

Research paper

Monitoring the Career Paths of the University Graduates as the Quality Instrument in Education

by

Piotr Jarco, WSZ *Edukacja* we Wrocławiu, badania@poczta.onet.pl

ABSTRACT

The carrier path researches among the graduates have become common a practice in the developed countries. Their fundamental aim is to adapt the educational content to requirements of the labour market. The article addresses the issues of survey methodology as the measure minded and aimed at obtaining the information about the graduates career paths. Apart from many logistics difficulties, the main obstacle is to get an effective conduct of graduates while dealing with their low motivation to get involved into researches. The article proposes an innovative solution to increase the graduates' responsiveness.

Keywords: Carrier Path Researches, Data Collection Method, Responsiveness, Representativeness, Questionnaire

Introduction

In the modern educational system, the priority areas such as the high quality of education or an adjusting the educational offers as to conform them to the job market, are continuously improved. An adaptation of learning and labour demands is essential. In the Polish reality the trends and supplies in the job market had not been taken into the consideration on the educational curriculum for many years. The educational system in Poland still changes, that is why Polish schools need to assume the constant process of evaluation. Whereas educational experience of Western Europe provides many valuable tips on a study area, gathering data techniques, or methods of it's usage.

An important context for the issue of the carrier paths of the graduates is an unemployment. In Europe, the scale of deactivation among people under 30's reaches unacceptable rates. That is one of the reasons of dissatisfaction and social protests.

Unemployment rate of young people in all EU countries is still higher than the overall value of this indicator (22.3% in the EU compared to 9.8%)¹. In Poland, the youth unemployment rate in 2011 was 27.8%, which is nearly three times more than the harmonized unemployment rate in general. However, it should be noted that although the situation of young people in the labor market remains difficult, the youth unemployment rate in Poland in 2011 was lower than in Spain (49.6%), Slovakia (35.1%), Portugal (30, 7%), Italy (30.1%) and Ireland (29.3%)². In the view of the foregoing, successive waves of mass protests are not isolated. Movements like “*Indignados Revolution*” began in Madrid May 15, 2011 are an indicator of dissatisfaction with the overall labor market situation. Both the low wages, limited access to jobs and prospects for the future are for many young people indicators that cause bitterness, and frustration which can take various forms and scale.

The European governments have to face the challenge of bottom – up reforming which change the unprofitable economic rates into the stable ones. One of the primary need is to identify problem areas in the higher education system.

The last decade was a period of significant change in higher education systems, which have carried from country to country and internationally under the influence of phenomena such as rapid growth in student numbers, the relative decline in public investment, together with an insufficient level of private funding, the growing importance of research and innovation in knowledge-based global economy, and wider competition between the universities³.

The integration of the courses with employers needs is reflected in numerous initiatives supported by the Ministry of Education or the Ministry of Social Policy. However it should be emphasized, that all attempts as to adapt education to the demands for certain employees are only parts of the whole process that in the long term has to improve the situation of youth in labor markets. At this point the reference to the ongoing trends in the higher education system in Poland should be made. The implementation of the following recommendations is a long lasting process and requires continuous evaluation. These include in particular⁴:

¹ Eurostat newsrelease euroindicators 5/2012 - 6 January 2012.

² Eurostat and the Ministry of Labour and Social Policy of Poland, cf.: Response to the interpellation nr 891/2012.

³ Report: *Badanie ewaluacyjne ex-ante dotyczące oceny zapotrzebowania gospodarki na absolwentów szkół wyższych kierunków matematycznych, przyrodniczych i technicznych*, IBC GROUP, 2012.03.06.

⁴ Expertise: „Ocena sytuacji w szkolnictwie wyższym w Polsce w zakresie obowiązujących programów kształcenia w stosunku do potrzeb rynku pracy”, G. Światowy, pages 22 and next, www.nauka.gov.pl/2012.03.03.

- ✓ increasing transparency of the process of education by using such tools as: defining curricula through the description of learning outcomes and the possibility of comparing qualifications through the National Qualifications Framework, the introduction of new (internal and external) quality procedures at the universities;
- ✓ Study programs based on specific learning outcomes relevant to employers (proposed supplement to the graduates diploma indicating their achievements and competencies);
- ✓ A clear and the more understandable definition of I and II level studies in for students, employers and academies;
- ✓ The wider curricular autonomy of universities;
- ✓ Increasing the quality of education carried out within the students' trainings;
- ✓ Inclusion of the development of new technologies in the educational process;
- ✓ Creating opportunities for professional certificates during the time of studies;
- ✓ Tackling against the graduates unemployment caused by the adoption of too many candidates into some study courses;
- ✓ Modernization of the machine / hardware base at the universities⁵.

An implementation of these actions should be done through constant referring to the realities of the labor market. Although the main trends in the economy are known and change rapidly, the specifics of the demand in regional labour markets requires constant monitoring in order to meet the demand of the relative autonomy of universities continuously modify education and improve the quality of education was primarily understood as prepare the student for the demands of the labour market.

The graduation from specific higher studies does not specify the occupation performed for life today. The role of the modern educational system is also to form of certain attitudes, which in particular include the ability to efficient adaptation to labor market trends. This is reflected in the expectations of experienced employers who increasingly insist on a high intellectual ability and adaptation of newly employed workers. Theoretical knowledge is only an additional asset to graduate faster adaptation to the specific company and the nature of work performed in steps. The results of students and graduates⁶ in five Central European countries, conducted by *Deloitte* and Human Capital Development Department School of

⁵ Ibid.

