

ASSESSMENT OF STUDY CONDITIONS AND PROGRAMS BY UNIVERSITY GRADUATES AT THE LEVEL OF PETROȘANI UNIVERSITY AND AT NATIONAL LEVEL, IN VIEW OF INSERTION IN THE WORK MARKET

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ABSTRACT: *This is a comparative approach – at institutional and national level – of the condition of study and competencies acquired by the bachelor graduates, promotion 2009.**

The analysis of information indicates an average to high degree of satisfaction regarding both the conditions in which the study program was performed, and regarding the competencies acquired. The relatively low level of use of knowledge and competencies on the job is due to the fact that only 15% at institutional level and 27% at national level work in a field corresponding to the study program graduated.

KEY WORDS: *assessment; competencies; domains; workplace; field of activity.*

The aspects analyzed in this paper are presented comparatively between the appreciations of the Petroșani University graduates and those at national level.

The assessment of the study program by graduates is a modest one, the global average being on a scale of intensity at the „so and so” variant, 3 as arithmetical mean, for both the batches of subjects. (Figure 1)

At institutional and national level, the least appreciated variant was „the students can figure out by themselves the study program”, with 2,5 and 2,4 respectively. The highest value for both levels was given to the variant „the program has a good academic reputation”.

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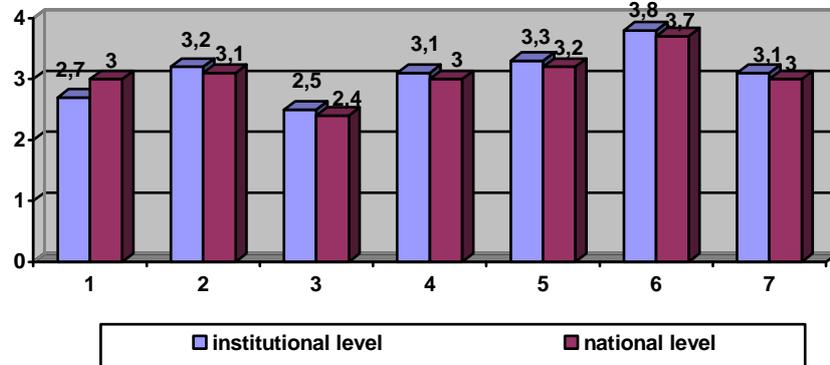


Figure 1. Comparison between institutional and national level regarding the assessment of the study program (arithmetical mean)

- 1- the program can be considered demanding in general
- 2- the content of the program is known to most of the employers in the field
- 3- the undergraduates have the possibility to figure out the study program by themselves
- 4- the program has a wide orientation
- 5- the program is oriented towards vocational education
- 6- the program has a good academic reputation
- 7- global average

Considering the fields of study, the situation is the following (Table 1):

At institutional level:

- Exact sciences
The best position:
 - the program is oriented to vocational education 3,5
 - the program has a good academic reputation 3,5
 The worst position:
 - the program can be generally considered demanding 2,3
- Social and political sciences
The best position:
 - the program has a good academic reputation 3,9
 The worst position:
 - the undergraduates can figure out the study program by themselves 2,5
 - the program has a wide orientation 2,5
- Economic sciences
The best position:
 - the program has a good academic reputation 3,7
 The worst position:
 - the program can be generally considered demanding 2,6
- Engineering sciences
The best position:

- the program has a good academic reputation 3,9
- The worst position:
 - the undergraduates can figure out the study program by themselves 2,4
- National level:
 - Exact sciences
 - The best position:
 - the program has a good academic reputation 3,7
 - The worst position:
 - the undergraduates can figure out the study program by themselves 2,4
 - Social and political sciences
 - The best position:
 - the program has a good academic reputation 3,7
 - The worst position:
 - the undergraduates can figure out the study program by themselves 2,6
 - Economic sciences
 - The best position:
 - the program has a good academic reputation 3,6
 - The worst position:
 - the students can figure out the study program by themselves 2,5
 - Engineering sciences
 - The best position:
 - the program has a good academic reputation 3,7
 - The worst position:
 - the undergraduates can figure out the study program by themselves 2,1

Table 1. Comparison between institutional and national level regarding the assessment of the study program per study domains (arithmetical mean)

