. Gilford points out the main components of creativity: fluency, flexibility, originality and elaboration. *Fluency* represents the ability of producing many ideas within the given parameter, whereas *flexibility* is the ability of changing the existing mindset. *Originality* is the ability of finding the unique solution and *elaboration* is the ability of further development of an idea.

Gilford's differentiation of convergent and divergent thinking is of special significance for our research. In convergent thinking a person chooses only one appropriate solution out of multiple potential ones. The examples are school grades. School system, and even higher education system, function according to this system. Most of the exams are realized in such a way that the examiner (professor) asks a question to which there is only one true answer. This kind of approach leads to

the pupil/student being given better grades, if their behaviour is expected, that is, if they produce answers that are expected of them. [8, p.75; 13, p.36-37]. As opposed to this, in divergent thinking more than one potential solution can be given to a proposed problem and in that way unlimited number of ideas are created based on the initial one. Each of the offered solution can be considered acceptable. The examples are creative process and creative work. Here there is freedom of choice and creating solution but there is not the objective value of the product. There are also not solutions given in advance (true-false), as well as the measure of the quality of the solution. The greatest difficulty lies in adequate grading [9, p.46; 13, p.38]. The notion of divergent production has become a synonym for creativity even though it contains the elements of convergent thinking.

In practice, in primary and secondary schools, especially in higher grades, convergent thinking dominates in the form of usual assignments and tests. At faculties, too, this form of examining has been a dominant and only way of evaluation of students' knowledge. It resulted in persons prone to convergent thinking being graded as more successful, not for real potential and knowledge, but for the fact that that kind of assignment is more suited for them.

Divergent thinking is less represented and it is harder for evaluation. One study has even shown that highly creative children were less favourable and were valued less by their teachers [9, p.46; 13, p.82].

With the change of the way of studying, many questions are imposed. Is the situation at universities different? Are the reform changes in higher education that have been applied in the system of higher education in the Republic of Serbia since academic year 2007/2008 brought something new? Is divergent thinking more represented in the reformed programs? Has something changed in the way of grading and does that kind of grading include divergent production of students?

The Bologna process represents the reform of higher education in Europe with the view of establishing European ground of higher education by 2020, promoting the mobility of students and professors as well as ensuring the quality of studying on the basis of common criteria and methods [3]. This reform involves active engagement of students and a changed role of professors, in order to develop personal, skilled and social competence of a student as fully as possible. Here, the teacher has a role of 'moderating the process of learning, referring students to find more efficient ways to get to new information and new knowledge but also to create new ideas and strategies of acquiring knowledge and develop capabilities at the same time' [6, p.146].

Even though the determination of competence that students acquire after completing studies are much broader than the previous ones, they still do not clearly include the possibility of development and application of divergent production. In the outcomes of certain courses defined in terms of Bloom's taxonomy [1], higher levels of knowledge imply the possibility of application of divergent thinking but not clearly enough.

Factors that positively affect divergent processes are following: the quality of evaluation, time freedom, lack of competition, cooperation, freedom of expression, freedom of technique, liberalness of a role model, tolerance of not being specified, emphasizing a process not a product, diversity of the group, postponement of making conclusions, non conformism and such. On the sample of 100 students of the Faculty of Philosophy in Nis, [7, p.983-990; 8, p.75-86; 9, p. 45-54]. the attitudes towards the factors that enhance creativity as well as the factors that restrict it are examined. The students evaluated on the five grade Likert-type scales that their creativity is most favourably affected by: 1) the dynamics and interesting teaching ( $M=4,39$ ;  $SD=0,955$ ); 2) praise and direct reward ( $M=4,23$ ;  $SD=0,717$ ); 3) creativity of the professor himself ( $M=4,06$ ;  $SD=1,063$ ); 4) paying attention and dedicating extracurricular time to students and at consultations ( $M=4,06$ ;  $SD=1,031$ ); 5) objective and good-quality grading ( $M=3,87$ ;  $SD=1,088$ ); 6) professor's enthusiasm ( $M=3,81$ ;  $SD=1,046$ ), и 7) equal treatment of students ( $M=3,52$ ;  $SD=1,061$ ).