⁶ Deloitte and Human Capital Development Department School of Economics in Warsaw' Report "*Pierwsze kroki na rynku pracy Międzynarodowe badanie studentów i absolwentów*". A survey by online interview held from 27 January to 27 February 2011. The study involved a total of 3618 students and graduates from five countries: Czech Republic, Slovak Republic, Poland, Lithuania and Latvia; Warsaw; April 2011.

Economics in Warsaw indicate a concern for students and the need for curricular change in higher education, in order to adapt them to the labor market. Expectations of students and the challenges before them the labor market in the confrontation with the offer of teaching in higher education, demonstrate the weakness of the system. Respondents asked about the overall assessment of how the higher education system is preparing to carry out future professional responsibilities expressed in the majority of negative feedback (56% of the students in Central Europe)⁷.

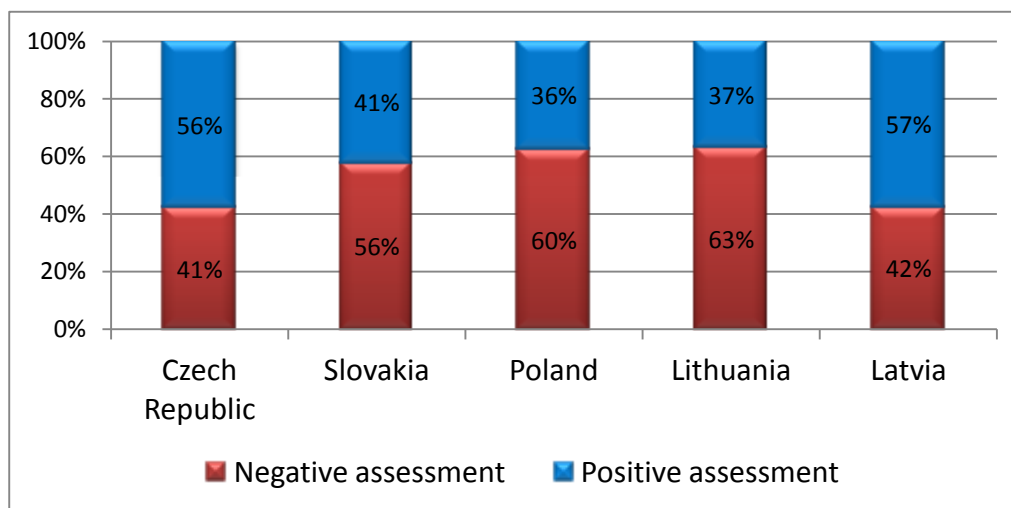


Chart 1. Rating of prepare students for higher education for future professional responsibilities.

Source: Deloitte and Human Capital Development Department School of Economics in Warsaw' Report "Pierwsze kroki na rynku pracy Międzynarodowe badanie studentów i absolwentów".

These data show up one of the reasons supporting the necessity of the changes in the existing approach and determine the direction of the modern universities⁸. Concerns of students related to their professional skills also confirmed by the entrepreneurs themselves. Thus, it is important to both ongoing monitoring of experiences of graduates, as well as the expectations articulated by the employers.

The Polish Higher Education towards the obligation of the graduates carrier paths monitoring

⁷ Ibid; Page 7.

⁸ One can also appeal to other studies in which students in Poland extremely negatively assessed their preparation for professional work. In studies of the *Homo Homini Institute* of August 2011 almost 90% of graduates claimed that polytechnics, universities and academies did not adequately prepare them to professional carriers.

The Act which regulates Higher Education in Poland is the Article 13a of the *Higher Education Act* dated 27 July 2005 with further changes (*Dz. U. No. ... 164*, item 1365 as amended), which states that “*The University monitors the careers of its graduates to adapt courses and training programs to labor market needs, especially after three and five years from the date of completion of the studies*”. Therefore, universities are required to monitor the career paths of the university graduates. Significantly, the legislature did not specify the methodology of such studies, indicating only the period in which graduates should be treated as the subjects of monitoring. According to many critics of this amendment to the lack of top-down set of methodological standards may be the source of confusion or even manipulation in the competitive educational market. Without a doubt, the data obtained by the professional graduates’ career paths researches will be used as a marketing material in the struggle for the student - both in the public and the private education. In the short time the appearance of ranking, constructed on the basis of data from reports the universities, can be predicted. As the practice in USA shows today, there are rankings of the effectiveness of training, defined as the social and professional success of graduates, performed by the analysts of educational or labor market or journalists. Attached to them, the rankings have got minor importance. One of the reasons for that is the fact that the studies at the carrier paths of graduates in Poland were carried out according to an unified methodology. In addition, because of the lack of the regulations defining the frequency of measurement, further confusion arises while trying to do the comparative analysis of the results. Similarly, Central Statistical Office researches in this area are not cyclical. Current statistics carried out by the Labour Offices in Poland or different workplaces reporting on graduates’ admissions and exemptions are also not in-depth source of information about the careers paths of the Polish graduates.

As a result of statutory changes previously mentioned, 460 public and private universities in Poland⁹ are preparing to monitor the carrier paths of their students. Some colleges, which cyclically have already been studying the carrier paths of their graduates, still modify the methodology of researches referring to the practice of the western-European countries. Even though the studies on creating the unified research system (model) at the carrier paths of the graduates are in progress, it does not seem to happen soon that the generally applicable standards in the higher education will be established¹⁰. It is connected with the diversity of

⁹ <http://www.nauka.gov.pl/szkolnictwo-wyzsze/dane-statystyczne-o-szkolnictwie-wyzszym>, 03.03.2012.

