

Education of Logisticians in Poland: Problems and Prospects in Students' Opinion

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Logistics is one of the key sectors of the Polish economy. Its value reflects not only its own capacity, but also the role it plays in ensuring the proper functioning of the entire economy. The rapid development of the industry and the highest demands on logistics solutions bring to the fore the problem of preparing a new generation of specialists in logistics. That is why the question of compliance to learning expectations of both students and the labour logistics market is so important, as well as the problems of efficiency and adequacy of training provided to students with the knowledge and skills to achieve the desired job, and the opportunities of Polish Universities' graduates to work abroad. The objective of the paper was to identify the expectations of students who study Logistics at the Faculty of Engineering Management, Poznan University of Technology.

Keywords: railway track, engineering facility, transition zone, reinforcing inserts.

1. INTRODUCTION

Changes that have occurred in recent years in the global economy (such as globalization, deregulation, increased competition, rapid development of new technologies), as well as the emergence of new concepts in management and organization of production (e.g. Lean Management, TOC, Six Sigma), have had an impact on the fact that the theory of management and logistics has become a growing problem for businesses. Unceasing trend of reducing costs, improving quality, and increasing market share leads to the fact that the main logistics services are increasingly delegated to specialized companies, and, as a consequence, the demand for specialists of logistics is rapidly growing. This is reflected in the strategy of companies, which in terms of opening opportunities and the growing expectations of customers is expanding operations in new market segments (both geographically and of production) and leads to the constant development of products that allow to adapt the integrated logistics solutions to individual customer needs (Rynek transportu i logistyki w Polsce, 2007).

Within the framework of the Polish higher education, specialized logistics has been breaking all records of popularity for several years. Among more than 650 universities in Poland, almost 500 offer the major or specialty "Logistics". According to statistics available at Polish Accreditation Committee, the pace of growth in the number of students in this education sector was 185.3% (in 2008 and 2009), including 190% in private universities, and about 178.6% in the state educational institutions (Kurasiński, 2014). That is a stable increase in the number of students and, therefore, of interest in this specialty, and it can be claimed to be rather a trend than just a tribute to fashion. At the same time, public universities in this area have about 50% of full-time students, while in private schools there are mostly part-time students (Rocki, 2011).

It is forecasted that logistics will be one of the most progressive and dynamic branches of industry in the economy. In this context, universities in Poland are making every effort to meet these industry trends (Logistycy w Polsce, 2012; Dembińska, 2013; Top 10 occupations in 2013, 2013). "Education shall be devoted to logistics practice" (Bukowski, 2006), – say the professor Lech Bukowski, the Dean of the Faculty of

Management at the Krakow University of Science and Technology in an interview to the magazine "Logistics". However, it is still an open question of compliance of these areas to learning expectations of both students and the labour market; problems of efficiency and adequacy of training provided to students with the knowledge and skills to achieve the desired job; as well as employment opportunities of Polish Universities' graduates to work abroad (Barwińska-Małajowicz, 2010; Polakowski, 2014; Czarnik & Konrad, 2012; Piróg, 2016; Bielecki, 2008).

This paper presents the views of the students towards their future careers. The purpose of this study was to investigate the expectations, competence and vision of the future – from the point of view of students at the Faculty of Engineering Management of the University of Technology. Accordingly, the target research group included students of the Bachelor's and Master's degrees at the above-mentioned University. The research had 360 respondents – the students of Polish nationality. Taking into consideration the difference in experience and preferences of part-time and full-time students, only the students of full-time studies were selected for the research. The survey contained 23 questions and was divided into 4 parts: Respondent's Profile; Professional Attractiveness; Obtained knowledge and skills; Employment.

A survey among students was carried out in February-May, 2016. The questionnaire consisted of closed questions, single- and multiple-choice questions, as well as questions with the 7-level scale weights, where 1 depending on the question means "strongly disagree / least attractive" and 7 means "strongly agree / the most attractive". The questionnaires were handed out to students personally.

2. STUDENTS' VISION OF THEIR FUTURE ON THE LABOUR MARKET

The choice of future profession is one of the most important life decisions. Applicants choose a specific course of study for the future professional activity, guided by many factors, including market trends, interests and occupational predisposition, the nature of job etc. (Musioł, 2011; Allen & Van Der Velden, 2007; Bańka, 2005; Barros, Guironnet & Peypoch, 2011).