Students' creativity is mostly restricted by: 1) insisting on memorizing and not understanding the material ( $M=4,26$ ;  $SD=1,00$ ); 2) insufficient practice and practical knowledge ( $M=4,19$ ;  $SD=0,946$ ); 3) monotonous and boring lectures ( $M=4,13$ ;  $SD=0,991$ ); 4) dogmatism and non flexibility of a professor ( $M=3,87$ ;  $SD=1,056$ ); 5) inconsistency in grading ( $M=3,81$ ;  $SD=1,250$ ); 6) too much distance between a professor and a student ( $M=3,61$ ;  $SD=1,054$ ); 7) unequal treatment of students ( $M=3,45$ ;  $SD=1,261$ ) и 8) professor's not following contemporary findings in science ( $M=2,74$ ;  $SD=1,264$ ).

Objective and good-quality grading of knowledge – as a positive factor of manifesting creativity is ranked at the fifth place, but the significance of praise and direct rewarding is at the second place. The most significant factor that restricts creativity is insisting on memorizing and not understanding knowledge. For these reasons this paper will pay special attention to the problem of evaluating knowledge and creativity at the studies of psychology.

The evaluation of results is an inseparable part of the teaching process and without it the process would not make sense. In convergent production, grading is more or less simple: convergent product needs to be compared to the solution given in advance. In reformed teaching programs the outcomes of subjects that require higher levels of knowledge are determined, so that the way of grading is more complex and should involve not only reproduced answers but also completing certain number of pre-examination requirements.

Grading divergent production is far more complex. In fact, a question is raised over the appropriate time of introducing grading into the teaching process. In the initial stages of production grading can have a blocking effect on creativity so it should be avoided to ensure the creation of as more answers as possible (products). This implies the lack of any kind of censorship and encouraging every possible creative solution, giving ideas, thoughts and such. Therefore, evaluation should not be left out, since it is primarily a communication act between a teacher and a student. Evaluation needs only to be introduced at the appropriate time, because it is desirable and necessary and represents a communication act.

In spite of implemented reforms, a way grading at the universities has not changed. Even though the need for creative studying is discussed, exams are still mostly focused on reproductive knowledge. Robinson recognize «the pitfalls of assessment for creative learning, as national or end-of-year tests place enormous pressure on teachers and students, who focus on getting a better grade rather than on innovative practices» [4, p.26]. Begheto emphasizes that the main role of teachers in assessment is to help students to focus on understanding and learning rather than on grades [4, p.27].

The goal of traditional knowledge is to make student avoid making mistakes, to compare and compete with others, to get best grades and be the best. Begheto discusses performance goal-structure type. Unlike this type, there is an orientation on mastery-goal structure. This assessment «emphasizes self-improvement and skills development and focuses on learning and not on grading» and «... provides useful feedback on students' progress and enhances levels of curiosity, motivation, enjoyment and interest, all factors that are crucial in the development of creativity» [4, p.27].

## MAIN PART

Problem: Taking into consideration the significance of the problem of grading at higher education institutions, especially within reformed programs, research was carried out on the sample of the students

of psychology. In this paper we were interested in the attitudes of students towards the quality and the way of grading throughout four-year studies of psychology.

The goals of the research were following:

1. Examine the attitudes of students towards the quality and objectivity of professors' grading at the Department of Psychology at the Faculty of Philosophy, University of Nis.

2. Examine representation of certain elements of grading such as: understanding of the material, reproduction of knowledge, creative thinking and other;

3. Examine representation of certain ways of grading such as: grading on the exam itself, grading on progress tests, written and oral part of the exam and continual grading of all student's activities throughout the year.

4. Examine representation of certain elements of grading in the final grade on a final exam such as: displayed knowledge, displayed creativity in solving problems, completion of pre-examination requirements, regular lecture attendance, capability of practical application of knowledge etc.

5. Examine suggestions of students for possible improvement of the existing grading.

6. Examine if there are differences between men and women in the attitudes towards grading at the Department of Psychology.

#### Method and materials

Sample: One hundred students of the Faculty of Philosophy were examined, both genders, from the Department of Psychology aged 20-23, 70 females and 30 males.

Instruments: For this purpose a specially designed questionnaire was used to examine the factor of divergent production – FDP-30 [7], the first part that refers to the attitudes towards grading. The questionnaire contains 30 items altogether by which attitudes towards grading are examined, as well as the factors that enhance divergent production, evaluations of positive and negative factors of creative achievements, as well as the attitudes of students towards positive and negative sides of reformed studies of psychology. Items are mostly of Likert type and the offered answers are in the range of 1 to 5 (1- I completely disagree; 2 – I disagree; 3 – I am not sure; 4 – I agree и 5 – I completely agree). The questionnaire also has questions of an open type in which students can give suggestions and ideas for possible improvements of grading at the Department of Psychology. The questionnaire contains basic biographical facts such as: year of study, gender, failing year, using scholarship, student's status

(budget or self-financing) and average point during the studies. The questionnaire was anonymous.