¹⁰ Examples of such activities are contests for innovative projects announced by the National Centre for Research and Development. For example, the Human Capital Operational Programme, Priority IV, “*Higher education and science, Strengthening and developing the potential of university teaching and increasing the number of graduates in critical knowledge-based economy* - Theme 3: *Monitoring of the carrier paths of graduates in*

specializations and different specificity of the schools. Nevertheless, the university teams designing a procedure for such researches have to deal with a number of organizational and methodological issues. The questions related to the necessity of developing test procedures consist mainly of the following areas¹¹:

- ✓ Protection and processing of personal data of graduates;
- ✓ Frequency of testing (regardless of the minima specified in the Act);
- ✓ Methods of reaching out to the respondents;
- ✓ Content, order and form of questions in the questionnaire;
- ✓ Responsiveness (the returning questionnaire rate, which indirectly determines the representativeness of researches among graduates);
- ✓ Way of presenting and sharing results from the researches.

Consent to participate in the researches and the aspect of protection of personal data

Scientists are unanimous about the fact that research involving humans should always be preceded by the respondents agreeing on the basis of presented to them information¹². This consent is particularly important for researches in which respondents are exposed to risk of the loss of personal values¹³. The respondents must be informed about number of issues related to the researches purpose and specificity, as to be able to express their willingness to participate in the study. An extent of such information should include:

- Presenting the aim of the study; clarify of what kind of decisions will be based on material obtained;
- Identifying the research establishment that covers the costs of research;
- Pointing out the methods of using and making the results available (including the publication of data);
- Presenting the people and institutions that will carry out the researches;
- Characterizing the methods by which the individuals were selected for the researches and their role in the studies;

order to improve the quality of education and to adapt the educational offer to labor market and economic requirements.

¹¹ The probe is made by the author among the representatives of public and private schools during an informational meeting organized by the National Center for Research and Development; Competitions for Innovative Projects - Action 4.1.1, January-February 2012.

¹² Ch. Frankfort-Nachmias, D. Nachmias, „*Metody badawcze w naukach społecznych*,” wyd. Zysk i Ska, Poznań 2001, p.95

¹³ Ibid.

- The anonymity and confidentiality degrees and the type of discomfort and inconvenience related to the participation in the research;
- The ways of storing the research data and the ways of protecting against disclosure of the personal data;
- Statement whether the participation in the researches is voluntary or obligatory¹⁴.

In case of the graduates carrier paths monitoring, the issues placed above can be addressed particularly during the signing of a form and during the information meetings at Universities, organized by the Careers Offices or by the academic staff. These actions fulfill the demands of ethics in the social researches (respondent must be informed), but also have a pragmatic dimension, because they increase the success rate to reach out the respondent. Graduates who have full knowledge of the researches issues and aims will be more motivated to provide detailed information.

At the planning stage of the researches it is important to fulfill the legal requirements relating to the protection of personal data. According to the educational mission of the Higher Education institutions, the processing of the personal data in order to raise educational standards do not affect the legal principle¹⁵. The standard requirements for security of the personal data are defined in the *Act on Personal Data Protection* in the *articles 36-39a* and in the Regulation of the *Minister of Internal Affairs and Administration* dated at 29 April 2004 on personal data processing documentation and technical and organizational conditions which should be fulfilled by devices and computer systems used to process them (*Dz. U. No. 100, item 1024*)¹⁶.

It should be also noted that in accordance with applicable law, the controller who creates the collection of personal data is obliged to submit the list to the General Inspector of Personal Data Protection (GIPDP). The legislature in *Article 43*, paragraph. 1, item 4 shows the exemption because "*from the registration requirements of the data set are exempt data controllers (...) are processed in connection with the employment or providing services on the*

¹⁴ J. Kowal, *Niektóre etyczne, metodologiczne i pragmatyczne aspekty badań statystycznych*, [w:] *Etyczne i psychospołeczne aspekty badań rynkowych*, J. Kowal, K. Węglowska-Rzepa (red.), wyd. WSZ Edukacja, Wrocław 2002, page 145.

¹⁵ art. 23 ust. 1 pkt. 5 Ustawy o ochronie danych osobowych

¹⁶ H. Franaszek, *Aspekty prawne wynikające z Ustawy o ochronie danych osobowych*. [in:] *Pierwsze kroki na rynku pracy – analiza losów zawodowych absolwentów Politechniki Krakowskiej, narzędzie badawcze, metodologia i wyniki badania pilotażowego, rocznik absolwentów 2006*, J. Żyra (red.), Raport z badań wykonanych przez Biuro Karier i Instytut Ekonomii, Socjologii i Filozofii Politechniki Krakowskiej, 2006, page 17 and next. See also. Ustawa z dnia 29.10.2010 r. o zmianie ustawy o ochronie danych osobowych i niektórych innych ustaw, *Dziennik Ustaw* nr 229, poz. 1497

basis of civil contracts and the people associated with them, or learning." Thus, the personal data of students do not require notification. However formally, the list of students required to conduct in the researches is the collection of personal data and requires special protection. This includes contact details and unprocessed survey results, which could be in any way identified or assigned to a specific respondent.

