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Perceptions of the Innovative Potential of Students by Teachers of General, Secondary Vocational and Higher Education Institutions

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Abstract

The study examines teachers' involvement in the process of preparing students for innovative activity in educational institutions (schools, colleges and universities) and provides a synthesis of a survey-based research project on their perceptions of the innovative potential of students, which involved 93 teachers. The results showed that school, college and university teachers have different perceptions of students' readiness for innovations, personal qualities necessary for the successful implementation of innovative activities as well as their own role in preparing students for innovation-oriented events held by educational institutions.

Keywords: innovative activity, innovative potential, students' readiness for innovative activity.

INTRODUCTION

Nowadays, developing the innovative potential of students is an integral part of the work of any educational institution. At the same time, it is difficult to overestimate the role of a teacher in maintaining students' interest in innovative activities and in creating favorable conditions for implementing such activities. From the student's perspective, innovative activity is always an encounter with unfamiliar actions and ways of achieving results. In this context, students will need assistance from experienced and enthusiastic advisers skilled in solving problem situations and responding to challenges. In schools, colleges and universities teachers are such advisers.

Psychologically, a teacher's subjective standpoint is an example to a student who strives to be an active, diligent and independent participant in the learning process rather than a passive one. Incidentally, the formation of agency is possible only in transformation processes.

The analysis of psychological research studies shows that learning activities can provide favorable conditions for developing students' subjective personal qualities through joint efficient collaboration between a teacher and students. In this regard, the development of the younger generation's innovative potential becomes of importance, thus contributing to the formation of their agency, which includes qualities such as responsibility, dedication, a proactive approach to life, independence and self-regulation.

One important prerequisite should be kept in mind when shaping/developing students' agency, namely, the establishment of a subject-subject relationship between participants in the learning process. Such relationships facilitate the realization of the student's potential in the learning process, in particular, his/her discovery of new opportunities and abilities.

In practice, however, it appears that many teachers are not ready to take part in their educational institution's innovative activities or to help students in this regard. This fact provided a rationale for conducting a survey among school, college and university teachers with a view to clarify their perceptions of how active their students are in terms of innovative activity, what personal qualities are necessary to achieve good results and whether the teachers themselves are ready to help students who have innovative activity ideas and show interest in participating in innovative projects.

Today, innovation issues in education are not new, but still valid due to the demands of society and state relating to educating a graduate who is ready to accept and create innovations. Modern high school, college and university graduates should be ready to live in a constantly changing world, in which they will need to solve all kinds of problem situations, to carry out innovation projects and to participate in innovation activity. The authors understand students' innovative activity as participation in high school and university competitions, projects, research studies, youth associations, volunteer groups and other events that determine the innovative nature of activities in educational institutions.

Innovation-related aspects of educational activity were discussed in research studies conducted, among others, by G. A. Komissarova, G. F. Krasnozhenova, L. I. Mukhametova, Y. M. Neymatov and A. N. Tikhonov. Researchers such as Sh. A. Amonashvili, I. P. Volkova, E. N. Ilyina, S. N. Lysenkova, V. F. Shatalova and M. I. Shchetinina examined innovative educational approaches from a practical perspective. Education innovations were the subject of research by V. Vasilenko, N. N. Davydov, E. F. Zeyer, S. A. Novosyolov and N. V. Shakpkin as part of the institutional approach.

The authors identified the rationale for classifying education innovations and groups of teaching innovations, regarding this category as innovations aiming to improve teaching systems, processes and technologies and as a new, improved educational product that achieves a new educational impact [1].

L. G. Kutz and S. V. Stepanova understand education innovations as "the development (creation, discovery, invention) and testing of an intellectual product (scientific, psychological, pedagogical, didactic and methodological)" and highlight the scientific nature and effectiveness of innovation among its key criteria [2, p. 112]. According to M. V. Klarin, innovation relates, on the one hand, to innovation creation and distribution, and, on the other hand, to transformations and changes in activity and thinking styles related to these innovations [3].

