

Social and psychological analysis of students' representations on innovative activity

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Abstract

Innovative economics has made the modern education system face the problem of identifying socio-psychological factors in the formation of students' innovative ways of thinking and acting, as well as their ideas about innovation. The study involved students from various faculties aged from 18 to 25 years old. The study was in the form of an oral and written survey. It is recommended to work out a training program for both the teachers and the students, which would allow to form the flexibility of thinking, self-confidence, as well as to realize the importance of innovations.

Key words: *innovation; innovative activity; social and psychological readiness for innovative activity; efficiency of students' activity; conditions for the formation of innovative behavior; project and research activities of students.*

1 Introduction

The development of modern society is impossible without innovation. Effective response requires the system of education undergo substantial reconstruction and become fully subordinate to the logic of innovative development of the society. Therefore, innovative activity becomes one of the most demanded areas of the educational process, as it creates the basis for creating competitiveness of an individual capable of successfully acting in a dynamic environment.

To analyze innovative activities, it is important to understand it and to approach it from the scientific point of view. The term 'innovation' most often stands for the findings of new technologies, products, services, new forms of organization of labor, production, maintenance and management. The problem of pedagogical innovation was thoroughly studied by M.S. Burgin, M.V. Klarin, N.I. Lapin, V.Ya. Lyaudis, N.Ya. Nine, A.I. Prigozhin, T.I. Rudneva,

V.A. Slastenin A.N. Akhrenov, B.S. Lazarev, B.P. Martirosyan, T.I. Shamov. The ways and methods of implementation of pedagogical innovations into educational practice were studied by N.M. Anisimov, A.S. Akhnezer, V.B. Bepalko, V.E. Gourman, A.A. Derkach, N.A. Moreva, etc. Socio-psychological mechanisms and the structure of innovative activity were singled out by Yu.A. Tokareva, E. Shpagina. Innovative activity has a structure, which consists of motivational, cognitive, behavioral and evaluational components and has a purposeful character of formation. The content completeness of each component of innovation activity is related to the needs and abilities of students to achieve new, unconventional result (or to create a product) (e.g. *Yu.A. Tokareva et al¹*).

According to N.I. Lapin, innovative activity is a practical subject-oriented productive activity of people, which creates new qualities in various spheres of their life.² It can be characteristic for innovative activities to have both reproductive and productive orientation. Reproductive activity is based on the repetition of earlier developed schemes of actions and is aimed at obtaining the expected result with the help of the known means. Productive activity is associated with the development of new goals and corresponding means or with the achievement of certain goals with the help of new means, ways or instruments. The inherent component of productive activity is creativity, which includes self-development of an innovative personality. Carrying out any innovative activity, the subject changes not only its subject, but also its goals and means, and, thereby, consciously or unconsciously, makes himself an object of his own activity, develops himself as an innovative individual.³

However, the importance of creating mechanisms and tools to involve the students into University innovative activity is unquestionable, because it is a part of the creation process of intellectual capital for higher school (e.g. *A.Fedorova et al⁴*). But the pedagogical innovations are often considered from the practical point of view, as a result of educational practice.

There is no definite and generally accepted concept of innovation activity in modern education. Besides, from a practical point of view, pedagogical innovations are more often considered to be a result of educational practice. However, despite the absence of a unified concept, most educational institutions set themselves the task to introduce innovations, to activate scientific and practical activities of students. Subject area of innovative activity in education is represented by project and research work.⁵

Thus, in a generalized form, innovation activity acts as a set of scientific, organizational, creative activities aimed at using the results of research and development to improve the quality of the system or the quality of its structural unit.

It means that the innovative activity of students can be regarded as an independent productive, creative, purposeful activity in which the student, using new means of achieving the goal of

activity, becomes an innovator, an innovative person. The result of any innovative activity is the creation of a new educational product and new knowledge of the subject. Innovative activity is always accompanied by a specific goal, which is realized by the student and the actions aimed at achieving it. At the same time, such activities can be both of individual and collective character. Consequently, readiness for innovative activities implies the ability of students to independently (if necessary) carry out scientific research with the subsequent use of its results. Fragmentation and inadequacy of the study of both the innovative activity of the students and the ideas about it result in the inability to provide high quality readiness of the younger generation to innovate.