Assessment of study program	Exact sciences		Social and political studies		Economic sciences		Engineering sciences	
	I	N	I	N	I	N	I	N
The program can generally be considered demanding	2,3	3,0	2,9	2,7	2,6	2,8	2,7	3,3
The content of the program is known to most of the employers in the field	3,0	3,2	3,2	3,2	3,0	3,0	3,3	3,0
The undergraduates have the possibility to figure out the study program by themselves	2,6	2,4	2,5	2,6	2,7	2,5	2,4	2,1
The program has a wide orientation	3,2	3,0	2,5	2,9	3,3	3,3	3,2	3,0

The program is oriented to vocational education	3,5	3,0	3,8	3,4	3,1	3,0	3,2	3,0
The program has a good academic reputation	3,5	3,7	3,9	3,7	3,7	3,6	3,9	3,7

I – institutional level

N – national level

Figure 2 shows the assessment of various methods of teaching-learning, used along the study program. The global arithmetical mean is situated, for both batches of subjects a little over 3, which means that there is room for better. The method which, for the two levels is the most appreciated is the professor-undergraduate conversation during the course/seminar, being around the value 4, with a slight superiority at institutional level; the greatest “sorrow” is, for both levels as well, the participation in research project, which does not reach at least the variant “so and so”.

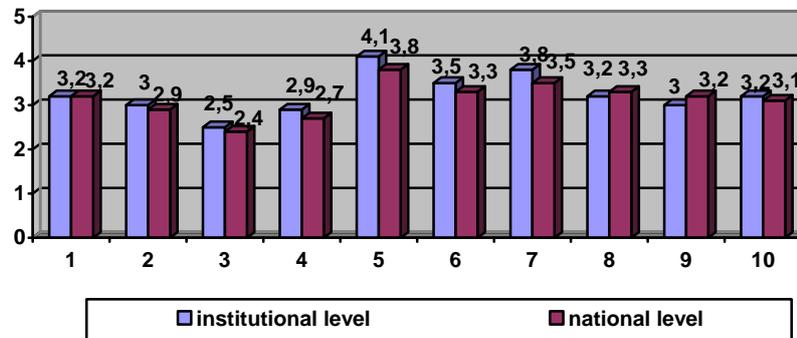


Figure 2. Assessment of teaching-learning methods, by graduates at institutional and national level (arithmetical mean)

- 1- lectures
- 2- demonstrations
- 3- participation in research projects
- 4- stages, placement in practical activities out
- 5- professor-undergraduate conversation during courses/seminars
- 6- debates between undergraduates during courses/seminars
- 7- exercises and practical applications during courses/seminars
- 8- learning by individual or group projects
- 9- oral presentations by undergraduates
- 10- arithmetical mean

Considering study domains, the configuration is the following (Table 2):

Institutional level:

- Lectures are best appreciated in engineering sciences (3,3) and less, but over average, in social and political sciences;
- Demonstrations take the first place in exact and engineering sciences (3,4) and less than average in economic sciences (2,6);

- Stages and placements in practical activities out are better evaluated by graduates in social and political sciences (3,3) and dissatisfy those in economic domain (2,6);

- Undergraduate-professor conversations during courses/seminars are the most appreciated of all the methods by all the subjects, at more than satisfying level, except economic domain, where the value is 3,9, being rather high as it is;

- Exercises and practical applications during courses/seminars tend towards satisfying for all domains;

- Learning by individual or group projects dissatisfy those in exact sciences (2,8) and is more appreciated by graduates in engineering;

- Oral presentations by undergraduates are used more by those in exact sciences (3,4), but are not satisfactory for those in economic sciences (2,7);

National level:

- Lectures are appreciated by the four domains at average level and a little more;

- Demonstrations are used more in exact and engineering sciences (3,4) and less in economic sciences (2,6);

- Participation in research projects is poorly appreciated by all domains – less than average - , the most dissatisfied being those in economic domain (2,1);

- Stages, placement in practical activities out are more appreciated by those in social and political sciences (3,3) and less by those who graduated in economic domain (2,6);

- Professor-undergraduate conversations during courses/seminars, as well as at institutional level, is best positioned in the assessment of all graduates, mainly by those in exact sciences (4,3);