At the same time, the analysis of the scientific and practical aspects of education shows that the innovative activity of students has not yet been fully addressed in research. The notion of education innovation usually applies to teachers' use of educational methods and techniques or to activities of educational institutions that involves the introduction of new management strategies ensuring its development in accordance with the requirements of society and state.

In our view, the innovation activity of students can be perceived as independent productive, creative and goal-oriented activity that allows students to develop as a subject of innovation and an innovative personality by using new means of achieving activity goals. Innovative activity results in the creation of a new educational product and of new knowledge about a subject. Therefore, in terms of students' activities, innovation activity also includes a specific goal, of which the student is aware, and action to achieve it. At the same time, such activity can be of individual or collective in nature.

Of special significance is the fact that the present-day educational system demands that students engage in innovation activities, whereas there are no specialized techniques or programs designed to prepare students for innovation activity, developing their personal readiness for innovation activity. Consequently, educational institutions and, above all, teachers are

responsible for changing the personality of students and for shaping the so-called innovation thinking style.

Special learning and educational strategies are adopted to develop the innovative potential of students. Developing technologies aimed at stimulating students' activity in their study of the curriculum content are implemented in practical training. They include cognitive technologies that develop an innovative personality's intellectual resources and technologies promoting human values and meanings. One of the techniques for developing the creative potential of students is a teacher's use of the following: divergent maps and text models based on key notions, thematic reference diagrams based on a given structure, the cluster method, creative methods for solving problems and brainstorming [4, p. 9].

Involving students in creative research work on topics that are of interest to them contributes to the development of their independence, determination, positive motivation, creativity and innovative thinking skills. Such activities result in a creative, original and individual product.

This work helps students to accept values relating to creativity, self-fulfilment and to discover their personal potential. Innovative potential is a comprehensive set of personality traits, including personal properties, qualities and abilities that ensure a person's readiness to generate new forms of activity aimed at creating, exploring and distributing innovative educational products as well as self-development and personal growth as a strategic factor of productive teaching activities. It comprises the following components: focus on innovation, innovative competence, innovative creativity as an ability to generate teaching creativity and, finally, innovation implementation [5].

A developing learning environment, however, is impossible without a teacher-student relationship encouraging initiative and perseverance, autonomy, tolerance towards students' aspiration to express their views and collaboration with students. Another important aspect of a teacher's work is searching for methodological means allowing students to evince their interests and stimulating their aspiration for success and research activity.

The present study aims to accomplish the following two objectives: 1) to detect teachers' perceptions of the innovative potential of students; and 2) to determine whether school, college and university teachers have different perception of the subject.

The working hypothesis of the study is that there are a number of differences in the perception of school, college and university teachers of the innovative potential of students.

MATERIALS AND METHODS

A survey was conducted among 92 teachers as a part of the research study. The respondents include 25 college teachers, 47 high school teachers and 20 university teachers. The purpose was to investigate the perception of the school, college and university teachers of the innovative potential of students. The authors attempted to clarify whether teachers working in different educational institutions had a different perception of students' readiness to take part in innovative activities and about their innovative activities. The research also focused on exploring whether teachers consider that their respective educational institutions develop the innovative potential of students and how teachers can help students to enhance their readiness for innovative activity. The researchers also investigated the teachers' opinions about the qualities of students actively engaged in their educational institution's innovative activities. This study is based on the survey conducted among teachers. Below are the research results related to the teachers' subjective standpoints and readiness to provide assistance to students with a view to boosting their innovative potential.

RESULTS AND DISCUSSION

The survey showed that most school, college and university teachers share the same views on the innovative potential of students and the role of educational institutions in its development. There are, however, a number of differences related to the extent of students' participation in innovative activities and teachers' contribution to this process.

