Features of the First-Year Students' Adaptation for Studying at a Technical University in Ukraine

Larisa Moiseenko
PhD in History, Associate Professor of the Department of Social and Humanitarian Training of Krasnoarmeysk Industrial Institute of Public Higher National Institutions "Donetsk National Technical University" (KII DonNTU, Ukraine)

Ludmila Suhobrus
Junior Member of Teaching of the Department of Social and Humanitarian Training of Krasnoarmeysk Industrial Institute of Public Higher National Institutions "Donetsk National Technical University" (KII DonNTU, Ukraine)

Abstract

The paper analyzes the features of the first-year students' adaptation at a technical university. The author presents materials of empirical research aimed at studying the dynamics of adaptation of students in the university. Particular attention is paid to adaptation of engineering students. The article proves that the college environment and the proper organization of the educational process greatly increase the adaptation of students and their readiness for future professional activities. The data obtained have been used to determine the main directions for work of the tutors of academic groups, for the development of scientific and methodological support for training, educational and extracurricular activities with students of junior courses. The author believes that the optimization of students' adaptation in the learning process is possible if: 1) there is conscious awareness of the importance of freshmen's adaptation; 2) teachers, professors, and senior students provide support in a micro-social student environment; 3) students' communication needs are satisfied (depth, circle of friends, position in the group, exchange of views, search for joint solutions); 4) socio-directed student activities are ensured; 5) subject-subject relations between students and teachers are fully realized.

Keywords: adaptation, students' attitude, learning environments, socio-psychological adaptation, didactic adaptation, professional adaptation.

1. Introduction

The problem of the first-year students' adaptation is actively developed and studied by researchers in different countries [2; 5; 7]. There are a significant number of publications on various aspects of studying the processes of adaptation at educational institutions.

Long-term studies have found that effective, successful training, future professional career and personality development of the future specialist largely depends on the ability of the student to learn a new environment in which he finds himself by enrolling in the college. The university students face a number of problems, and their solution without proper organization and management can lead to stress, failure and significant deterioration of health. Similar problems are experienced by the first-year students, regardless of their

country of residence, which puts the problem in the category of urgent ones, requiring constant study, corrections, systematization and refinement.

An effective adaptation to the university is of interest to all participants of the educational process: not only the first-year students, but also teaching staff and faculty administration. That is why, a systematic study of high school students' adaptation process is conducted. That allows to use the data obtained in the work of teachers, tutors and escort services, to solve and prevent problems of freshmen's adaptation to the conditions of training in higher school.

2. Students' adaptation to new learning environment. Results

Studying the process of adaptation of the first-year students in Ukraine was intensified after 2005, when the country joined the Bologna process for inclusion into the European educational space [3]. That increased requirements to the process of training specialists, the work of teaching staff and faculty administration and, accordingly, adaptation of the first-year students.

As a result of studying the adaptation process of the first-year students of the technical and economic specialties in KII DonNTU, it was found that students of technical specialties adapt more slowly, have a number of problems, namely the communicative problems, reducing the quality of knowledge, disappointment in the chosen profession and rejection to continue their studies.

Obviously, to prevent these problems, it was necessary to continue studying the adaptation of the first-year students in order to create more favorable psycho-pedagogical conditions for individual development of the student's personality, for the development of a cohesive student body, for the implementation of the aid for young men and women in their training activities.

The author adheres to the belief that students' adaptation is a kind of interaction between the individual student and the educational environment of the university, in which a person acts as an active subject of adaptation, responsible for the success of the strategy selection and outcome of the process. In accordance with this vision of the adaptation process the work on studying the adaptation and coordination of work with the first-year students is performed in the institute.

Below are the results of studies that were conducted on the basis of interviewing the full-time first-year students from 2009 to 2014.

Annually Krasnoarmeisk Industrial Institute receives about 120 full-time students (of these, 30 applicants are choosing the economic specialties, 90 applicants are choosing the technical ones). What is more, in accordance with the Law of Ukraine "On raising the prestige of miners' work", over 25% of engineering students come to college out of the competition, gaining the minimum number of points (126–140 from 200 points possible) required for admission [1]. As a result of this situation, a significant number of the first-year students of engineering specialties come to higher educational institutions without sufficient skills for successful adaptation, which, in its turn, makes the work on students' adaptation even more urgent.