- Debates among undergraduates during courses/seminars, except for economic domain (3,2) are estimated as satisfactory;

- Almost satisfied are the graduates regarding exercises during courses/seminars (between 3,7 and 3,9);

- Learning by projects dissatisfy less the engineers (3,3), but dissatisfy the exact sciences graduates (2,8);

- oral presentations of undergraduates, except for economic domain (2,7) are estimated a little over average;

In what participation in stages/placements in practical activities out there are no essential differences, but what is not normal is the fact that, for both levels – institutional and national – more than one third(35%) did not participate in these activities. The number of hours allotted to study programs is almost the same for the two levels, and mobility abroad is far from being satisfactory.

Table 2. Assessment of teaching-learning methods by graduates at institutional and national level by domains of study (arithmetical mean)

Teaching learning methods	Exact sciences		Social and political sciences		Economic sciences		Engineering sciences	
	I	N	I	N	I	N	I	N
lectures	3,1	3,3	3,0	3,3	3,1	3,0	3,3	3,2
demonstrations	3,4	3,4	2,8	2,8	2,6	2,5	3,4	3,0
participation in research projects	2,7	2,3	2,6	2,7	2,1	2,3	2,8	2,3
stages, placements in practical activities out	3,1	2,3	3,3	3,0	2,6	2,4	3,1	2,5
professor-undergraduate conversation during courses/seminars	4,5	3,9	4,4	4,0	3,9	3,7	4,2	3,8
debates between undergraduates during courses/seminars	3,6	3,2	3,7	3,7	3,2	3,3	3,6	3,2
exercises and practical applications during courses/seminars	3,7	3,9	3,9	3,5	3,7	3,5	3,9	3,6
learning by individual or group projects	2,8	3,4	3,2	3,5	3,0	3,3	3,3	3,4
oral presentations by undergraduates	3,4	3,2	3,3	3,5	2,7	3,1	3,1	3,0

I – institutional level

N – national level

The scope of mobility abroad is different between the two batches (Figure 3). Thus, for those at institutional level, the main motive is the stage of practice, invoked by two thirds of the subject (38%), and at national level, the main scope is the job with almost one third (32%) of the answers, a reason which in almost the same measure made those at national level to migrate as well.

The considerable difference between the two batches regarding the mobility in view of attending foreign education, those at national level having a share of one quarter and those at institutional level only 3% benefited of this advantage. Of course, considering the scope of mobility, it is only natural for its duration to be longer for those at national level.

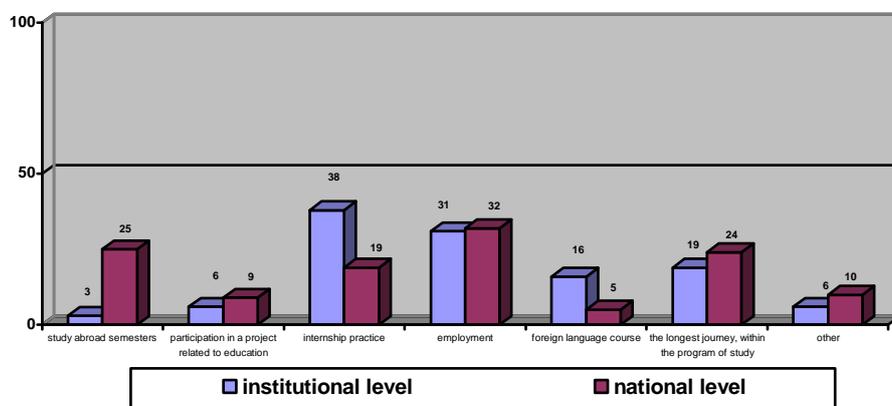


Figure 3. The scope of mobility abroad (%), multiple answers)

Comparison between the institutional and national level, regarding the evaluation of study conditions (arithmetical mean) is shown in Figure 4. A first observation of general character deriving from the data of the graph is that the values of the arithmetical mean at institutional are, with the exception of “interaction with the other students”, superior for all the other assessed conditions, the differences varying between +0,2 to +0,6, which makes the global value to be higher by 0,3. To be noticed that for both batches of subjects, only three of the study conditions are assessed under the average value of 3, these being: possibility of undergraduates to influence the policy and strategic decisions of the university; stages of practice at national and international level.