Management and production engineering is the major that in the 2015/2016 academic year took the 11th place among the most popular majors in

Poland (www.nauka.gov.pl, 2016). Department of Engineering Management of the Poznan Technical University offers the applicants three fields of study: Logistics, Engineering Management, and Security Engineering, which prepare students for the planning and control of production, reverse logistics, logistics management, production logistics and procurement, inventory management in supply chains etc. So let's get to know students' opinions about their expectations from entering the labour market.

2.1. RESPONDENT'S PROFILE

As it has been stated above – the number of respondents who took part in the survey is 360 people. Among them, 203 women (56%) and 157 men (44%). The research was provided among students of the first, as well as the second degree, therefore, the age of the respondents ranged from 19 to 25 years. Most of the respondents were between 20 and 21 years old (102 and 107 people correspondingly). Another sufficiently significant group includes students aged 19, 22 and 23 (32, 50 and 49 people correspondingly). The smallest group contains students aged 24 and 25 (12 and 8 people correspondingly). The share of surveyed men and women in different age groups is shown in Figure 1.

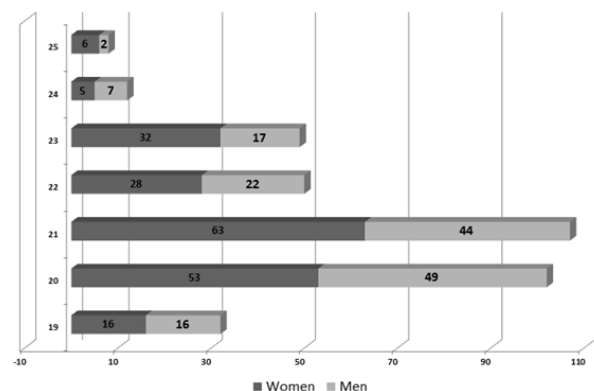


Fig. 1. The Number of Respondents in Certain Age Categories.

Distribution of students enrolled in the different years of study is presented in Figure 2.

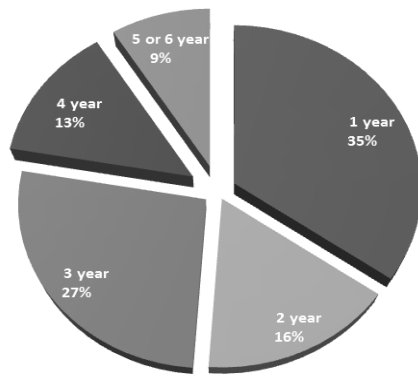


Fig. 2. Number of Respondents by Years of Study.

Table 1. Number of Applicants with the Professional Experience.

Age	19	20	21	22	23	24	25
Number of respondents	32	102	107	50	49	12	8
Number of students with experience before studies	3	17	15	14	12	2	3

The result suggests that young people seriously reflect on their future careers, and even undertaking the first steps toward the obtaining the practical skills before starting University education. From our point of view, this is due to primarily awareness of the realities of market competition, which requires contemporary potential employees to possess specialized knowledge and experience.

2.2. PROFESSIONAL ATTRACTIVENESS

In the second part of the survey, students were asked mainly about what they intend to do after graduating from their universities (Fig. 3). The vast majority of respondents (48%) indicated that they would start looking for a job. Another significant portion of students (38% of the respondents) declared that after graduation they will be working or looking for a job, and at the same time continuing their studies at a higher level or at another major. Another 7% of the respondents have claimed that they will continue their studies at a higher level or different major without attempting to find a job. On the other hand, 2% of the respondents indicated that they will work on the current position. In the question, students also could indicate their own answer; the option was used by 7 people (2%), 6 of whom stated that they want to start their own business, and one person remarked that he/she wants to go abroad under the program Work and Travel. The remaining 3% of

As we can notice from the Figure 2, students participating in survey are mostly of the first years of study (78% of respondents). Small percentage of respondents (only 22%) are people from 4-6 years of study.

In this part of the survey, students were also asked whether or not before the studies at the University they already had any work experience (internship, practice etc.), associated with the selected major. Surveys showed that about 20% of the respondents (66 people) worked in the chosen specialization before the studies (Table 1).

students have not decided yet what they will do in the future.

