

Psychological and Pedagogical Support for Students' Adaptation to Learning Activity in High Science School

Vera P. Zeleeva

Kazan (Volga region) Federal University, RUSSIA

Svetlana S. Bykova

Vyatka State University of Humanities, RUSSIA

Silvia Varbanova

Sofia University St. Kliment Ohridski, BULGARIA

•Received 16 June 2015 •Revised 22 September 2015 •Accepted 29 December 2015

The relevance of the study is due to the importance of psychological and pedagogical support for students in university that would prevent difficulties in learning activities and increase adaptive capacity through the development of relevant personal traits. Therefore, this article is aimed at solving the problem of arranging psychological and pedagogical support for first-year students' entry to a new system of educational activity. The key approach to the study of this problem is the system-activity approach, which allows to introduce training activities as a collaborative work with one of its members (the student) gaining experience and others creating facilities for it. The article describes the developed and implemented model of psychological and pedagogical support for student adaptation to educational activity in high school with a key role of tutoring program. The empirical data on the results of program approbation are also under consideration. With the help of system-activity approach the courses "Training activities technology" and "Life science" were adopted, the content of which is revealed in this article. The article may be useful to teachers and tutors, working within the framework of vocational training of students.

Keywords: student adaptation, psychological and pedagogical support, learning activities, system-activity approach

INTRODUCTION

Relevance of the problem

The relevance of the problem is determined by the tasks of freshmen adaptation to the college and university learning environments. Freshmen are experiencing psychological difficulties due to: the change of their social status; different approaches to the arranging of training activities in high school; the lack of personal qualities that could be useful while developing an optimal model of successful

Correspondence: Svetlana S. Bykova,
Vyatka State University of Humanities, 26 Krasnoarmejskaya Street, 610002, Kirov,
RUSSIA
E-mail: vetabykova@mail.ru
doi: 10.12973/ijese.2016.299a

learning activities. As a consequence, we have a high percentage of dropouts who got frustrated in their own choices and decided to shift to other areas of life. In this regard, the problem of arranging the psychological and pedagogical support for first-year students' entry into the new system of educational activity is of key importance for the theory and practice of vocational education. Psychological and pedagogical support for students is defined as a process of support and assistance to student adaptation to academic activities in high school through the creating conditions for the establishment and development of their personality while studying (Vedishenkova, Efimova & Ryabova, 2015; Nasibullov, Kashapova & Shavaliyeva, 2015).

Explore Importance of the Problem

Pedagogical understanding of scientific papers on the issue of psychological and pedagogical support has led to the search for new directions for the construction of an effective system of psychological and pedagogical support for students' adaptation to educational activity in high school.

In order to solve the problem of psychological and pedagogical support for student adaptation one needs to analyze the fundamental principles of system-activity approach. Due to this approach, learning activities act as collaborative work in which one of its members (student) is gaining experience, while others are creating favorable conditions for this (Abulkhanova-Slavskaya, 1991; Yusupova, Podgorecki & Markova, 2015; Khorkov, 2009; Ratner, Iksanova & Ivanov, 2008). To create the favorable conditions is possible while basing on psychological and pedagogical support within educational processes aimed at: reducing barriers to adaptation; and by organizing the institute of tutors whose work will be concentrated on increasing the adaptive capacities of an individual student.

Psychological and pedagogical support model development

The key role in the developed model of psychological and pedagogical support for student adaptation to educational activity in high school belongs to the tutoring program. The program includes a plan of tutor's work and two routings to thematic courses: "Training activities technology" and "Life science" The course "Training activities technology" is aimed at learning planning, self-organization, students' understanding of psychological and pedagogical patterns of training activities in high school. The target of the course "Life science" is to encourage a sense of responsibility, awareness, orientation, comprehension of purposes and meaning of a new period in student life. Both courses are directed to improving a person adaptive capacity that is determined to be of great necessity for a successful training activities, student individual development and the formation of adaptive mechanisms core to the future professional activity.