The significant differences in favour of the University of Petroșani graduates are recorded for the following aspects;

- facilities to have meals(canteens) in the university campus +0,6
- possibility to participate in stages of practice at international level +0,6
- accommodation facilities(hostels) in the university campus +0,6
- guidance offered by the teaching staff to prepare exams and bachelor graduation exam +0,4
- guidance offered by the teaching staff in general +0,4
- state of the buildings +0,4
- quality of libraries +0,4
- availability of technical equipment +0,4
- emphasis on the research component of the teaching-learning process +0,4

For institutional level, the highest values were obtained for:

- guidance offered by the teaching staff to prepare exams and bachelor graduation exam 4,2;
- quality of libraries 4,1;
- guidance offered by the teaching staff in general 4,0;

- quality of teaching - scientific content of course 4,0;

The least appreciated were:

- possibility of undergraduates to influence policy and strategic decisions of the university 2,6;
- possibility of participation in stages of practices at international level 2,8;

At national level, the highest values were given to the following aspects:

- guidance offered by the teaching staff to prepare exams and bachelor graduating exam 3,8;
- quality of teaching – scientific content of courses 3,8;
- quality of libraries 3,7.

The smallest values were recorded for:

- possibility of participating in stages of practice at international level 2,2;
- possibility of undergraduates to influence policies and strategic decisions of the university 2,3;
- possibility of participation in stages of practice at national level 2,5.

A positive aspect for institutional level is that the highest values recorded are 4,0 and over, and at national level the highest value is 3,8.

To be noticed that for the two batches of subjects, the most appreciated aspects and the least appreciated – at different quotas – are approximately the same.

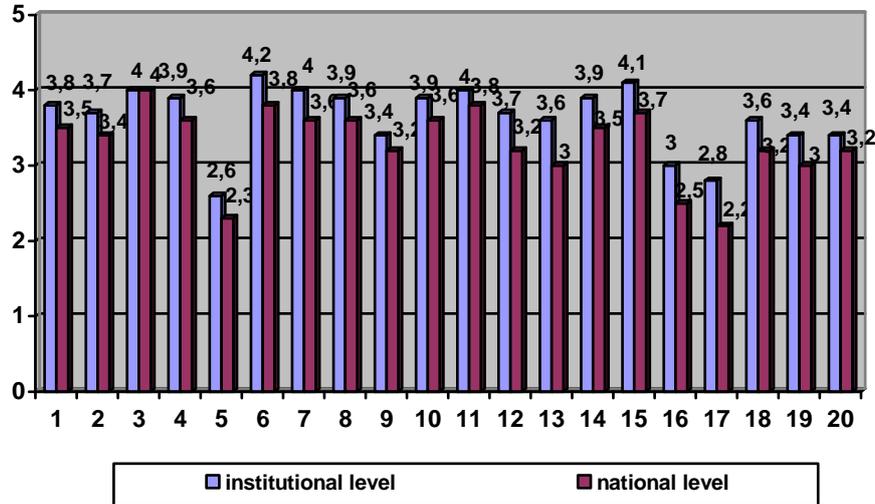


Figure 4. Assessment of study conditions at institutional and national level (arithmetical mean)

- 1- organization and structure of study program
- 2- possibility to interact with the teaching staff outside the teaching classes
- 3- interaction with the other undergraduates
- 4- testing/assessment system

- 5- possibility of undergraduates to influence university policies and strategic decisions
- 6- guidance offered by the teaching staff to prepare exams and bachelor graduation exam
- 7- guidance offered by the teaching staff in general
- 8- providing teaching means
- 9- equipping from a quantitative point of view with equipment and instrument for practice/workshops/classes of specialty/laboratories/seminars
- 10- quality of teaching - from didactic point of view
- 11- quality of teaching - scientific content of courses
- 12- facilities of accommodation(hostels) in the university campus
- 13- facilities of having meals (canteens) in the university campus
- 14- state of the building
- 15- quality of libraries
- 16- possibility of participating in stages of practice at national level
- 17- possibility of participating in stages of practice at international level
- 18- availability of technical equipment
- 19- emphasis o the research component of the teaching-learning process
- 20- quality of equipment and instruments for laboratory practice/seminars

As it is seen in Figure 5, the competency level at graduation is high, both for institutional and national level, the global value of the arithmetical mean being almost 4,0.