The graduates whose personal data were collected have got special law protection, as such:

- ✓ Request to supply, to update, or correct the personal information; temporary or permanent suspend or erase data, if they are incomplete, outdated, untrue or collected in violation of the law or are no longer required for the purpose for which it was collected;
- ✓ Write a request to stop the processing of the data due to the particular situation of someone who is in the set. This applies to the cases mentioned in the *Article 23, paragraph 1, item 4 and 5 of the Act*;
- ✓ Object to data processing, in the cases specified in *Article 23, paragraph 21, item 4 and 5 of the Act*, when the controller is going to process them for marketing purposes or to transfer the personal data to another data controller¹⁷.

Aspect of data protection is an important part of the researches at the carrier paths of the graduates. The data itself and obtained results should be protected with due care. The fact that any unauthorized use of the information collected, in addition to the obvious legal implications, it could permanently hinder or even prevent any further researches conducted by the particular university. It is important to involve people with specific ICT skills and knowledge to avoid the unforeseen events, especially with methods of computerized data collection.

Responsiveness and the Usage of Data Collection Method

One of the biggest organizational problem with the social researches is the rate of returning of the questionnaires. Practice shows that this also applies to the monitoring of the career paths of the university graduates, both in Poland and abroad. Regardless of the method used to collect data, this question is crucial for the degree of representativeness and the

¹⁷ Ibid. page 19.

possibility to generalize the results to the population of graduates¹⁸. A particularly low rate of return may hinder analysis of the results for each subgroup selected on the basis of criteria of the organizational or social characteristics - demographic graduates (the study degree, specialization, the age category, location, etc.). Therefore, in order to meet demand of maximizing the representativeness, these researches should have character of so-called *Total Studies*. For obvious reasons, access to every graduate is not possible. The reason for this may be the fact that not all of them agreed to participate in the study (decelerating stage - signing a declaration to participate in the study). Some elements of the graduates population is also unavailable - you can not make contact with a graduate of random reasons¹⁹. So called *Missing Data* can contribute to a reduction of representativeness, which is particularly common problem in the traditional mail researches.

The most effective strategy in terms of rate of returning the questionnaires is certainly the simultaneous use of the all possible methods during the researches. (*Fig. 1*). The disadvantage of this approach would be the complexity of procedures, the time-consuming and excessive costs.

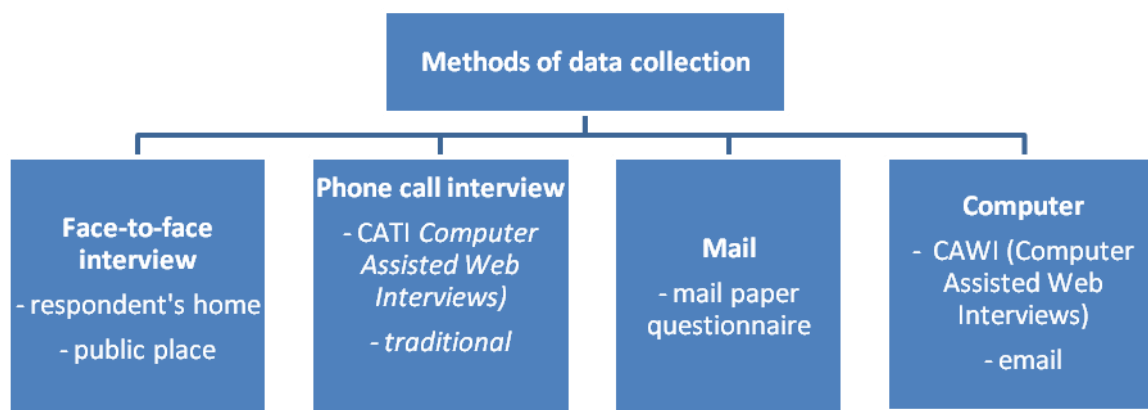


Figure 1. Methods of data collection in the survey research.

Source: own calculations.

Face-to-face interview is usually associated with the high costs and relatively long data collection. The main advantage of face-to-face interviews is the ability to control the

¹⁸ The financial aspect is the issue that goes beyond the scope of this paper. It should be mentioned that the average market prices in Western Europe, proposed by the research institutions at the universities, oscillate between 3 and 7 €, (including VAT tax), for each respondent. In Poland, the offers sent to the public and private universities are in the range of from 6 to 10 PLN (including VAT tax), for each respondent, which is about 1,30 €.

¹⁹ For obvious reasons, rate responsiveness is also related to the period of study - the longer the time after graduation, the survey return rate is lower.

situation in which the questionnaire is completed. However in the monitoring of the career paths of the university graduates this method can only be ancillary, complementary. In the current practice involving the monitoring of the graduates carrier paths are phone call, mail or computer interviews as the most frequently used methods to reach out the respondents. Of the above-mentioned method, the traditional mail is usually characterized by the lowest responsiveness. Due to the relatively low costs, relatively high levels of returns, the possibility of the study at the geographically dispersed population and it's fastness, the CAWI²⁰ (Computer Assisted Web Interviews) method is gaining in popularity.

The survey area has developed a range of treatments which are aimed at increasing the responsiveness. Depending on the chosen method of data collection, the effectiveness of motivating respondents to participate in the researches differs. It is also confirmed by analysis of the returning rates which were achieved in the studies of the monitoring of the career paths of the university graduates among European Union countries. Concurrent use of available methods to reach out to the respondents produces the best results, as evidenced by eighty percent effectiveness research conducted by the Higher Education Statistical Agency in the UK (HESA). Indicators of the returning rate presented below should also be included in the context of financial resources and the organizational facilities. Because this information is not widely available it is impossible to do meta-analysis of the effectiveness of selected procedures of the data acquisition.