Status of a problem

In national science the problem of adaptation in educational institutions was developed principally in the mainstream of social adjustment – K. A. Albuhanova - Slavskaya (1991), I. A. Miloslavova (2004), T. I. Rayeva (2003), G. I. Simonova (2005). In pedagogical science (Klimov, 2004; Tryapitsina, 2006), the problem of a, aimed at creating a socio-psychological conditions for successful learning and psychological development in situations of interaction in the learning process (Burenkova, Arkhipova, Semenov & Samarenkina, 2015). The idea of psychological and pedagogical support for students was reflected in works of L. P. Badanina (2007), E. F. Zeera (2005), V. L. Krajnik (2007). The analysis of these studies as well

as many other publications pointed to the need for the author's model of psychological and pedagogical support for student adaptation to educational activity in high school. The potential capacity of educational environment and tutors' work is laid at the root of the model.

Hypothesis of the study

The analysis of theoretical studies and practical activities on the problem showed that the issue of psychological and pedagogical support for student adaptation to educational activities in high school is not sufficiently studied and developed. This fact made it possible to formulate the hypothesis of the study of the problem: psychological and pedagogical support for student adaptation to educational activities in high school will be effective if the comprehensive work of tutors designed to prevent students' failed assessments and to form personal qualities especially helpful in the period of adaptation begins.

MATERIALS AND METHODS

Research tasks

As a part of the study, the following tasks were handled: 1) to study the problem of psychological and pedagogical support for students in psychological and pedagogical research; 2) to consider the principles of student adaptation to educational activities in high school; 3) to define the process contents of psychological and pedagogical support for student adaptation to educational activities in high school; 4) to develop and test a model of psychological and pedagogical support for student adaptation to educational activities in high school; 5) to diagnose the performance of the model of psychological and pedagogical support for students in educational activities of university

Theoretical and empirical methods

To test the hypothesis a variety of complex methods, mutually explanatory of each other was used:

- Theoretical methods: theoretical analysis and synthesis of philosophical, pedagogical, psychological, sociological, scientific and methodological literature on the study, generalization, comparison, modeling;
- Empirical methods: the study of university educational process, interviews, questionnaires, discussion, pedagogical experiment, the qualitative and quantitative analysis of the results of the experiment, methods of mathematical statistics.

Experimental base of the study

For the experimental base of the study the chemical and biological faculties of Vyatka State University of Humanities were chosen. Total experimental work covered 130 first-year students in 2012/2013 academic year and 122 first-year students in 2013/2014 academic year.

Stages of the study

The study was conducted in three stages:

At the first stage - searching and theoretical – the understanding and formation of problems, objectives and hypotheses of the study, the development of objectives and work plan revealing the capacity of the educational environment of high school; the

criteria and indicators of student adaptation to educational activity in high school were defined.

The second empirical stage was aimed at building a model of psychological and pedagogical support for students' adaptation educational activity in high school and developing a tutoring program for psychological and pedagogical support for students' adaptation to educational activity in high school. Pedagogical experiment on the model implementation was taken place; the outcome of the experiment was analyzed.

The third stage - a synthesis. By that time we completed testing the program of psychological and pedagogical support for students' adaptation to educational activity in high school. The qualitative and quantitative processing of the results, their theoretical justification were carried out, data classification and synthesis were implemented, the key findings of the study were formulated.

Description of pilot testing

At the ascertaining stage of the experiment the diagnosis of student adaptation to educational activity was a key point. For this purpose we analyzed the results of the questionnaire and interview with teachers; the analysis of first year students' performance was held; a questionnaire to students was also used (self-esteem rating, motivation of training in high school test).

Based on the evidence found it was discovered that the most problematic subjects for yesterday students, according to teachers, are technical disciplines ("Drawing") and mathematical disciplines ("Higher Math"). The current situation is complicated by the fact of insufficient level of school knowledge and skills, the lack of a regular habit to work independently, low cognitive activity.

The study of students' adaptation level showed, that only a third of all first-year students have a high level of adaptability.

Based on these data the division into a control group (50 students) and experimental one (72 students) was conducted. For better reliability of work estimate the basic indicators were approximately equal.