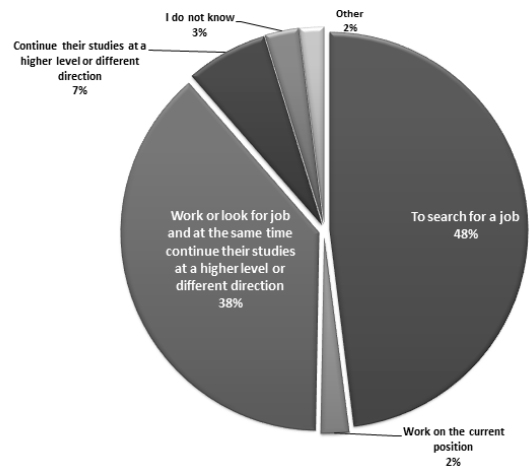


Fig. 3. Students' Decisions Regarding Graduation.

Continuous education at a chosen major and gaining new knowledge and skills is an extremely important aspect. Therefore, comforting is the fact that more than half of the students (45%) answered that they want to combine the education and the possibility of a parallel search for a suitable job.

The next question had to establish whether young people have already made a decision about their future profession. The answers were divided perfectly in two halves for each of the variants – 50% of the respondents have decided, and 50% –

have not yet made their decision about their professional future.

The third question concerned the *attractiveness of different types of the future activities*. In this case, students could evaluate the attractiveness of selected activities on a scale from 1 to 7. As the most attractive form of the future activities students identified their own business. Its average rating was 5.41 (on a 7-point scale). In second place was the office work with flexible working hours – the average is 5.31. The third and fourth places were taken by office work with full working time and freelancing 4.55 and 4.47 respectively. Shortened work week showed the average attractiveness – 4.36. The least attractive proved to be the paperwork type with part-time (3.49), job-sharing¹ (3.21) and working at the weekend's system (2.44).

The fact that the students have chosen their own business as the most attractive activity is in some respects obvious. The own business is a greater freedom of decision-making, way to implement their own ideas, know-how etc. But on the other hand, it is also a large range of obligations and responsibilities which is often forgotten. It should also be noted that a large number of respondents would be interested in working time flexibility, which would allow relative freedom to plan their job and, as usually, correspondent with conduction of own business as well.

Another question, which also had the scale of weights, was to investigate the *awareness of students about choosing their future profession*. Average rating (6.0) showed that mostly students have chosen the university consciously and independently, and fewer of them were influenced by their parents, friends or relatives (average is 2.63). Students do not agree with the fact that their choice was strictly connected with the necessity to continue the family business (average is 1.39), as well as reject the statement that knowledge and skills are not important, and the most important is to obtain a diploma (average is 2.13).

Then the respondents were asked to identify the *aspects* which guided the choice of future profession, and therefore the study major (Fig. 4).

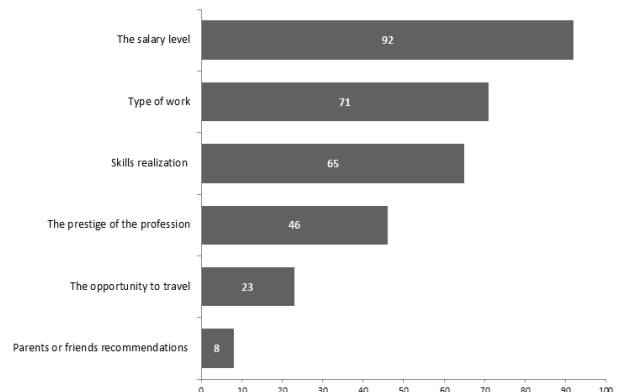


Fig. 4. Aspects of the Students' Future Profession Choice.

The chart shows that the most respondents specified the level of salary as the most important aspect (283 respondents). The second and third places in the students choices was the type of the job (office work, business trips, traveling), which is associated with the chosen profession (indication 191), as well as their skills realization (185 responses). The prestige of the profession is the aspect that took the fourth place (166 responses). The smallest number of specification received the aspect which is associated with traveling (71 responses) and the recommendations of family and friends (36 responses). It must be emphasized that none of the 360 people surveyed specified that the choice does not depend on them, which means that each person knew the main purpose of choosing.