The following general aspects are seen in the data recorded:

- Assessment of the level of competencies is superior at institutional level compared to the national level in 13 situations, but with insignificant differences, in four situations the same level is recorded, and in two cases superiority is for the national batch, that is:
 - acquiring a foreign language +0,3;
 - computer proficiency and navigation on the internet +0,1.
- The greatest difference in favor of the institutional level is recorded for the ability of efficient negotiation(0,3), and in favor of the national one, acquiring a foreign language(0,3);
- To be noticed that all assessed components have values, for both batches, over the average value(3,0), and eleven of those of those at institutional level and seven at national level have values of 4,0 and more.

At institutional level, the highest values are recorded for:

- team work 4,4;
- computer proficiency and navigation on the internet 4,3;
- rapid acquiring of new knowledge 4,2;
- ability to clarify their point of view to others 4,2;

Less appreciated were;

- writing and speaking a foreign language 3,3;
- knowledge in other domains and specializations 3,4;

At national level, on the first positions there are:

- computer proficiency and navigation on the internet 4,4;
- team work 4,2;

Smaller values were recorded;

- knowledge in other domains/specializations 3,2;
- ability to present product, ideas or reports in front of an audience 3,3;
- ability to write and speak in a foreign language 3,6;

To be noted that by domains of study, both at institutional and at national level, no significant differences are recorded, the values being grouped at very small differences around a general mean.

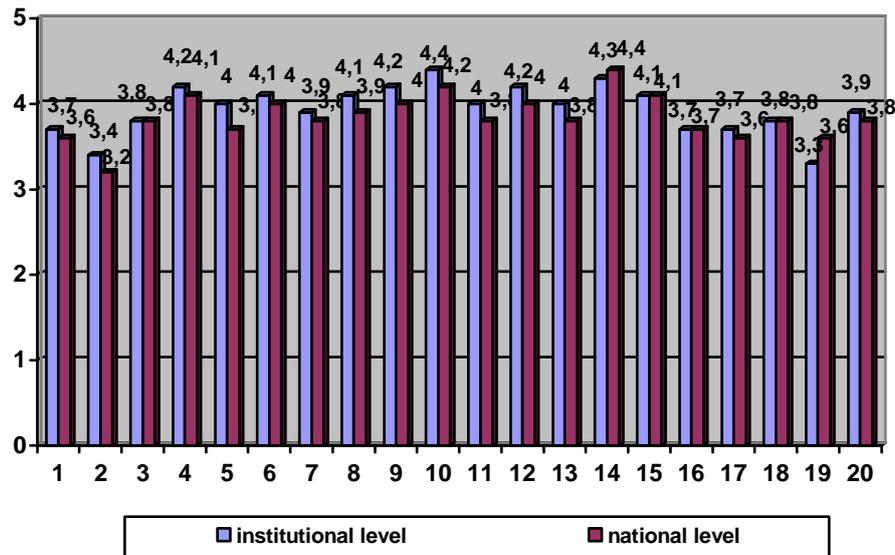


Figure 5. Assessment of competency level at graduation at institutional and national level (arithmetical mean)

- 1 – thorough knowledge of their own domain of study/specialization
- 2 – knowledge of other domains/specialization
- 3 – analytical thinking
- 4 – ability to rapidly acquire new knowledge
- 5 – ability to negotiate efficiently
- 6 – ability to act well in conditions of stress
- 7 – ability to identify new opportunities and act rapidly for follow up
- 8 – ability to coordinate activities
- 9 – ability to efficiently negotiate working time
- 10 – team work
- 11 – ability to mobilize the capacity of other persons
- 12 – ability to make one's ideas understood by others
- 13 – ability to exercise one's own authority
- 14 – computer and internet proficiency
- 15 – ability to come with new ideas and solutions
- 16 – availability to question ideas of one's own or of others
- 17 – ability to present products, ideas or reports in front of an audience
- 18 – ability to develop reports, notes or other documents
- 19 – writing and speaking proficiency in a foreign language
- 20 – global mean

The level of using knowledge and competencies at the first job after graduation was high for both batches of graduates (Figure 6), only 29% of the graduates appreciating that these competencies were required in a small and very small degree. To be noted that these appreciations were made in condition in which only 15% at institutional level and 27% at national level were employed in a domain related to the bachelor study program.