A relatively large number of teachers working in different educational institutions think that the preparation of students for innovative activity starts in high school. Interestingly, university and college teachers fully agree with this view. School teachers also suggest that some responsibility falls on family (4.25%) and kindergarten (10.65%); only 63.75% of the teachers argue that high school education prepares students to innovative activity. In our point of view, this is due to the fact that colleges and universities generally admit young people with a relatively well-developed proactive stance. They either actively participate in various events held by their educational institution or feel indifferent towards them. Maybe that is why teachers do not assume full responsibility for increasing students' activity, considering it the prerogative of high school.

Most teachers in all educational institutions indicate that their educational institution contributes to the development of students' creative and innovative thinking skills. The teachers' views on how to develop them are somewhat different. School teachers mention participation in various events such as competitions and skills contests (42.7%) or project work (23.3%). While highlighting the importance of competitions and skills contests (42%) college teachers name workshops on different topics (8%), the development of volunteering and student self-management (4%) and state that *"teachers are a key factor in promoting innovative activities among students"* (4%). University teachers offer more ideas on how to develop students' creative potential, as can be seen from their answers: counseling (5%); good theoretical background (10%); various events, projects, grants and experimental research (40%); teachers' enthusiasm (5%); stimulation of interest in creative activities, development of creative thinking skills and creative assignments (15%). Most teachers offered no answer to this question. It's important that the school teachers did not mention their own role in enhancing the innovative potential of students.

More than half of the college and university teachers (60% and 55% respectively) pointed out that only part of students is actively engaged in their educational institution's innovative activities; at the same time, 76.6% of the school teachers indicate that most students take part in these activities. These data suggest that students attending high schools are more actively involved in various activities than those attending colleges and universities, where the emphasis is put on more active and enterprising students. Furthermore, the university teachers pointed out that students are more interested in participating in creative projects and assignments providing financial incentives and rewards; the high school and college teachers responded negatively to this question, which is probably due to the fact that these educational institutions have a less developed system for offering financial incentives for students than universities. As a result, students attending higher education institutions develop a certain dependence on various rewards, with most of the students not interested in projects that offer them no financial bonuses.

The teachers provided the following answers to the question "Do you think students' participation in innovative activities is directly related to their academic performance?" (Figure 1).

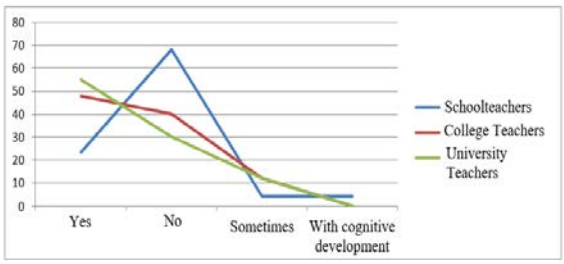

Figure 1. Results of the survey on the relationship between students' academic performance and their innovative activities.

The data show that schoolteachers do not draw a parallel between children's performance and their participation in innovative activities. In our view, this has to do with the fact that most schoolchildren take part in activities suggested by their teachers, as evidenced by previous answers, whereas, in colleges and universities, more active students are those with high academic performance.

The analysis of the survey on students' readiness for innovative activity revealed that all teachers point to only a part of students who are able to engage in innovative activities. Specifically, 42.7% of the school teachers, 12% and 45% of the college and university teachers respectively believe that readiness for innovative activity is related to students' personality traits such as energy, proactivity, responsibility, determination, curiosity and cognitive interest. Besides, the college teachers also mention other traits such as ambition, altruism, desire to succeed, ability to make independent decisions, leadership skills, discipline and promptness (4% per category). According to the university teachers, other important personality traits include compassion, empathy and tolerance (10%) as well as strong will (10%), whereas the school teachers do not consider them important. Interestingly, a substantial number of the respondents had difficulties answering this question: 36.1% of the school teachers, 40% of the college teachers and 20% of the university teachers. In our view, this is because, previously, teachers have not thought about what personality traits influence the innovative behavior of students and make them more successful in innovative activity.