Let's examine the three most frequently chosen aspects. The level of salary in many cases is the most important aspect when choosing a profession; in connection with it the choice of students was not a surprise. However, apart from good earnings, students also want to apply practical skills, in other words, to realize themselves in the professional area, which is extremely important and prestigious. And, by the way, the type of the job associated with management is not only interesting, but also ambitious and we will further mention some challenges that must be met. On the other hand, this type of job allows certain freedom of action and decision-making, which creates its additional attractiveness.

The final question in this section was the one concerning *willingness of respondents to conduct their own business*. 100 people (28%) specified that they want to run their own business but in the context of extra job. 85 people (24%) would consider taking their own business activity in case of not finding a job. 56 respondents (16%) indicated that they do not take into account other

¹ Job-sharing – the employment of two or more people for the work provided by the employer for one employee. Employees divided among themselves the remuneration and responsibilities of the job; usually this division is equivalent to the time worked. (Sobolewski, 2011, p. 5)

forms of activity. 8 people (2%) declared that they already own their private business. While 20 respondents (6%) do not plan to open their own business, and the remaining 91 respondents (25%) do not have a specific opinion on this subject. As a generalization, a significant number of respondents specified that they want to pursue their own business. Quite a number of respondents indicate that they do not take into account other forms of activity.

2.3. OBTAINED KNOWLEDGE AND SKILLS

The *third* part of the survey concerned the problems related to the *knowledge and expectations of future job, obtained during the study process.*

Therefore, the first question was to specify whether the *curriculum meets the requirements* of the respondents in connection to the future profession. Students had to determine in 7-point scale: 1) whether the program fully meets their expectations; 2) what is not fully consistent with their representation of the future profession, as well as to determine 3) whether the content of the curriculum is not important in the context of need for subsequent training on the work-place. Average rating on all the questions reached the mark 4, which means "no opinion". The figure below (Fig. 5) shows the frequency with which the respondents specified a value to each question.

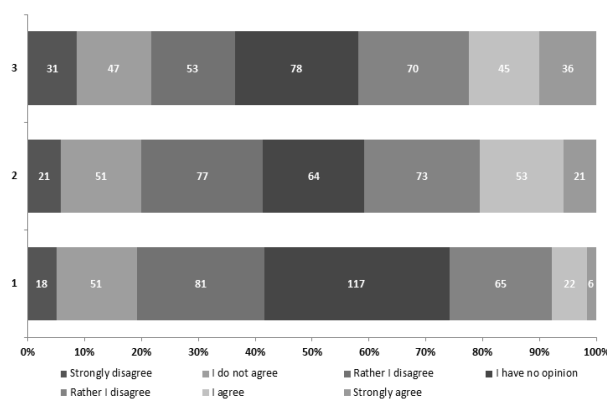


Fig. 5. The Structure of the Answers to the Question: "Whether the Curriculum Meets the Requirements of the Respondents with Connection to the Future Profession".

Indecision in the answers can be dictated by the fact that the respondents are mainly people from the first years of study, who only began the educa-

tion process, and therefore do not yet have a large contact with the specialized subjects directly related to their chosen profession.

At the next section of the survey the young people were asked whether *teaching provides them with sufficient professional knowledge* (on a 7-point scale). According to the average ratings 3.43, students tend not to accept the statement that they receive the knowledge which is sufficient for their future profession. At the same time, students rather agree with the fact that at university they receive a lot of useless and insufficient knowledge (average is 4.5). Another part of the respondents declare that, along with useful knowledge, they receive a lot of useless information, which they do not apply in the future profession (average is 5.27). Students also indicate that they do not have specific opinion on whether the basic knowledge is enough for their future profession (self-filling the gaps in knowledge) – average is 4.11.

As a recap of the answers from this section we can indicate that students are not fully satisfied with the obtained knowledge. They want to have wider expert knowledge associated with a future profession because they are afraid that the knowledge received during the study process could be insufficient for the contemporary labour market.

In the following multiple-choice question, respondents had to indicate *what, from their point of view, could help them find a satisfactory job* (Fig. 6).