Observation is carried out for the full-time students during the first year of training in such areas: 1) Socio-psychological adaptation, which is expressed in the formation of positive relationships with friends in the group and the degree of satisfaction with these relationships. 2) Didactic adaptation, providing entry into the field of university education system, development of life skills in the classroom, adapting to the different components of the educational process in higher school. 3) Professional adaptation, which allows to adapt to the peculiarities of the chosen profession taking into account specific training in a technical college.

The educational support of the first-year students is realized from the first days of training. It is aimed at providing a system of organizational and pedagogical conditions necessary for the formation of readiness of the freshmen to actively participate in the educational activities of the university.

Pedagogical support is a set of external factors that ensure the safe entry of freshmen in a new educational environment. Freshmen are accompanied by tutors, student government's representatives and the dean's office, who contribute to self-knowledge and self-determination of the students' personality and try to have a positive impact on the adaptation process. Areas of work are determined on the basis of questionnaires, observations and interviewing the students during the first year of study.

At the beginning of the first year of study, students have input diagnostics using techniques "Acceptance of others" (on a Fey scale) *(Table 1),* "The study of motives of

educational activities" *(Table 2).* Dean's offices of faculties had developed a set of questionnaires, which determine the abilities, talents and interests of young people, the difficulties and problems in school and everyday life in order to assist them in the fuller realization during the years of study in KII DonNTU.

Table 1

Results of diagnostics of "Acceptance of others" (input control) 2009–2013

Indicators of acceptance of others	Economic specialties (%)					Technical specialties (%)				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
High	5	6	5	4	5	0	4	4	2	3
Average with a trend towards high	55	56	45	48	49	30	20	19	21	28
Average with a trend towards low	30	28	38	36	38	55	60	60	62	57
Low	10	10	12	12	8	15	16	17	15	12

Table 2

Results of diagnostics of "Acceptance of others" (output control) 2009–2013

Indicators of acceptance of others	Economic specialties (%)					Technical specialties (%)				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
High	10	10	9	9	11	8	9	7	9	5
Average with a trend towards high	60	61	50	52	55	35	25	24	27	35
Average with a trend towards low	25	23	33	30	33	50	55	57	55	53
Low	5	6	8	7	2	7	11	12	9	7

The results of these diagnostics demonstrate that engineering students mostly have 'an average with a tendency to low' ability of acceptance of others. They are more categorical and don't have developed communication skills [4]. More than that, for over the five-year

research, this trend remains constant and is characteristic of the post-Soviet universities. The reason for this phenomenon is the fact that the higher school of the post-Soviet space is in the process of reforming and continues to maintain the principles of reproductive education, authoritarianism and control over students. Accustomed to the daily care and control of the school, some freshmen are not able to make elementary independent decisions. They lack skills of self-education. According to the results of this technique the targeted work with a particular group of students is planned.

The next direction studied while working with freshmen is connected with the definition of the leading motives of educational activities. Students-freshmen at the beginning of their training and at the end of the first year of study are offered questionnaires in which they can choose the five most significant for them options. The results are processed, and on their basis the direction of work for the tutors, psychologist and student government is determined.

Below are the results of the survey of students of technical and economic specialties 2012–2013 academic year *(Table 3)*.

As the table shows, students of economic specialties are more conscious about learning in higher educational institutions and most of them want to become highly qualified. This is due to objective reasons, which have emerged over the last ten years in the labor market in Ukraine. The fact is that the labor market is oversaturated with specialists- economists, which leads to tougher competition among graduates in finding a job [8]. In addition, the percentage of students-economists who may receive the scholarship (defined by licensing rules of enrollment in higher school) may not exceed 30%, and that causes the internal competition among the students for the opportunity to receive the scholarship.

Engineering students in Ukraine are in more favorable conditions. *First,* enterprises constantly lack engineers, therefore graduates believe that it is easy to find a job. *Secondly,* 80% of engineering students enrolled are trained at the expense of state budget during the first semester and receive a scholarship. And they eventually begin to understand that getting a scholarship is associated with successful learning and the need to obtain deep and lasting knowledge. A practical training after the first year of study convinces students in the necessity to become qualified specialists to perform complex production problems successfully.