Answering the question "What do you think is necessary for students to take a more active part in various innovation projects launched in high schools (colleges, universities)?", 18.9% and 16% of the university and college teachers respectively answered that it could be motivation and support on the part of adults. Accordingly, 21.6% and 24% of the university and college teachers respectively highlighted the assistance of an experience teacher/adviser and 2.7% of the teachers mentioned motivation with rewards. Teachers recognize that students need their assistance to maintain their innovative activity and effective participation in their institution's innovative projects.

The teachers were asked the following question aimed at revealing their subjective views on preparing students to participation in innovative activities: "What could you do to help students develop their innovative behavior and readiness for innovative activity?". The school teachers mention guidance, personal example, transfer of experience (42.7%) and various activities (8.4%). Similarly, the college teachers mention guidance as one of their resources (4%) as well as activities (4%), methodological assistance (4%), advancement of knowledge and personal creative activities (4%), advice, help and support (4%). Most university teachers provided the following answer: guidance, counselling, support of project activity (40%), motivation development (15%), volunteering (10%) and master classes (5%).

Interestingly, 49% of the school teachers and 60% of the college teachers had difficulties answering this question. This can be explained by either their lack of interest in the topic or their inability to help students prepare for innovative activities taking place in the educational institutions. Half as many university respondents (25%) did not answer this question. The authors noted that all the respondents highlighted guidance and transfer of their own knowledge and experience among different forms of assistance. On the whole, it seems that most teachers are ready to help students, but some feel indifferent about this issue.

Pearson's chi-squared test was used to analyze different perception of teachers in general, secondary vocational and higher educational institutions of innovative activity and the innovative potential of students. Notable differences were observed in the following categories:

1. Active participation of students in the innovative activities of their educational institution (24.066 where $\rho<0.01$).
2. Dependence of students' innovative activity on financial incentives (18.994 where $\rho<0.01$).
3. Certainty that preparation for innovative activity starts at secondary school (26.569 where $\rho<0.01$).

Minor differences were observed in the following categories:

1. Relation between students' innovative activity and their academic performance (26.569 where $\rho<0.01$).
2. Students' readiness for innovative activity (14.027 where $\rho<0.05$).
3. Confidence that their educational institution fosters the innovative potential of students (14.027 where $\rho<0.05$).

CONCLUSIONS

To conclude, the results of the study revealed that teachers in all educational institutions under investigation recognize that students can be trained for innovative activity; there is, however, a number of differences in their perception of the innovative potential of students. College and university teachers mostly place responsibility for preparing students for innovative activity on high school.

School teachers point to the role of family and kindergarten in this process. As for the personality profile of the students ready for innovative activity, college and university teachers detect a much wider range of personal qualities.

The survey also showed that, according to teachers, all educational institutions develop the innovative potential of students, but mostly schoolchildren take part in innovative activities and that does not depend on their academic performance, as opposed to college and university students. Teachers highlight their own resources that can be of help to students preparing for participation in innovative projects. These include guidance, counseling, event management, volunteering, transfer of knowledge and experience, methodological assistance and more.

In our opinion, the educational system should focus on developing students' need in active, creative and success-oriented activities aimed at achieving specific goals.

In this regard, the present-day Russian education system should create favorable conditions for developing the qualities of an innovative person capable of attaining goals, undertaking creative activities, reflecting upon and quickly correcting achieved results.

From our perspective, the process of developing students' readiness for innovative activity is a subject to a number of conditions, including the following:

1. Internal conditions and personal factors (interests, needs, goals and individual features of students).
2. External environment (milieu that supports and fosters innovative behavior).
3. Relationship between a teacher (innovative activity instructor) and a student.

This will ensure the development of qualities such as independence, self-confidence, resilience, leadership, tolerance for the unknown and readiness to take part in the innovative activity. This approach will also help young people realize their role and place in tackling challenges facing the society, the importance of interacting with other people and awareness of their own uniqueness achieved by developing their innovative potential, resulting from their intellectual and natural makings.

In this process, much of the responsibility lies with teachers with a high innovative potential who are creative, proactive, open to change and, thus, able to train highly-competitive graduates and specialists.

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