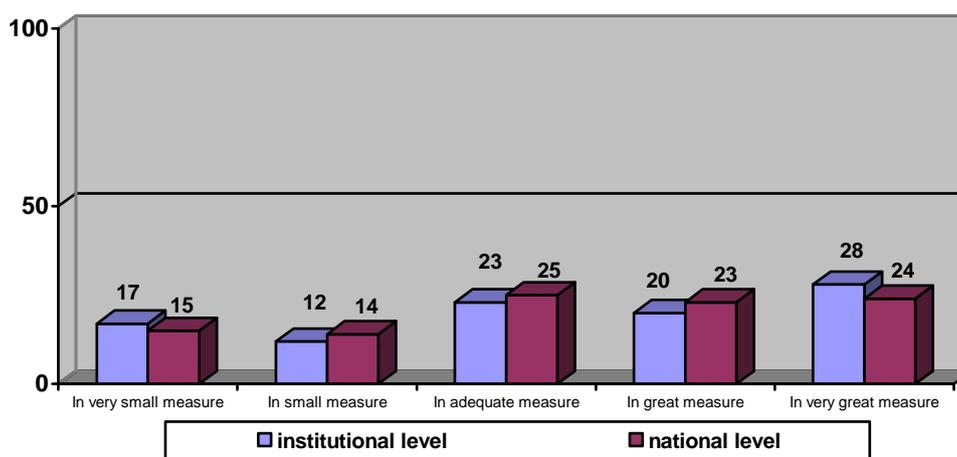


Figure 6. Use of knowledge and competencies at the first job after graduation, at institutional and national level (%)

Letting aside the category “other activities and services”, including various activities, the first positions are taken, at institutional level, by sectors of activity (Figure 7), the following:

- extractive industry 14% (Jiu Valley is still a mining area);
- public administration and defence; social insurance in public system 10%;
- production and delivery of electricity and thermal energy, gas, hot water and air conditioning 8% ;

At national level, the hierarchy of the main sectors is the following:

- education 15%;
- information and communication 8%;
- public administration and defence; social insurance in public system 8%.

It is noticed that among the first three positions at the two levels – institutional and national – only one sector of activity is common (public administration and defence).

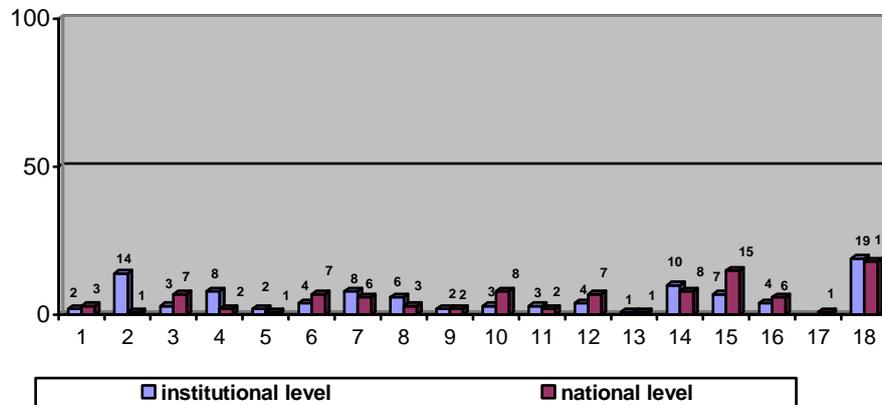


Figure 7. Sector of activity at present, at institutional and national level (%)

- 1 – agriculture, forestry and fishing
- 2 – extractive industry
- 3 – processing industry
- 4 – production and delivery of electrical and thermal energy, gas, hot water, air conditioning
- 5 – distribution of water, sanitation, waste management, decontamination activity
- 6 – constructions
- 7 – wholesale and retail trade; vehicles repair
- 8 – transport and deposit
- 9 – hotels and restaurants
- 10 – information and communication
- 11 – finance and insurance
- 12 – professional, scientific and technical activities
- 13 – administration, services, support
- 14 – public administration and defence; social insurance in public system
- 15 – education
- 16 – health and social assistance
- 17 – shows, cultural and recreation activities
- 18 – other activities and services