Table 3

The results of diagnostics of the motives for training activities (2012–2013 academic year)

№	The dominant motives of training activities	Economic specialties (%)		Technical specialties (%)	
		1 semester	2 semester	1 semester	2 semester
1	To become a highly-qualified specialist	75	85	40	60
2	To get a diploma	50	90	70	85
3	To learn successfully , take exams as "good" or "excellent"	60	65	25	50
4	To get a scholarship	30	70	40	55
5	To ensure the success of future professional activity	55	60	15	20
6	To win the respect and approval from teachers, parents	30	40	20	30
7	To gain deep and lasting knowledge	60	75	25	40

More than that, the results of the investigation suggest that in addition to the problems of "Acceptance of others" and uncertain motivation of the first-year students, there is a big list of factors that negatively affect the process of adaptation. These include: unusual training workload; inability to manage time; difficulty in learning new disciplines; absence of the usual psychological and domestic comfort; difficulties in relationships with fellow students; formation of a new system of relations with teachers. In addition, freshmen have not formed yet the ability to exercise psychological self-control self-regulation of activities and behavior. These difficulties are both objective and subjective, and associated with poor training and defects in education. They cause great emotional stress and, as a consequence, can lead to disappointment in the choice of future profession. Results of their impact are decline in academic performance of the first-year students. Under unfavorable circumstances, these difficulties become the impetus for full maladjustment and expulsion from the institute. Thus,

during the investigated period about 13% of engineering students are annually deducted from the Institute.

Table 4

Results of diagnostics of "Problems of student life" for 2009-2013.

Indicators of acceptance of others	Economic specialties (%)					Technical specialties (%)				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Difficulties in adapting to the norms of student life	24	30	25	25	25	33	48	43	43	45
Financial problems	5	6	7	5	6	30	40	50	30	40
Problems with the provision of textbooks	15	20	15	12	10	5	3	4	5	3
Problems with the rational organization of the time	40	40	38	35	30	55	50	45	55	49
Problems with the organization of effective communication	2 3	25	27	24	24	37	36	38	37	39
Do you need counseling?	50	55	57	58	53	30	24	23	30	40

As it turned out, a major problem is the inability of freshmen to organize their activities in the absence of daily knowledge control. In addition, students realize that they are not able to manage their time efficiently. As a result, more free nature of the organization of training sessions at the university contributes to the low level of professional self- determination during the first year and adversely affects the course of the adaptation process. Researchers find it indicative that students of economic specialties pay more attention to the problems in the organization of effective communication. This ability is an essential prerequisite for their successful career as managers in the future. Students begin mastering the whole complex of psychological and legal disciplines in the first year. Studying psychology, they often visit a psychologist (training, social clubs, individual counseling). According to the students, it helps them to understand the problems and understand themselves.

As for engineering students, the ability to organize effective communication is not recognized by them as a priority. They treat the profession of an engineer as 'man - machine' and do not think it necessary to learn to communicate with people. According to 51% of the students (the result of the survey in 2013) the ability to manage and effectively organize the production process comes with age and experience. Furthermore, being aimed at solving technical problems, students underestimate such courses as law and psychology, which are optional to them at the third and fourth years of study.

According to the results of the same survey 60% of respondents-engineering freshmen (survey in 2013) categorically deny the need for psychological help. More than that, students find that they are able to sort out their own problems, considering unacceptable to let some strangers into their problems. They feel more comfortable to discuss their problems with friends and take advice from them.

Recognizing the multifactorial determinism of students' adaptation to educational environment of the university, the role of pedagogical management of this process should be noted.

All university professors know from their own experience that working with the first- year students, pedagogical communication with freshmen has its own peculiarities. This is due to both psycho-physiological features of the age and social factors. However, the special feature of the teaching staff of a technical college is that the majority of teachers (89%) do not have pedagogical education. They are highly qualified specialists in their own field and focus on solving complex technical problems, but their level of psychological and pedagogical literacy is not high enough, opinions are dogmatic and sharp. Furthermore, the average age of teachers in KII DonNTU exceed 50 years. This means that teachers were educated in the Soviet era, they reached a certain level of professional development, chose for themselves such methods and techniques that allow them to organize the teaching process with the least psychological and physiological losses for themselves. They express negative attitude to the innovations and interactive teaching methods and find them ineffective. These are the teachers who often have arguments with the first-year students. The result of these conflicts is often a decline in the quality of knowledge in their subjects.

Thus, when planning the adaptation of first-year students one should take into account the fact that students of a technical college have more difficulties in adaptation to training,

and many technical teachers lack systematic practice aimed at optimizing the adaptation process.