The experimental work was carried out through the implementation of a model of psychological and pedagogical support for students' adaptation to educational activity in high school:

- The tutoring program for psychological and pedagogical support for students to the educational activities in high school, which included a work plan with activities directions contained.

- Thematic courses: "Training activities technology"; classes were targeted to academic failure prevention, activity planning and organizing habits training; "Life science" - encourages a sense of responsibility, awareness, focuses on the teaching process.

Tutoring Program for psychological and pedagogical support for student adaptation

Tutoring Program for psychological and pedagogical support for students' adaptation to educational activity in high school was carried out under the following organizational and pedagogical conditions:

- Giving a constant psychological and pedagogical support for students' adaptation to educational activity in high school;

- Student personal qualities consideration; the rate of awareness and responsibility for individual professional choice;

- The use of different forms of tutoring work with students (talks, lectures, workshops, conferences, individual forms of work);

- The use of the immediate socially significant environment, which implies a strong stimulation for self-improvement.

The main objectives of tutoring work are:

- To help first-year students to adapt to the new forms and methods of educational activity in high school, learn how to plan and organize their own working hours;

- To understand the importance of: the acquired knowledge and skills, constant individual development, the vision of training goals and value formation.

Experimental work on the psychological and pedagogical support was carried out by tutors in 5 areas (diagnostics, preventive maintenance, development, compensation, counseling) according to the developed program, in constant cooperation with teachers, representatives of the student union and socially important personalities - deans, future employers, successful graduates.

Classes held by tutors in the framework of courses "Training activities technology" and "Life science" had the following algorithm: motivation (goal - to generate interest in the topic under discussion); Lecture (objective - to inform the student); game training (goal - practical development of the material); Reflection (goal - fixing, the analysis of information received).

Curriculum of the course "Training activities technology"

The process list of the course "Training activities technology in high school" includes student and tutor activities' planning; items, forms and methods of their work are noted.

Lesson 1 is aimed at creating a positive attitude to active studies in new environment, and includes the following types of work:

- Getting to know a tutor;
- Discussion on the topic "School-University. Similarities and differences";
- Lecture "Peculiarities of training activities in high school";
- Skills development workshop "Proactivity. Self-organization";
- Reflection.

Proposed outcome: group members' consolidation through the informal dialogue, forming the vision of upcoming studies; finding new ways of activity planning.

Lesson 2 is aimed at developing students' business skills, the formation of scientific organization of labor:

- Talk "School-University. Important qualities of students";
- Lecture and workshop "Training activities. Leisure»;
- Skills development workshop "Independent work element";
- Reflection.

Proposed outcome: students focusing on 1) the scientific organization of their work; the importance of business skills formation, character training.

Lesson 3 was given during examination period; therefore there was a need to discuss learning activity problems:

- Talk "School-University. Time flies, but where?";
- Lecture and workshop "The difference between professors and teachers";
- Training workshop "Pair work element";
- Reflection.

Proposed outcome: students focusing on the importance of independent educational activity planning; teacher's role understanding; pair work skills.

Lesson 4 was given after examination period, thus students needed extra motivation for further education in high school:

- Talk "School-University. First difficulties";
- Lecture and workshop "A recipe for success";
- Training workshop "Group work element";

- Reflection.

Proposed outcome: increasing interest in training activities, active cooperation within the group.

Thus, after the course "Training activities technology" each student realizes the importance of self-organization, goal-setting, gains planning skills and team spirit. Students are capable of differentiating various traits of character and working on their formation. Harmonically organized group communication helps to declare one's identity, stimulates self-esteem development and rise of social and psychological adaptability.

Curriculum of the course "Life science"

The process list of the course "Life science" includes student and tutor activities' planning; items, forms and methods of their work are noted.

Lesson 1 is aimed at forming ideas of future profession, the importance of each discipline for a specialist. It included the following activities:

- Discussion "The Future";
- A lecture-tour "Our faculty";
- Training workshop "Life Restaurant";
- Reflection.