The use of knowledge and competencies at the workplace is appreciated almost similarly by the two batches of respondents, approximately on quarter of those being on the following levels of intensity: “in great measure” and “in very great measure”, and almost the same share for “adequately”. (Figure 8)

Among those that appreciate that they use in small and very small measure their competencies acquired during the study program, most definitely we might find those who work under their level of education and partly, those who work in other domains than those for which they were trained.

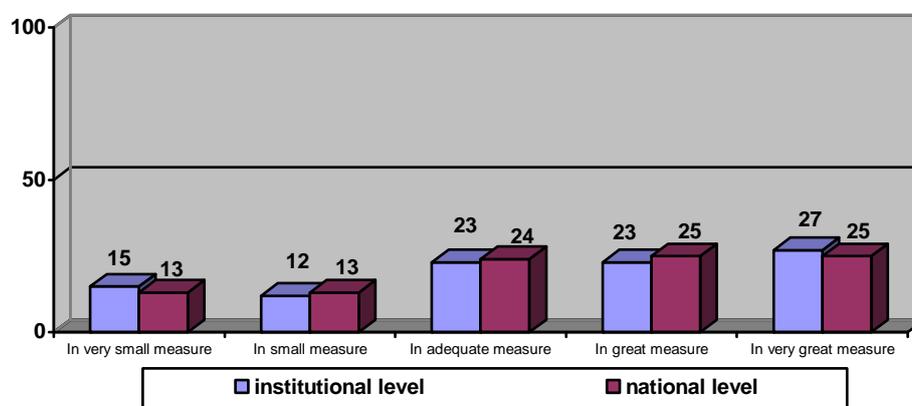


Figure 8. Use of knowledge and competencies at present workplace, at institutional and national level (%)

The following aspects are noted by domains of study, as seen in Table 3:

- at institutional level, those who use the most the competencies acquired in their activity (in great measure and very great measure), are graduates in exact sciences, and at national level, those in social and political sciences;
- the large share of those who declare that they do not really use the competencies acquired (in small and very small measure) are, at institutional level, graduates in social and political sciences, and at national level, in engineering studies.

Table 3. Use of knowledge and competencies at the present workplace, at institutional and national level, by domains of study (%)

Use of knowledge at the first job	Exact sciences		Social and political sciences		Economic sciences		Engineering sciences	
	I	N	I	N	I	N	I	N
In very small measure	--	9	29	12	12	12	14	16
In small measure	--	15	8	11	13	15	14	15
In adequate measure	22	26	16	20	26	28	23	27
In great measure	11	28	23	25	25	25	24	24
In very great measure	67	22	24	32	24	20	25	18
total	100	100	100	100	100	100	100	100

I – institutional level

N – national level

The present situation of the workplace is almost identical for both levels- institutional and national – approximately two thirds of the graduates being employed (including their own employer or in training stages), and a little more than 40% were

attending post-graduate courses (master, PhD) and one fifth were looking for a job (Figure 9).

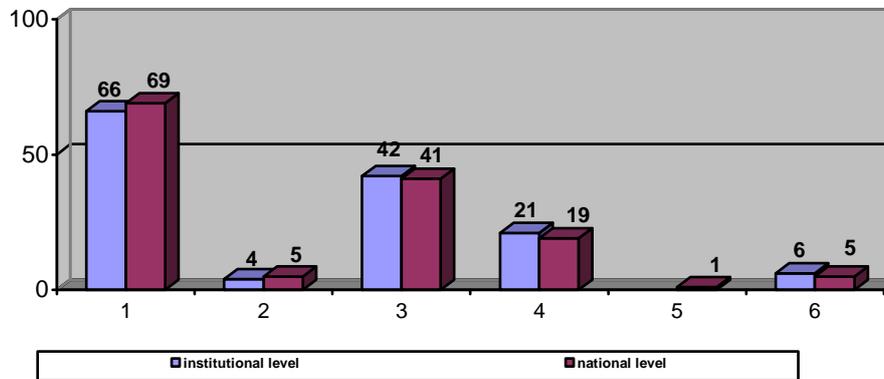


Figure 9. Present situation of workplace (% , multiple answers)