#### Results and discussion

1) From the results it can be seen that the students evaluate the way of grading professors at the Department of Psychology favourably. On a scale from 1 to 7, the average point is  $M=4,32$ ;  $SD=1,376$ . That is, the students think that the grading of the majority of professors is objective and of good quality. This datum is in accordance with the regular annual students' evaluation of all professors, when similar average points were obtained.

2) As for the elements that are mostly valued in grading, (Table 1) reproduction of the material is still at number one ( $M=4.10$ ;  $SD=0,65$ ). It indicates that in spite of the reformed programs, the system and the way of grading have not changed much. Reproductive knowledge does not have great application in practice. At the second place is understanding of the material. ( $M=3.77$ ;  $SD=1,14$ ), which tells that aside from reproductive knowledge, professors require a higher level of knowledge, that is, understanding, and they pay considerable attention to this element.. After these elements of grading, *creative thinking and the ability of practical application of knowledge* follow with considerably lower scores. Similar to this are the points of students in regular annual evaluations, as well as in the reports from international testings of secondary school students' knowledge in Serbia, eg. PISA and TIMSS, 2009. [11, p.53].

The study program of the studies at the Department of Psychology at the Faculty of Philosophy, University of Nis, involves obligatory student practice of 120 hours of practical work and 60 hours of theoretical teaching. The faculty has contracts of cooperation with numerous social and private organizations but that is still insufficient for a large number of students (around 90 students at one year). Communication and coordination among the labour market, work organizations and facilities and universities are still underdeveloped in Serbia. The shortage of work, that is, a large number of unemployed persons with higher education make the existing situation even more difficult.

Nevertheless, the students of psychology show great interest in their profession, they get involved as volunteers into numerous local and international projects and they additionally educate themselves at their own expense. Those who are lucky to become employed show a high degree of expertise and creativity.

**Table 1**  
**Arithmetic average and range of certain elements of grading**

**Таблица 2**  
**Элементы для оценки на кафедре психологии – средние показатели и уровни**

range	Mostly valued during grading is	M	SD
1	reproduction of the material	4.10	.65
2	understanding of the material	3.77	1.14
3	creative thinking	2.97	1.30
4	capability of practical application of knowledge	2.84	1.10
5	something else	1.19	.65

3) The answers of the students of psychology (Table 2), indicate that professors mostly realize their exams through progress tests and written parts of the exam. (M=3.77; SD=1,14). One, or at most two progress tests are usually realized, but not continually. A big part of grading is still conducted on the exam itself in regular examination periods in written and oral forms. (M=3.48; SD=1,02). Continual grading throughout the entire semester is the least represented (M=2.97; SD=1,30) which is one of the main principles of reformed programs. In some subjects, pre-examination requirements include seminar essays, research proposals, as well as realization of small projects in a group. Due to large number of students and big groups for conducting practice classes, these pre-examination requirements are difficult to realize, follow and adequately grade. It is especially difficult to objectively and timely grade creative aspects of pre-examination requirements.

**Table 2**  
**Ways of grading – mean values and ranges**

**Таблица 2**  
**Способы оценки – средние показатели и уровни**

range	The majority of professors conduct grading:	M	SD
1	through progress tests and exams	3.77	1.14
2	grading only at on an exam	3.48	1.02
3	continually through the entire semester	2.97	1.30

4) Giving final grade on an exam also represents a problem. As mentioned before, students of psychology think that grading is mostly objective and of good quality. Aside from that, representation of certain elements of grading in the final grade should also be taken into consideration.

In the first place, realization of pre-examination requirements is graded (M=4.19; SD=0,74). This datum seems encouraging, since professors, in spite of their obligations and difficulties in realization of teaching and practical classes, take into consideration

student's pre-examination requirements and that greatly affects the forming of the final grade.

In the second place is still knowledge entirely shown on the final exam in regular examination periods. (M=3.65; SD=0,83). Due to high objectivity of tests and oral examination, it happens that the final grade is a matter of luck, since it encompasses only a small part of the material and neglects invested effort and activities throughout the entire school year.

The regular attendance of practical classes and lectures is at the third place of importance in forming the final grade (M=3.52; SD=1,00). Besides clear rules regulated by the Statute of faculty and the Law of higher education, frequent absence from practical classes and lectures is not always sanctioned, but these students are given additional assignments and pre-examination requirements to compensate for their inactivity.