According to the students' opinions, one of the most important criteria in finding a job is the knowledge of foreign languages (specified by 91% of respondents). As the next important factor in job search, students recognized professional experience (it is indicated by 83% of respondents). Possession of soft skills (i.e. good communication skills, creativity, flexibility, independence etc.), as well as a diploma of graduation, according to students opinion, are the next important factors (77% and 73% of respondents respectively). As a quite important factor for respondents was recognized the presence of the social and professional contacts network, through which they can reach out to a potential employer (68% of responses). As less important factors for the students were pointed: computer skills (48%), reputation after the university graduation (47%), luck in finding a job (47%) and good presentation

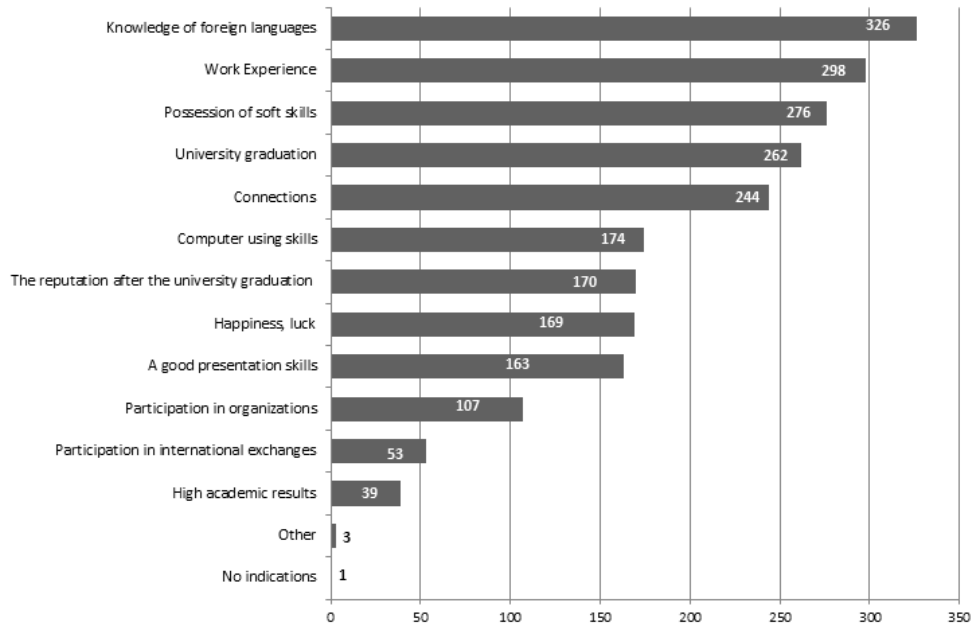


Fig. 6. Factors Allowing Students to Find the Required Job.

skills (45%). Factors having the least impact on finding a job, according to student opinion, are: participation in the different organizations, associations, academic community etc. (30%); participation in international exchanges (15%) and high achievements in science (11%). Those who have chosen the option "other", specified that an important factor is the possession of certain qualifications, confirmed by the relevant diplomas and certificates.

As a summary of the answers from this section we indicate that the students are aware of the fact that Poland cooperates with a great number of foreign countries. Currently, knowledge of foreign languages is a basic skill required by a prospective employer (Wronowska, 2013, p.141). Therefore, knowledge of languages of such countries as Germany, England, Italy, Russia etc. becomes crucial, especially for companies that make up the branches of foreign corporations. So, we can eject a statement that students are familiar with the market realities, where employers often put knowledge of foreign languages as a prerequisite of skills of a candidate. Students also are aware of how important it is to have a professional experience and soft skills, among which employers highly value the ability to work in a team, forward-looking thinking and flexibility. And having the diploma and a wide professional and social network, in the opinion of young people, will make it easier to find new opportunities in their life.

The *last* question in that section of the survey was to verify the students' *expectations as to their*

future work in the context of the acquired knowledge and skills. First of all, the future work of the students is expected to give promotions (average score is 6.01) and the ability to apply their skills (average 5.92). Equally important for the respondents is job security (5.76), which is related to that guaranteed workplace. To a lesser degree, but also important for the respondents, is the opportunity to demonstrate their creative abilities (5.33) and a large degree of freedom and independence at work (5.14).