- 1 – employed (including their own employer or in training stages)
- 2 – attending professional training courses
- 3 – post-graduate study (master, PhD)
- 4 – unemployed, but looking for a job
- 5 – unemployed, with no intention to be employed
- 6 – other

The type of present work contract (Fig. 10) is similar with the first job after graduation, the differences being in the shares of the two types of contract, for undetermined and determined period. Thus, the increase of the number of contracts for undetermined period is noticed, and the decrease of those for determined period for both levels – institutional and national – with a superiority of the first type at institutional level (81% and 74%).

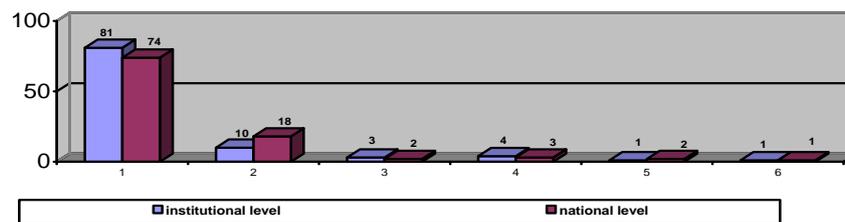


Figure 10. Type of present work contract (%)

- 1 – for undetermined period
- 2 – for determined period
- 3 – no contract
- 4 – free-lancer
- 5 – own business
- 6 – other form of contract

CONCLUSIONS

The following conclusions can be drawn from the analysis of data and interpretation of results, from the entire study performed:

- at institutional level, almost half of the graduates have bachelor studies in engineering studies, one third in economic field and much less in social sciences and exact sciences. The results are normal, considering that there are three faculties functioning within the University of Petroșani: two with engineering profile and a faculty of science, where economic studies are dominant;
- the financing form of the study program is distributed in approximately the same way for the two levels – national and institutional – , with the specification that financing from the budget is less significant for the institutional level;
- out of the graduates that attended paid studies, both at institutional and at national level, the highest shares – more than two thirds – are found in economic sciences, and less in engineering studies;
- the 2009 promotion graduates that participated in the study finalized their studies almost entirely in the standard period, only 5% and 6%, respectively, delayed their study, the main reasons being, at both levels, failed exams and their activity at the workplace;
- as far as teaching-learning method evaluation is concerned, for both levels, the most appreciated method is the professor-student conversation during the course/seminar, with a slight superiority at institutional level, and the least appreciated, also for both levels, the participation in research projects;
- as far as the assessment of study conditions is concerned - both at national and at institutional level - , the highest value was obtained by the guidance offered by the teaching staff for the preparation of exams and bachelor graduation exam (3,6 and 4,2, respectively);
- the competency level at graduation is, for institutional and national level, a high one, the global value of the arithmetical mean being almost 4,0, the highest values being recorded for the team work and computer and internet proficiency;
- comparing the opinions on their own competency at graduation with the competency levels developed during the year of study, for the two batches of subjects, the result is, with small exceptions, that the values allotted to the assessed competencies are identical or very close, which suggests the relation between the knowledge acquired/developed during the study program and those possessed at graduation, which highlights the contribution of the program in acquiring competencies;
- the level of using knowledge and competencies on the first job after graduation was high for both batches of graduates, only 29% of the graduates appreciating that these competencies were requested in small and very small measure;

- the beginning of activity at the present job, for those employed when the study was performed, was greatly, both for the institutional and for the national level, in the year of graduation of the study program and the next(2009 and 2010). In this period a little more than one third at institutional level(34%), and more than half at national level(55%) started their employment;
- the present situation of the workplace is almost identical for both levels – institutional and national – approximately two thirds of the graduates being employed(including their own employer or in training stages), a little more than 40% were attending post-graduate studies(master, PhD), and one fifth were looking for jobs;
- there are no significant differences – for both levels – between the type of contract at the present job and at the first job after graduation(in most of the cases it was for undetermined period); similarly, the number of working hours per week by those presently employed is approximately the same as at their first job after graduation(40 hours).

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