Freshmen enter higher educational institutions with certain hopes and expectations. They also put forward their demands to the teachers. Thus, the survey of students revealed that students pay a lot of attention not only to professional skills of a teacher, but also to their personal qualities. We found it interesting that the first-year students of technical and economic specialties offer the same requirements for teachers. In our opinion, this is due to the fact that freshmen are in a new learning environment for them and experience similar problems. These problems were decribed by L.V.Pet'ko too [6].

Thus, 80% of students responded that sex and age of a teacher were not important for them. Although in the second question, 40% of respondents would prefer a teacher aged not more than 40 years. In appearance, students appreciate a sense of style (20%) and neatness (60%). As for features of character students prefer the calm nature and sedateness of the teacher (70%). However, 25% would prefer an energetic and emotional teacher. The data obtained are reported to the teachers who have the ability to organize classes in accordance with the psychological characteristics of a group of students.

Analyzing moral qualities, 86% chose justice; 76% would like a teacher to be kind and sympathetic; 56% reported among the essential qualities – rigor and strictness. Among the professional qualities of a teacher, students chose salesmanship and ability to explain clearly and briefly the most important issues (80%), 15% chose the ability to show the depth and scientific features of problems, 15% – the ability to make students learn, 65% of the students prefer practical classes to theoretical sessions.

As far as language of teaching is concerned, there are some difficulties first-year students face while learning engineering subjects. 98% of courses in the university are taught in Ukrainian, 2% of subjects – in English. More than 95% of students were studying in Russian schools, 97% of students and teachers outside the classroom communicate in Russian, which is accounted for by the specifics of the region where the institution is situated (South-West Donbass). In this way an article by investigators from Kazakhstan is very useful for reading [9].

Annually, about 70% of students surveyed say that they experience difficulties in

understanding the special and scientific terms during lectures. Therefore, professionally oriented courses of Ukrainian and English were specially introduced for technical students.

The data obtained were used to determine the main directions for work of the tutors of academic groups, for the development of scientific and methodological support for training, educational and extracurricular activities with students of junior courses. One of the effective forms of such management is the activity of the institute tutors of students' groups.

To ensure the effective adaptation of the first-year students for the new educational and learning environment was the purpose which determined the content of the corresponding educational tasks. This work allowed us to identify the system of consequent and interrelated steps: 1) to study personality characteristics of freshmen and identify constraints of the adaptation period and features of students' "entry" in college life; 2) to prepare recommendations for teachers working with the first-year students aimed at optimizing the adaptation period; 3) to conduct round table discussions with the Director of the Institute, deans, administration, specialists in organizational management and educational work connected with adaptation of freshmen; 4) to include events held on different thematic programs into the schedule of freshmen; 5) to develop and improve thematic educational programs for the first-year students; 6) to organize and conduct a series of workshops with the first-year students' leaders aimed at raising awareness of the difficulties of the adaptation period, the development of methods to overcome them and constructive communication skills; 7) to work out practical classes for student groups of the first year; 8) to conduct workshops with young teachers working with the first-year students aimed at improving the teachers' level of psychological and pedagogical literacy; 9) to carry out individual and group counseling of students and teachers; 10) to summarize and analyze the results of the work performed and plan events for the future.

Thus, one of the most important pedagogical tasks of the university is working with the first-year students aimed at a more rapid and successful adaptation to the new training system, to the new system of social relations, aimed at mastering their new role as students. Students of technical specialties require special attention.

The author believes that the optimization of students' adaptation (see *Table 5*) in the learning process is possible if: 1) there is a conscious awareness of the importance of freshmen's adaptation; 2) teachers, professors and senior students provide support in micro-social

Table 5

Dynamics of adaptation of the first-year students of KII DonNTU

indicator	Economic specialties (%)					Technical specialties (%)				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
number of students fully adapted to the university	64	84	94	90	86	50	60	62	64	65
Number of students who are eager to continue their studies	43	52	46%	58	60	36	38	42	45	50
Assistance of the groupmates during the period of adaptation	48	50	70%	61	60	34	33	45	54	50
Assistance of the Dean on Educational Work during the adaptation period	10	18	20	29	29	0	7	9	14	17
Assistance of the teacher responsible for the student group	26	32	33	35	34	15	17	20	19	22
Students describe their relationships with teachers as good	60	71	67	69	66	32	36	40	54	60

student environment; 3) students' communication needs are satisfied (depth, circle of friends, position in the group, exchange of views, search for joint solutions); 4) socio-directed student activities are ensured; 5) subject-subject relations between students and teachers are fully realized.

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