Proposed outcome: Improved knowledge of job multiplicity; drawing attention to professional choice.

Lesson 2 is aimed at getting to know the technology of making independent decisions.

- Discussion on the topic "To be or not to be ...";
- Lecture "Decision making";
- Training workshop "Future-present-past";
- Counselling.

Proposed outcome: better self-definition, encouragement of responsibility, social and psychological adaptability of students.

Lesson 3 was given in the lead-up to second certification, and was determined to increase enthusiasm and interest in studies.

- Discussion on the topic "What inspires you";
- Lecture "A success recipe";
- Training workshop «Life Restaurant »;
- Counselling

Proposed outcome: better self-definition, encouragement of responsibility, social and psychological adaptability of students.

Lesson 4 – final class of the first term. The lesson is devoted to summarizing.

- Discussion on the topic "An obstacle or "a spring-board"?";
- Conference "Life journey project";
- Reflection.

Thus, upon completion of the course "Life science" each student gains self-understanding in future profession, the development of such personal qualities as awareness, responsibility is the result.

RESULTS

Student progress

As an implementation result of the model of psychological and pedagogical support for students' adaptation to educational activity in high school we got the following data. Progress in studies of 122 students from chemical and biological

departments has improved significantly; the detailed results are presented in Illustration 1.

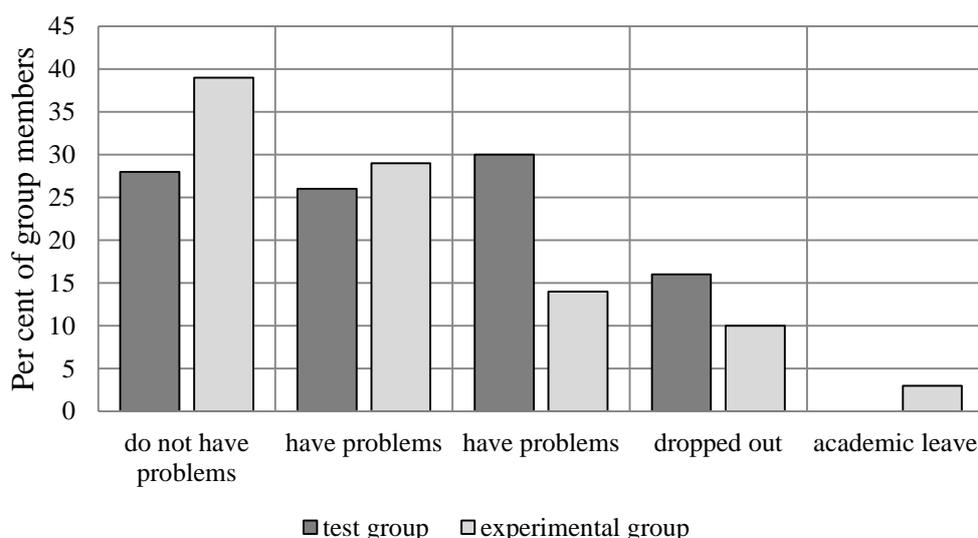


Figure 1. Academic progress of first-year students of chemical and biological faculties (2013/2014 academic year)

Students from categories “dropped out” and “academic leave” were not ranked on the basis of adaptation level. However, it is obvious that a percentage of experimental group drop-outs is less as compared to control group. The results are given in Table 1.

Table 1. Adaptation levels of students to training activities in high school 2013/2014 academic year (group division)

Rate	Number of students		Adaptation levels
	persons	%	
Test group, 42 students.			
«don't have academic debt»	14	33	High
«had academic debt before»	13	31	Medium
«constantly have academic debt»	15	36	Low
Experimental group, 63 students.			
«don't have academic debt»	28	45	High
«had academic debt before»	21	33	Medium
«constantly have academic debt»	14	22	Low

Consequently the experimental group showed the higher percent of students not having academic debt in comparison with a test group; less percent of students having academic debt after the goal-oriented program implementation has been proved as well.