The significance of portrayed creativity in solving specific problems is only in the fourth place in forming the final grade (M=2.26; SD=0,93). This element is not given the significance that it should have. The size of the group for practical classes, as well as the lack of space at the faculty, complicate individualized approach to teaching. Only at master studies while writing final master paper do the students manage to show their creativity and independence.

The significance of being skilled for practical application of acquired knowledge is the lowest in forming the final grade. The results of different surveys and regular annual evaluations are a proof of that. The students of psychology point out that they need much more practical knowledge. In spite of obligatory practice, the amount of that knowledge is still insufficient.

**Table 3**  
**The elements of the final grade– mean values and ranges**

**Таблица. 3**  
**Элементы заключительной оценки – средние показатели и уровни**

range	The final grade mostly involves:	M	SD
1	fulfilling pre-examination requirements	4.19	.74
2	only knowledge shown on the exam	3.65	.83
3	regular attendance of practical classes and lectures	3.52	1.00
4	displayed creativity in solving specific problems	2.26	.93
5	capability of practical application of acquired knowledge	2.19	.98
6	something else	1.10	.39

5) In the end the suggestions of students for improving grading at the studies of psychology were analyzed. The most common suggestions are:

- increase consistency in grading and equalize criteria for grading;
- conduct continual grading throughout the entire year to a greater extent;
- insist more on practical and applicable knowledge;
- implement more practice in curriculums;
- decrease the volume of the material and therefore the burden on students.

6) No differences were found between genders in their attitudes towards grading at the Department of Psychology. The evaluations of male and female students are similar in almost all elements. In relation to women, men only think that when valuing their knowledge, creative thinking was given attention to a greater extent ( $t = 6,134; df=99; p < 0.01$ ).

7) Another answers from the questionnaire are analyzed which are connected to the attitudes towards grading.

Some of these answers point to shortcomings of grading at the Department of Psychology. So, for example, students think:

- that there are not enough examination periods and that they are pressed for time to be able to appropriately prepare for their exams ( $M=3.55; SD=1,28$ );
- that 'chasing points' unfavourably affects the quality of knowledge ( $M=4.19; SD=1,18$ );
- that 'struggling to be on the budget' made them inadequately prepare for some exams, just to 'pass the exam' ( $M=3.74; SD=1,31$ );
- that at the studies of psychology acquired knowledge is valued more than the process itself of acquiring knowledge throughout the semester ( $M=4.03; SD=0,80$ );

As opposed to this, some of the answers of students point to the positive sides of grading at the Department of Psychology. So, for example, the students also think:

- that they participated in the group projects and writing seminar essays with other students ( $M=4.61; SD=0,67$ );
- that professors selflessly provided them help and cooperation in fulfilling pre-examination requirements ( $M=3.19; SD=1,20$ );
- that professors accept thinking and views that are different from the predominant thinking and the thinking of the majority ( $M=3.32; SD=1,05$ );

## CONCLUSIONS

The research that was carried out points to some significant problems in the evaluation of students' knowledge. Despite the attitudes of students that the grading of the majority of professors at the Department of Psychology is objective and of good quality,

that professors selflessly help and cooperate with students and that they accept original thinking and ideas, there are still a series of elements that need to be improved.

Primarily, additional attention should be given to creative abilities and expression, that is divergent production. Classic forms of grading at faculties, which are suited for convergent thinking, can hardly encompass creative achievements of individuals. Professors' main goal must be to help students be more focused on understanding, learning and acquiring skills rather than grades themselves and 'getting points'. Conducting lessons, practical classes and grading should be individualized, that is, adjusted to the capabilities and interests of individuals. It primarily implies working in small groups (up to 20 students). Due to the lack of space, practical lessons are usually conducted in groups larger than predicted by the existing standards.

Grading should be conducted at the appropriate time, and continually throughout the course. It is necessary to use grading to reward all the pre-examination requirements of a student, as well as their initiative and creativity. Group work and cooperation should be encouraged, but also individuality and exception from the usual ways of thinking.

It is also necessary to implement new forms of practical teaching and broaden cooperation with facilities in which students can specifically be acquainted with different jobs of psychologists. In that way students would be appropriately prepared for applying their knowledge in practice.

Finally, cooperation and communication with the labour market and possible employers should be more intense and richer. Higher education facilities must have data about real needs for certain occupations but possible employers should also be provided with information about trained students, their skills and qualities.

Despite objective economic difficulties, enhancement in the field of grading can contribute to more efficient studying as well as higher possibilities of realization and use of creative skills of educated individuals.

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