COUNTRY	Responsive ness.*	Paper Questionnaire	On-line Questionnaire	Phone call research	Face-to-Face Interview
Great Britain HESA	80%	✓	✓	✓	
Italy	80%		✓	✓	
Poland	75%		✓		
Finland	60%	✓	✓		
Germany INCHER	50%	✓	✓		
Germany HIS	30%	✓			
Austria	25%		✓		
Great Britain HFR	20%				✓
France	20%			✓	
* Approximate ratios, calculated from graduates who have signed a declaration to participate in the research.					

²⁰ Apart from the advantages, one should be aware of the dangers posed to capture the data via the Internet. Therefore, schools often use secure access to an interactive questionnaire using a single password, so that an unauthorized person was unable to attend the measurement. Over a one-time password protection prevents multiple complete a questionnaire by the same person.

Table 1. An example of responsiveness and the method of data collection in selected European countries.

Source: own study based on: .almalaurea.it, www.his.de, www.incher.uni-kassel.de/2012.03.09 and on the book: „Monitorowanie losów zawodowych absolwentów szkół wyższych – rozwiązania stosowane w wybranych krajach europejskich”, Sedlak&Sedlak, Kraków, 29.12.2010.

As it was mentioned above, the monitoring of the career paths of the university graduates should be aimed to cover the entire population of students. Depending on the planned level of detailed analysis of the results, the researcher must establish a minimum number of completed interviews. It is proper, if the calculations take place in real time during the data collection so as to provide an essential opportunity to report about the various subgroups of graduates (faculty, major etc.)²¹. Table 2 presents the required minimum number of graduates participating in the study for the assumed confidence level of 0.95. Please note that the analysis of multi-variable, the quantities may not be sufficient for an assumed below the limit of statistical error (maximum error - 0.03).

Population of the graduates e.g. year of study, department	The minimum size test for level confidence interval 0.95 (Error max. 0.03)	Population of the graduates e.g. year of study, department	The minimum size test for level confidence interval 0.95 (Error max. 0.03)
100	91	650	404
150	132	700	423
200	168	750	440
250	203	800	457
300	234	850	473
350	264	900	488
400	291	950	503
450	317	1000	516
500	340	1050	529
550	363	1100	542
600	384	1150	554

Table 2. Population size and the size of the realized sample.

Source: own calculations.

These calculations are indicative, based only on the basic knowledge of the sampling theory. The minimum sample size is one of many issues to be resolved at the planning stage

²¹ Tool used to monitor the return is called *Plot Llevel Rreturns*; Earl Babbie describes the procedure to monitor returns in the following way: *A day in which they were sent questionnaires, the graph is called the first day. Each day thereafter applied to the graph the number of questionnaires sent back. It is best to combine the two graphs. One shows the number of questionnaires sent out every day - increasing and then decreasing. The second shows the number or percent cumulatively. This is a clue for investigators how the data collection. If you plan to list-like, the graph is an indication as to when to send such reminders (the date of the next prompt should also be marked on the chart)*, See. E. Babbie, *Badania społeczne w praktyce*, PWN, Warszawa 2003, page 286.

of the researches. For example, the important question of a methodological nature is whether persons not participating in the studies differ in a systematic manner and specified parameters in relation from those actively participating in them (for example, it is difficult to reach out to the work migrants or people who do not take the dialogue with researcher - frustrated by failure at the labour market etc.).

To sum up this thread, it should be emphasized that the level of returning rate is one of the indicators of representativeness. When the level is high, the likelihood of sampling bias associated with it is smaller than when the level is low. Similarly, the low level of returns is a warning signal, because people who did not participate in the researches may differ from the respondents, not only in this sense²².

In the literature that addresses the issue of the questionnaire returning rate a number of indicate factors are listed. The following actions concern in particular the mail questionnaires and computer methods:

- ✓ *Letter of inform* - a letter or postcard informing of the proposed study and inviting them to participate;
- ✓ *Explanation of choice* - explain how to create tests and the coverage of the respondents (description of the purpose of research);
- ✓ *Envelope* (for postal surveys) - empirically confirmed is more likely to return questionnaires in the case of personally addressed letter, which is not paid a lump sum;
- ✓ *Advertising* - for graduate study may be information meetings, leaflets, discussions with teaching staff;
- ✓ *Ensuring the confidentiality of the data* - involves informing the respondents about who will process the data (only researchers) and that the publication of results will not allow the identification of individuals involved in the study;
- ✓ *Reminder* - in case of postal surveys, which generally have a low return, a final reminder, clearly increase the rate, the effectiveness of reminders recorded also in the case of a method CAWI (Computer Assisted Web Interviews);
- ✓ *Questionnaire Appearance* - There have been many experiments to the appearance of postal questionnaires, font type, color paper. These experiments show that the most effective appears to be relatively conservative, non-irritating appearance²³. This rule also applies to online surveys. Here may be an important way of dividing content questionnaire (the screen with a progress bar).

²² E. Babbie, *Badania społeczne w praktyce*, PWN Warszawa, page 228.

²³ A.N. Oppenheim, *Kwestionariusze, Wywiady, pomiary postaw*, Zysk i Ska, Poznań 2004, page. 125 and next.