Diagnosis of educational activity adaptation level

During the diagnosis of educational activity adaptation level the empirical evidence was analyzed: the presence of academic debts, self-esteem degree, level of socio-psychological adaptability and learning motivation level. According to these, student adaptation levels to educational activity are presented in the research.

The high level of adaptation to educational activity showed students who do not have academic debts in disciplines, they are motivated mainly by "acquisition of

knowledge", "Mastering the profession", have high or higher than the average level of social and psychological adaptability, have adequate self-esteem, they are characterized by optimism, sociability, cheerfulness, sense of humor, they are able to regulate their own behavior.

The medium level of adaptability - have a number of debts on their studies at the beginning of the year, motivated mainly on "Mastering the profession", "The acquisition of knowledge." They have revealed the social and psychological adaptability of above average, average or below average. Students have adequate self-esteem, some – even high, they are characterized by optimism and active stand in life. There is a tendency to attribute their failures in educational activity to the external circumstances that may arise as a result of temporary difficulties in the learning process.

The low level of adaptation is seen in students who have permanent academic debts, and are motivated to "graduation." The level of social and psychological adaptability - below average or low, or they have low self-esteem, they are characterized by passivity in the classroom, finding workarounds when taking tests, examinations, have difficulty in establishing contacts with fellow students and teachers, visit school with reluctance and indifference.

Thus, the implemented model of psychological and pedagogical support for students' adaptation to educational activity in high school was aimed at achieving a high level of adaptation: academic debts prevention, self-esteem developing, high or above the average level of social and psychological adaptability and motivation for "Gaining knowledge "or" Mastering the profession."

We obtained the following quantitative results: the number of students who do not have debts on their studies in the experimental group was up 8%, with an adequate self-esteem has increased by 24%, with high or above medium level of social and psychological adaptability - by 14% and motivated to knowledge 19% more than the control group. Overall, as a result of the experimental work we were able to increase the level of students' adaptation from the experimental group by 14%.

The diagnosis results of students' adaptation level before and after the experimental work are presented in Table 2

Table 2. Students' adaptation level before and after the experimental work (2013/2014 academic year)

Students' adaptation level	Number of students			
	person	%	person	%
Control group, 42 students				
			before	after
high	14	33	13	31
medium	12	29	11	26
low	13	31	13	31
Total:	39	93	37	88
Experimental group, 63 students				
			before	after
High	17	27	26	41
Medium	18	28	19	30
Low	26	41	13	21
Total:	61	97	58	92

According to the table, no significant changes in terms of adaptation level took place in the control group. The number of students with high adaptation level increased and, on the contrary, the quantity of students with low adaptation level lowered in experimental group.

The relevance of these changes is easily checked by using the criterion of Pearson χ square.

The criterion meaning for the control group: $\chi^2_{\text{к}} = 0,028$

The criterion meaning for the experimental group: $\chi^2_3 = 6,173$.

For error probability $\alpha \leq 0,05$ и $\nu =$ For error probability $\alpha \leq 0,05$ and critical score:

$$\chi^2_{0,01} = 5,991.$$

As for the control sampling $\chi^2_k < \chi^2_{0,05}$ variance in distribution are statistically not valid (hypothesis H_0).

As for the experimental sampling $\chi^2_k > \chi^2_{0,05}$ variance in distribution are statistically valid (hypothesis H_1).

Statistical checking of students' adaptation level to educational activity discovered that considerable improvement happened because of program work in the experimental group.

DISCUSSIONS

The issues of psychological and pedagogical support for students' adaptation in high school were developed by E. F. Zeer (2006), V. L. Krainik (2005), I. M. Slobodchikov (2005), who pointed to importance of psychological development of a student. In turn, training and education in high school should be based on psychological aspects of personal formation and development; educational tasks on the initial stage of professional growth should age-related. This can be explained by the fact that the importance should be given not only to knowing the academic subjects, but also to psychological development of students.