2 Materials and methods

The researchers surveyed students of different years of study: from the first year of study to the fourth course in order to analyze students' ideas about innovation activity and their assessment of their own readiness for its implementation. The questionnaire was developed by the authors of the study on the basis of theoretical knowledge about innovation activity and its criteria. The study involved 92 students from various universities and faculties with different experience of participating in innovative projects, aged from 18 to 26 years old. Responses of 50% of male and female students were subjected to a social and psychological analysis. The questionnaire contained questions concerning the general idea of innovative activity, the need to be engaged in something new, non-standard, creative, the need to create, to invent, and to demonstrate independence in it. It was necessary to find out the extent to which educational institutions involve students in such types of activities and what students lack to do in order to more actively demonstrate their ability to create something new or to show their independent creativity. The researchers also carried out the statistical verification of the connection of ideas about innovation with academic achievement.

3 Results

The study resulted in the finding that 76% of students are familiar with the notion of 'innovation activity'. The number of detailed answers, which are closer to scientific interpretations of this notion, increases by the time when the students become the 4th year students. The term 'innovative activity' is often interpreted by students as 'creation of something new', 'non-standard, new product', 'improvement of anything, innovations'.

It has been found that 45% of respondents consider themselves to be ready for innovation. 18% of respondents believe they do not have enough skills for this purpose. 37% of students find it difficult to give an answer.

The respondents believe that to have a necessary resource for the implementation of innovative activity means to have a good mentor who can guide (26%), to work hard at oneself (20%), to

overcome fear of taking on new, unfamiliar business (18%), to overcome laziness, unwillingness to do something (15%), to acquire additional education and self-education as a necessary component of innovation activity (13%), and only 8% of respondents expressed the opinion about the need to overcome stereotypes in behavior and activity.

According to the results of the survey, it has been revealed that 53% of students took part in such activities, which resulted in the creation of a completely new product, project, or a new type of work unknown earlier, and 47% did not encounter such activities. It is noteworthy that the percentage of positive answers increases by 4th year of study. It turned out that in most cases the students were involved in creating something new mostly at school (42%), at the university (39%), outside the school (19%). In most cases, they developed a creative work (48%). 35% of respondents worked at a project. The others participated in a pilot study. Thus, it should be concluded that different types of innovative activity of students are not fully introduced in the university. There is no constant, systematic involvement of students in the creation of innovative products or innovative behavior. Besides, most students do not clearly understand what innovation is and what its distinctive features and results are.

Answering the question what a person needs to create innovations, 62% of respondents indicate that a person needs special preparation for innovative activity, 17% of students express the opinion about the pointlessness of special training, since inborn intellectual abilities are of greater importance. The rest of the respondents find it difficult to give any answer. In addition, 81% of respondents are convinced of the need for special personal qualities for the implementation of innovative activities. Among them are such qualities as high self-esteem, ability to fight to the end for achieving a specific goal (27%); self-confidence (19%) and lack of fear to take on something new, unknown (19%); the ability to arbitrarily manage their actions, feelings, behavior in volatile, tense conditions of activity (14%). The least important qualities for the respondents are emotional uplift (11%) and high concentration of attention (11%). Also, 63% of students believe that there are some personality traits that might become an obstacle for innovative activity. Among them, the most influential factor is the lack of purposefulness (33%), the second most important is the unwillingness to change, to create or to make efforts (29%), low motivation to achieve (27%); less important were stiffness, lack of ability to change (11%). Students of all courses give special importance to the level of intellectual development (72%) in innovation activity. It should be noted that 100% of male students consider intellectual abilities to be the key to successful innovative activity.