Employees with higher education, more than others, appreciate the opportunity of the career promotion (Springer, 2011, p. 172). Personal development, as well as the ability to use the knowledge and skills they have acquired in practice, are important factors for young people. However, the willingness to share existing knowledge for the company's benefit can be conceived only in the case of presence of the guaranteed and permanent working place.

2.4. EMPLOYMENT

The fourth section of the survey is addressed to the aspects related to *finding a job in the home country and abroad.*

Thus, the first two questions, which were addressed to students, have verified the difficulty of finding a satisfactory job in Poland and abroad, corresponding to obtained education. The results are combined in the figure 7. Half of the respondents has problems with a clear opinion

about these questions. Comparing answers of other respondents we can note that more people indicate that finding a job in the home country is difficult or very difficult (104 answers), and only 77 respondents (21%) believe that finding a job in Poland is easy or very easy. When it is connected with finding a job abroad, 46 people think that it is difficult or very difficult, but 133 people (37% of respondents) believe that finding a job abroad is easy or very easy.

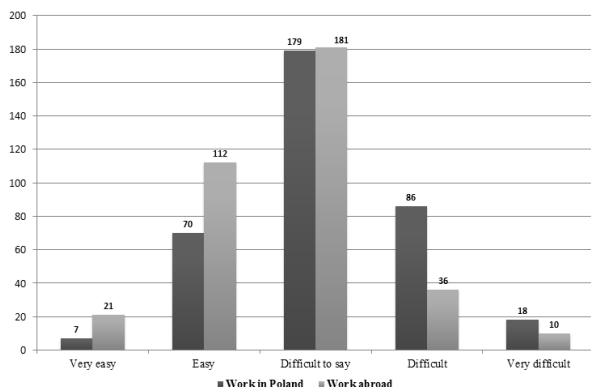


Fig. 7. Looking for Job in Poland and Abroad.

These polling results are highly alarming. Statistical data show that in the last few years the number of people who emigrate abroad exceeds 2000 people per year (www.stat.gov.pl, 2016). The number is still increasing. As you can see, a lot of students are convinced that it is easier to find a job abroad than in their home country. These views need to have some basis, which, as may be assumed, is the observation of reality.

Then the students were asked whether *they are interested in going abroad after graduation*. 8.9% of respondents replied that they are definitely interested in going and 26.9% of respondents answered "probably yes". In contrast, 4.7% of respondents consider that they definitely do not intend to leave the country in search of work, and 25.3% of respondents indicated that are not planning such a trip. The remaining 34.3% of respondents did not have a specific opinion (in comparison with Kmiotek & Polaszczyk, 2014, p.53).

A total of 129 people declared that they are interested in going abroad. That is 36% of all respondents. It is therefore necessary to know what prompts young people to go to another country. This should have to verify another question survey (Fig. 8). It was a multiple-choice question (hence the number of responses is not equal to the number

of respondents) and only covered people declaring their interest in traveling abroad, or undecided (totally 252 people).

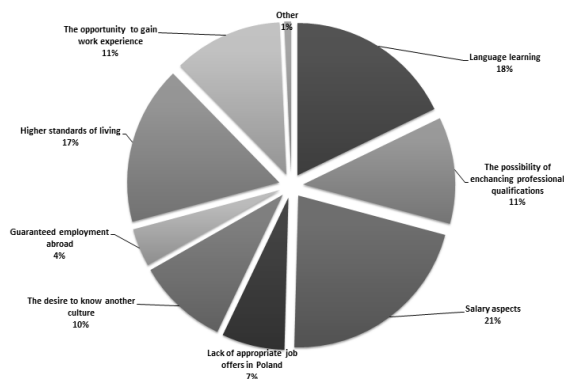


Fig. 8. Reasons for Going Abroad in Search of Jobs.

As you can see from the chart the main purpose of those interested in going abroad is the paid work (57% of responses). And it is significant that these results agree with the research contained in the report prepared by the company Work Service for people emigrating abroad (Hanczarek, 2014). As another important reason of the emigration process students pointed the fact of language learning (48%) and a higher standard of living abroad (45%). The reasons with an average weight are: the opportunity to gain experience (30%) and professional development (30%). The reasons with the smallest weight are: the desire to learn another culture (26%), lack of suitable jobs in the home country (18%) and guaranteed employment abroad (11%). Those who have chosen the option "other" indicated that the reason for going abroad is: the prestige of working abroad, as guaranteed by law, greater civil liberties, the opportunity to travel and desire to live in another country, in order to avoid the stress caused by the fast pace of life in Poland.