According to E. A. Klimova (2004) psychological and pedagogical support for student training for future professional work can start even when a person begins to define the sphere of future work. The support objective is to assist in adaptation to educational activity in high school in order to fix the profession choice. The way this problem will be resolved determines students further self-realization, professional self-determination and building a career. We take the view of A. P. Tryapitsyna (2002), who rightly noted that successfully organized support helps a person to get into the "zone of development", which is not yet available. In this context, psychological and educational support viewed as a process that contains a set of targeted pedagogical actions of teachers, psychologists and other specialists.

The idea of psychological support as an assistance in professional development in high school was developed by E. A. Klimov, V. Y. Romanov (1997). They proposed to organize "Advisory Center of psychological support for students' professional development" as a part of the Laboratory of Moscow State University named after M. V. Lomonosov in order to identify key problems associated with the initial stage of the professional career of future specialists, as well as for their positive resolving.

CONCLUSION

The content of psychological and pedagogical support for students' adaptation to educational activity in high school meets the following principles: the principle of continuity, which takes into account the student experience before entering a high school, the continuity of significant personal qualities during educational adaptation period, an integrated approach in method selection and support techniques. The work within the tutoring program and implementation of courses "Training activities technology" and "Life science" has led to an increase in students' adaptation level to educational activity in high school, what is completely proved by the results of empirical research.

ACKNOWLEDGMENTS

The work is performed according to the Russian Government Program of Competitive Growth of Kazan Federal University

REFERENCES

- Abulkhanova-Slavskaya, K. A. (1991) *Life strategy*. Moscow, 300.
- Badanina, L. P. (2007) *The psychological and educational support for students in adapting to the university*. Arkhangelsk, 168.
- Burenkova, O. M., Arkhipova, I. V., Semenov, S. A. & Samarenkina, S. Z. (2015). Motivation within role-playing as a means to intensify college students' educational activity. *International Education Studies*, 8 (6), 211-216.
- Khorkov, N. Yu. (2009). The problem of students' socio-psychological adaptation during and after studying at a higher education institution. *Obrazovanie i samorazvitie*, 1(11), 164-168.
- Klimov, E. A. (2004) *Psychology of professional self-determination*. Moscow, 304.
- Klimov, E.A., Romanov, V. Ya. (1997) On the distant approaches to psychology of the psychologist. *World of Psychology*, 3 (12), 34-50.
- Krainik, V. L. (2005) The continuity in training pupils and students: what can be done at school. Moscow. Schoolmaster, 58.
- Miloslavova, I. A. (2004) The concept and structure of social adaptation. PhD Thesis. St. Petersburg.
- Nasibullov, R. R., Kashapova, L. M. & Shavaliyeva, Z. Sh. (2015). Conditions of Formation of Social Successfulness of Students with Disabilities in the System of Continuous Inclusive Education on the Basis of Value Approach. *International Journal of Environmental and Science Education*, 10 (4), 543-552.
- Rayeva, T. I. (2003) *The psycho-acmeological aspects of successful adaptation of school-leavers to a new educational environment*. PhD Thesis. Shuya.
- Ratner, F. L., Iksanova, G. R. & Ivanov, V. G. (2008). Conditions of students' adaptation to credit system of education. *Obrazovanie i samorazvitie*, 2(8), 31-38.
- Simonova, G. I. (2005) *The pedagogical support of social adaptation*. Kirov, 320.
- Slobodchikov, I. M. (2005) The experience of being alone in the context of the problems of psychological adaptation of students of psychological and pedagogical universities. *Psychological Science and Education*, 4, 46 - 53.
- Tryapitsyna, A. P. (2006) The methodic guidelines for university professors in joining the Bologna process. St. Petersburg, 175.
- Vedishenkova, M. V., Efimova, E. V. & Ryabova, E. V. (2015). Student's Research Work as the Condition of Continuity of General and Professional Education. *International Journal of Environmental and Science Education*, 10 (4), 533-542.
- Yusupova, G. F., Podgorecki, J. & Markova, N. G. (2015). Educating Young People in Multicultural Educational Environment of Higher Education Institution. *International Journal of Environmental and Science Education*, 10 (4), 561-570.
- Zeer, E. F. (2006) *Psychology of professions*. Moscow, 336.