A significant part of the students participating in the survey (61%) indicate that they would willingly take part in a new project, a new kind of activity requiring creative approach, intellectual and time expenses. The main obstacle for this from the point of view of the

respondents is the lack of time (52%), the lack of someone who could help or guide (30%), lack of abilities, skills (13%). Only 5% of respondents believe that the main obstacle for innovative activity is insufficient personal interest in this activity.

It has been indicated by 13% of students that to motivate students to innovate, it is necessary to introduce additional incentive bonuses. For 32% of students, it is possible to innovate only if there is interest, the desire for self-development (31%), the need for a new unknown (20%), the desire to go ahead, to succeed, ambitions(17%).

26% of students say that the study of additional material, reading literature, self-education can be a resource necessary to cope with a task they have never dealt with before (creating a project, a new product, technology of activity, research).

22% of respondents answer that they would seek help from outside (mentor, teacher, classmate).For others, this type of resource differs: 20% of respondents consider personal interest and willingness to innovate as the major resource, while others find it important to have initiative and activity (15%), to demonstrate independence, perseverance and purposefulness (10%), to possess special intellectual abilities (7%).

The statistical analysis of ideas about the innovative activity of male and female students has not revealed any differences, which means that their opinions on this phenomenon coincide.

4 Conclusions

In general, according to the results of the survey, it can be concluded that the majority of students are ready for innovation and that they strive for creative non-standard activity (86%). Previous experience of being involved in innovative activities increases the level of students' psychological readiness for everything new and forms creative activity. The vast majority of students (72%) are satisfied with the opportunities to demonstrate their abilities, creativity and autonomy, which are provided by the university. However, in some cases, they lack the help of more experienced mentors, sufficient motivation for action, and certain knowledge for more successful implementation of the innovative activity.

Therefore, the formation of an innovative personality through involvement in innovative activities should be systematic and organized. It is also necessary to create a special environment that meets the needs and capabilities of the developing subject of innovation.

So, it is necessary for the modern domestic educational system to find those optimal conditions that would create the necessary qualities of an innovative personality, an individual capable of achieving, participating in creative activities, reflecting on the results and their timely adjustment. The materials of the survey make it possible to single out the following conditions for the formation of readiness for the innovative activity of students:

1. Internal conditions, personal factors (the formation of interest in everything new and complex, the need to achieve, the development of commitment, perseverance, patience, the ability to get the job done).
2. External environment (creation of an attractive environment, the availability of mentors and teachers ready for innovation, the opportunity to get specific answers to problematic issues, the correct organization of innovative activity).
3. Relationships in the process of creating an innovative product (the availability of a specific, competent and authoritative mentor, clear boundaries of assistance and independence).

In our opinion, these conditions will ensure the formation of psychological readiness for innovations and such personal qualities as independence, self-reliance, vitality, initiative, tolerance to the unknown, readiness to be involved in innovative activities that help young people to understand their role and place in the solution tasks faced by the society, the value of interaction with other people, the knowledge of their uniqueness through the development of their innovative potential. A large part of the responsibility in this process lies with the psychological and pedagogical organization of innovative activity, a clear formulation of the principles of work and the end result.

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References

1. *Yu.A Tokareva, E.A. Bykova*, Model of Psychological Readiness for Innovative Activity. Proceedings of the All-Russian Scientific and Practical Conference ‘The Psychology of Education: Problems and Prospects for Development’. Shadrinsk, ShGPI (2016) 21-32.
2. *D. Grinberg, R. Behjron*, Organizational Behavior: From Theory to Practice. Vol. 8, 2004.
3. *O.B. Gavrilenko*, Formation of Staff Loyalty in the Context of Organizational Culture Management. Russia and Social Changes in the Modern World (2012).
4. *A. Fedorova, O. Ponomareva*, Developing university HR potential as the basis for its intellectual capital. Conference Proceedings of the 9th European Conference on Intellectual Capital “Intellectual Capital: Its Application in Practice”, 6-7 April 2017, Portugal, 97-105.
5. *I. B. Vypryazhkina*, Staff Loyalty Formation at the Modern Enterprise. Scientific Almanac. International Academy of Business Management. 11 (2015).