In addition to the reasons for leaving the home country, people, who have declared their willingness to go abroad or not clearly defined its position (252 respondents), were asked about *how long* they are going to be there. From 3 months to half a year – 7.94 % of respondents; from 6 months to one year – 28 people – 11,11% of respondents; from a year to 2 years – 20,24% of respondents. Over 2 years – 10,32% of people, and up to 15,08% of people are going to live abroad permanently.

The information above indicates that young people want to go to another country in order to improve their living standard. They also see better prospects for professional development abroad. The data indicate that a significant group of

respondents does not see prospects on the Polish labour market. But there is a worrying signal about the necessity of activating the professional development of graduates in Poland, because the lack of it can bring significant losses for the Polish economy.

Further the rest of all respondents were asked whether they already have *knowledge about the company* in which they will work, and what specialization they will have after graduation. 43 respondents (12%) specified they know what workplace and specialization they will have. However, the greater part of the respondents (88%) do not know yet where they will work.

The *last* question was to find out how students *are sure of their employment after graduation*. More than half of the respondents indicated that they had not decided yet where they will work after graduation. The second group of students (36.9%) indicated that they know the company, in which they would like to work, but do not have the guarantee of employment at this moment. In turn, the 7.5% of students said they are absolutely sure of their employment, and 3.06% of respondents indicated that they had been already working in their chosen profession.

The results show that on the stage of studying at university young people, on the one hand, already are at a certain level of awareness of labour market as well as vision of their future; on the other – only a small part of the students have a job.

3. CONCLUSIONS

Analysis of the research results of the survey of students of Logistics at the Faculty of Engineering Management at the Poznan University of Technology gives grounds to formulate definite *conclusions*, namely:

- the significant group of students before choosing the study major is trying to gain experience in a specific field of activity;
- the choice of the University is the independent students' decision;
- studies, according to the respondents, do not give the complete knowledge needed to perform the job;
- after graduation, students are directed at looking for job, simultaneously continuing studies at a higher level or at the other major;
- the most interesting form of activity for students is their own business and/or office work with flexible working hours;

- students have chosen the future profession primarily focusing on the expected earnings;
- the most important criteria, according to the students, to obtain the desired work are: knowledge of foreign languages, professional experience, possession of soft skills and higher education diploma;
- at the future work the students expect: development opportunities, career promotion and effective application of their skills;
- a lot of students know where they would like to work, but they are not entirely sure that they will have a job in that particular workplace.
- disturbing is the fact that a significant number of people believe that obtaining work in their home country is more difficult than obtaining employment abroad;
- therefore, a lot of students declare their willingness to go abroad, including permanent stay there;
- they motivate the desire by: higher level of salary and living standard, as well as the ability to learn a foreign language.

Emigration of Polish graduates is becoming a more and more common phenomenon. Young people leave the country to find a better start for the future. The travel abroad is associated, first of all, with higher profits. It is necessary to pay attention to the fact that students choose the majors of studies taking into consideration the possibility to get the desired payment in future. Thus, Polish universities face a difficult task – to reduce the trend of graduates leaving the country.

This reduction can be achieved by means of uniting the two “worlds” – the world of graduates and the world of employers. The desire to achieve this goal should be reflected in: the introduction of the brand new educational methods, provision of wider business knowledge, expansion of the offers of practices and internships, options of flexible studying, as well as expansion of the range of interdisciplinary lessons, courses and workshops. Proper preparation of students to their professions is the most important aspect in the future choice of the profession.

Professional workshops and trainings in the process of academic education are a perfect addition to the professional attractiveness, which students can use in their interviews for work. It is necessary to remember that not only education is important, but also the experience, practices, internships etc. It comes out of the experience of

many graduates that those who possess even the minimal possible experience, have higher chances to get the job. In this perspective, the understanding of the necessity to implement the above-mentioned changes in higher educational institutions is the key to the victory in the struggle for Polish youth.

In order to trace the trends and changes in the preferences and expectations of students, it would be reasonable to repeat this study within a certain period of time (for example, after 2-3 years).

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