Apart from the technical and organizational ways to motivate respondents to participate actively in research, the literature lists a number of psychological mechanisms that may determine the ultimate level of the questionnaire returns. Their knowledge and skillful use determines the success of the researches. These are in particular techniques based on the principles of social life such as reciprocity, consistency, social proof of the validity and power of authority.

The Rule of Reciprocity is the principle of timeless and trans-cultural. Refers to reciprocate the behavior of interaction partners. Fair reciprocating which builds up social relations can also be used in the manipulation and deliberate shaping the attitudes of other people²⁴. In European practice relating to monitoring the carrier paths of the graduates such treatments as small gifts or bonuses are applied²⁵. *The Rule of Consequent* on the other hand, refers to a strong people need to perceive themselves as consistent and compatible with that in what they were already engaged to. This mechanism is associated with a desire to be perceived by others as a unit of predictable and consistent in their attitudes. So when the interviewers rely on a previously signed declaration of participation in the researches, for the respondents it is just difficult situation in which they are not able to refuse because of the high psychological costs (dissonance). Responsiveness' researchers also point to the effectiveness of recourse to the general social norms and behaviors. This principle is called by socio - psychologists *Social Proof of the Correctness* and refers to the relationship between the respondent and the researcher. Referring to the scale of involvement of other respondents (those who have already filled out) the researcher may expect a higher questionnaires returning rate. In the case of a person from a particular academic community, the refusal to participate in the study is difficult to communicate. In an indirect way, this principle refers to the conformism of psychological information, and the universality of this mechanism is one of the very well-documented empirical facts.

The Power of Authority can be understood in the context of the graduates and the university as an authority. Studies at the socio - psychology suggests that most people are less likely to challenge the validity of requests made by the authority and are also more likely to

²⁴ J. Jarco, *Manipulowanie w komunikacji*, [in:] *Public Relations na tle problemów zarządzania*, Z. Knecht (red.), WSZ Edukacja, Wrocław 2001, pages 51-52.

²⁵ A well known solution is also motivating the respondents to provide the possibility of receiving the main prize intended for randomly selected graduates participating in the study. The prize that can be post-graduate studies, language courses or other attractive educational services offered by the institution. There have been no studies carried out to what extent these actions increase the return of questionnaires and help to increase the motivation of the respondents. See: *Monitorowanie losów zawodowych absolwentów szkół wyższych – rozwiązania stosowane w wybranych krajach europejskich*, Sedlak&Sedlak, Kraków, 29.12.2010.

reflexive fulfillment of it. Psychologists attribute the performance impact not only on the mechanism of the elimination of liability, but also on the cognitive factors, so-called *heuristics*, that is generated in the course of experience patterns of thinking. This leads to a narrowing of perception, to simplify the process of thinking and omissions in the analysis of many aspects of the considered situation, that is, to lack of reflection. Then the behavior is directed automatically such as, for instance, "*if a professor who is a wise man, believes that this survey is needed, so it probably is*"²⁶.

An innovative idea which may elevate responsiveness and which is being currently tested, is a software solution with the working title "*feedback*"²⁷. This idea can be used in the computerized method of data collection CAWI (Computer Assisted Web Interviews). The essence of this approach relates to the well-known and successfully used in Internet marketing *e-gift formula*. The layer of the socio-psychological mechanism is based on the need for the comparison with other graduates from the same graduate year.

Before completing the questionnaire graduates are aware of the possibility of getting a partial research report which will be automatically sent to them. The content of this summary report are selected features of a single graduate student, presented graphically on the background of the averaged results relating to all graduates. The only requirement for receiving the results return (in addition to complete the questionnaire on-line) is clicking on an electronic consent. In the mid-term report delivered by e-mail graduates may find different variables such as: wages, job-search time, language skills evaluation, current job satisfaction, or many other dimensions describing the respondent. The content presented statements characteristics of the subjects is unlimited, in practice it depends on the questionnaire author's imagination. Below there is a visualization sample of the result which can be send to the graduates after their completing of the questionnaires.

²⁶ M. Kałaska, M. Komorowski, *Psychologiczne i socjologiczne uwarunkowania responsywności w badaniach kwestionariuszowych*, [in:] *Pierwsze kroki na rynku pracy – analiza losów zawodowych absolwentów...*, page 28 and next.

²⁷ P. Jarco *Know-how: Wyższa Szkoła Zarządzania Edukacja we Wrocławiu*, The publishing of the data collected with the use of solution requires attribution.

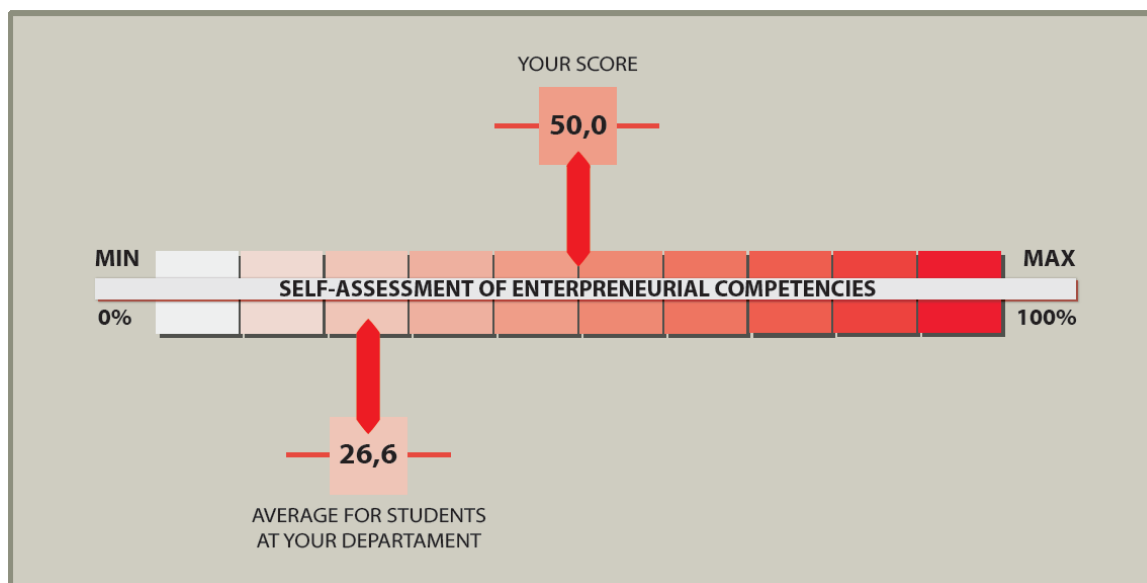


Figure 2. Example result sent automatically to the graduate via e-mail

Source: own calculations

In the social structure the desire to comparison between people is well established on the basis of psychological research. An important component of successful online projects such as *Facebook* or “*Nasza Klasa*” (Polish equivalent) was and is the need to relate their own life to the immediate circle of the society. Psychological attractiveness of this mechanism is confirmed in many aspects of social and economic life. Rankings and ratings are a sign of modernity, supporting the ongoing process of building their own identity (whole groups and individuals). On the other hand, they also cause many negative phenomena such as low self-esteem or depression. Personality psychologists indicating the functional importance of social comparison, emphasizing the role of the so-called. *Downward Comparisons*, namely the tendency of people to compare with people who find themselves in a similar (but more unfavorable) to our own situation. Such comparisons usually provide relief, helping to improve the well-being. *Upward Comparisons* are typical for non-defensively oriented, geared to a greater extent on the development and self-improvement. Such comparisons facilitate the programming of its own activity and stimulate the incentive to act²⁸. Using the universality of the psychological mechanism described can be expected to increase responsiveness and higher identify alumni of the university research initiative²⁹.

²⁸ The question arises at this point whether the report of the return should be sent to the respondent until after the edition of the survey that may be generated immediately after filling out a questionnaire. The first solution makes it possible to reference the results of a single respondent for the whole sample. However, a delay of "reward" which is to satisfy the curiosity of the respondent can negatively affect the responsiveness and reduce the effectiveness of this solution.

²⁹ The question in the questionnaire: Overall, how would you rate your own entrepreneurial skills? (scale 1 - 5, where 1 = very low, 5 = very high). In this case, the respondent pointed to the midpoint of the scale - 3 (50%).

Contents Range Of Questionnaires

Basic issues which are related to construction of the questionnaires are: the content, structure, format and order of questions. It should be noted that the researcher at the stage of designing the questionnaire, specifying the content of the questions and their level of detail, should keep in mind the limited perception of the respondents. Excessive details may indeed lead to the low questionnaire returning rate and the general reluctance of the respondents. Both the factual questions and subjective experiences (attitudes, opinions, satisfaction) should take into account the time dimension - graduates may not remember certain facts about which they express (e.g., types of employment contracts contained in the last 5 years of their professional work, etc.)³⁰.

Previous researches practices used in Poland and Europe, allow to specify of a set of repeated operationalised themes with questions and statements in the questionnaires. These are the most common³¹:

- ✓ Personal data (sex, year of birth, marital status, residence, number of children, social environment, etc.);
- ✓ Themes of study, level of satisfaction with the completed study, the overall assessment of the selection of faculty and the university, training, work undertaken during the study, assess the usefulness of skills acquired during the study, evaluation of the program to match labor market requirements, stays abroad during their studies, their the purpose and duration;
- ✓ Subjective assessment of their psycho-social competencies acquired during training (social skills, entrepreneurial, management, language skills, communication, self-presentation, resourcefulness of life, dispositional optimism, location control, ability to effectively cope with life's problems, levels of stress on the background work);
- ✓ Further plans for education, further education and gaining qualifications (undertaken and / or completed additional courses of study, their motivation to take and / or completion, further practical teaching profession, for example application - the law,

³⁰ J. Strelau (red.), *Psychologia. Podręcznik akademicki*, part 2, GWP, Gdańsk 2000, pages 571-252. See also: *Reference group of positive* (Robert Merton), *Comparative reference groups* (George Hyman), [in:] P. Sztompka, *Socjologia, analiza społeczeństwa*, Znak, Kraków 2002, page 217.

³¹ See: *Monitorowanie losów zawodowych absolwentów szkół...*

specialization - medicine, compulsory professional practice, assessment of further training in angle range of programs, duration, etc.);

- ✓ The history of exploration work (exploration time, terrain and forms of research, experience with recruitment processes, possible reasons for rejection of candidates by employers, subjective evaluation of a graduate of the reasons for rejection of his application);
- ✓ Work experience (current job and main duties, employment taken after graduation - time, type of employment contract, profession, place of employment; way to get the first and current job, a form of work - full or part-time, subsidized jobs, own business, information about the first employer - location, industry, type of operator, the name of his position, major responsibilities associated with working at the position), the height of the first and current salary, additional components of the current salary³².

An important methodological issue to be resolved at the design stage of the questionnaires is also the order in which questions should be arranged. It was noted that the nature of the answers given by respondents may influence the order of questions. The recommended order of the questions relates to whether the interviewer conducts an interview or questionnaire to be completed independently by the respondent. As a rule, in which case the best that the questionnaire began with a most interesting set of questions³³. It is advisable not to use questions about the facts (Imprint) at the beginning of a questionnaire. But in the case of the monitoring of the carrier paths (in particular, conducted via the Internet) to verify the respondent's data is an indispensable necessity (year of graduation, direction). Nevertheless, the logic of survey questions, which goes into the hands of the graduate should be part of the so-called principle *migration from general to specific*. This strategy is called the funnel, as opposed to *an inverted funnel*, where the principle of a narrower question ahead of a general question. Where possible, researchers should also try to make the procedure of

³² Although differences in self-diagnosed selected characteristics (respondent relative to the sample) did not have a special value for the main objective of research, may be a prerequisite for the presentation of graduates by e-mail offers postgraduate studies, training courses (personalized newsletter). The relatively high efficiency of targeted marketing in this case is strengthened by "objective" condition - the result of proving the respondent's potential deficits in selected areas.

³³ An interesting solution to minimize the problem of lack of data (memory wailing respondent) is applied in France. In a study carried out by CEREQ (Centre for Study and Research on qualifications, the annual budget 11.7 million - 2010). respondent receives a telephone interview before the professional calendar, (fr. *Calendrier professionnel*) in which the respondent in a systematic manner can recall a place of employment and forms of employment contracts of the period. This speeds up the telephone interview process and increases the accuracy of the data collected. See: Ch. Alpaga, B. Duploux, S. Jugnot, P. Rouaud, F. Ryk, Enquête «*Génération 2004*» *Méthodologie et bilan 1ère interrogation - printemps 2007*, Céreq, Mai 2010.

filling up the questionnaire not only boring or frustrating. Social studies offer many opportunities to demonstrate their ingenuity, and the same contact with a research tool can and should be of interest to the respondent. To draw attention to this aspect of the test and will enhance the accuracy of the impact of the data collected. Special field to meet the demand to give the attractiveness of a questionnaire asking for subjective opinions about the psychological and social resources of people surveyed (e.g., number of owned friends, family situation and psychological characteristics are important for the effectiveness of the labour market). In a letter to the respondent, or in a letter announcing the survey the researcher should indicate the research activity in such a way as to arouse curiosity.

Summary

Summing up the subject matter it is impossible to ignore the broader context of the qualitative changes which are observed in the higher education nowadays. New statutory requirements and ministerial recommendations are often taken with suspicion or surprise in academics. In their essence they aim to improve the socio-economic reality of the country. The formatting of high-grade knowledge and the graduates resources developing, which are manifested in the form of modern skills, social skills, resourcefulness and entrepreneurial attitudes, is unquestionably a key goal for building a vibrant economy and prosperous society. However, one can get an impression, shared by many others, that the problem of quality of higher education in the context of the fight against unemployment is over fetishized. There are some objective barriers to the nature of the system, which are equally important.. The migrations of well educated graduates who gained valuable skills and are the best proof. An educational offer that the Polish government have for those who want to start their labour carrier is not very attractive. The unfulfilled aspirations of young people are related to the low standard of life in relation to that which can be achieved in other European countries. The sustained improvement in the labor market requires a number of long-term governmental investments. Other regulations and statutory requirements as to quality education, for which they do not follow financial expenditures, are imperfect measures, indicating only the propaganda and often thoughtless copying of solutions used in the rich western economies.

In a sense, the obligation imposed by law, with regard to monitoring of the graduates carrier paths is another manifestation of the right direction to implement changes without the financial commitment of the Polish government. It should be noted that the study at the monitoring of the graduates carrier paths in Western Europe is largely financed by external

funds. Polish legislator did not indicate the sources of funding. Not for the first time in Poland arbitrarily introduced regulations provide additional financial and organizational burden for those entities which these changes relate. Funding research projects nationwide in countries such as Austria, France and Germany is the responsibility of the Ministry for Science and Higher Education. Even if they do not fund researches in total, they cover a large part of them. In the UK and Finland funds for research projects come from the budgets of universities (incomparably higher in comparison to the Polish reality). In Italy, the finance professional to monitor the fate of the graduates come from three sources: 40% of the expenses borne by colleges and universities participating in the centrally managed research projects and 25% of the cost is borne by the Ministry of Education, Higher Education and Scientific Research. Other funds are collected from employers and private institutions³⁴.

However, looking at the positive aspects of current legislative changes it is worth to note that even though the lack of imposed research methodology creates many problems, it is also a challenge for Universities to organize the sociological and marketing valuable data collections. Apart from improving the quality of education and adapting the educational offer to the requirements of labor market institutions, during the researches it is possible to obtain information that otherwise would not be possible to get. The constant contact with the university graduates seems to be strategically valuable perspective, not only in the aspect of the monitoring the graduates carrier paths. In the Polish reality of higher education such activities are carried out inadequately. Communications made in the course of research (especially by a computer CAWI) provides extensive opportunities to build relationships, shared the experience and initiate the various forms of cooperation of all stakeholders: the universities, the graduates and the business world.

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