TEMPUS IV - SIXTH CALL FOR PROPOSALS

PROPOSAL NUMBER:
544390-TEMPUS-1-2013-1-GR-TEMPUS-JPHES

UNIVERSITY AND INDUSTRY FOR THE MODERNISATION OF TEXTILE MANUFACTURING SECTOR IN BELARUS

Deliverable 4

NEEDS ANALYSIS FOR LIAISON SERVICES IN BELARUS

30/06/2014

CONTENT

INTRODUCTION

Educational institutions and industrial enterprises cooperate in the following areas:

- conducting of joint research and development (R&D);
- conducting of industrial internship and thesis projects;
- specialists of the enterprises improvement qualification;
- development of material and technical basis of the university;
- career-guidance work.

In each of the universities participating in the project, its own system of interaction, based on the existing departments, was developed.

To identify the existing problems, related with the cooperation and needs analysis in collaboration, four groups of respondents were surveyed:

- teaching staff of the departments carrying out training of specialists for the textile industry enterprises and plants producing chemical fibers and threads;
- graduates of corresponding specialties;
- experienced specialists of textile and chemical enterprises;
- young professionals of the enterprises (graduates of the last 5 years).

Problems which were solved within questioning:

- to assess the actual system of the industrial interaction between enterprises and educational institutions;
- to define the degree of compliance of training programs to requirements of modern manufacture;
- to define the compliance of theoretical and practical experience of graduates to the requirements of labor market;
- to assess the role of interaction of educational institutions and the enterprises in the formation of young professional competence;
- to identify the most practical areas of continuous professional training of the specialists of enterprises;
- to assess the participation of structural divisions of the universities in the process of interaction with industry;
- to analyze the practicability of unified interaction departments establishing at universities participating in the project and to determine the need for adjustments to the list of functions of structural divisions of the university.

1. INTERACTION ANALYSIS OF VITEBSK STATE TECHNOLOGICAL UNIVERSITY AND TEXTILE ENTERPRISES

1.1. Questioning results analysis of textile enterprises specialists

Specialists of 8 Belarusian textile enterprises took part in questioning:

- JSC "Vitebsk carpets" (Vitebsk);
- Orsha Linnen mill (Orsha);
- JSC "Mogotex" (Mogilev);
- JSC "Lenta" (Mogilev);
- JSC "Baranovichi Cotton Production Amalgamation" (Baranovichi);
- JSC "Gronitex" (Grodno);
- JSC "Polessye" (Pinsk);
- JSC "Rechitsa Textile" (Retchitsa).

While questioning 82 specialists of the enterprises were interrogated.

Among the respondents, 7.7% of specialists personally face the solution of questions related with the interaction with universities about several times a month, 44.9% - several times a year, 30.8% once a few years. 16,7% never participate in solution of similar questions. The results indicate that the respondents are mainly familiar with the problems addressed within questioning.

The existing system of interaction between the enterprise and universities only 18.2% of the respondents assess as high, the largest number of the respondents assessed this system as satisfactory (39%) or medium (29.9%). These results confirm the relevance of ongoing work on the system of interaction improvement. However it is necessary to notice that only 13% of the respondents assessed the existing system as unsatisfactory, which indicates that the majority of the respondents are satisfied with the system to different extent.

Almost half of the respondents (46.8%) believe that the enterprise partly takes responsibility for the training level of its students, while 35.1% said that the enterprise and its members have no relation to the process of professional training. Of the remaining 18.2%, most experienced specialists clarified that their responsibility extends only to the period of industrial internship of students.

The level of enterprise responsibility for the quality of training also shows the answers to the question of whether an enterprise is to help universities free of charge to equip university laboratories. Only 19,5% of the respondents consider that such help has to take place as it allows to raise the level of training of specialists. Almost two thirds of the respondents

(63.6%) believe that there should be involved some help, but not free of charge. The remaining 16.9% generally believe that the enterprises should not help universities to strengthen their material and technical base.

The respondents consider the improvement of qualification of specialists and the solution of the questions connected with the organization of internships to be the most important questions of interaction between universities and industrial enterprises (table 1.1.1).

Table 1.1.1 – Answers to the question «Which questions of the university and enterprises interaction of the sector do you consider to be most important?»

Variant	Mention percent
research and development (R&D);	20,7
development of training courses and material and technical basis of the university	11,1
conducting of industrial internships and thesis projects	28,1
enterprise specialists improvement qualification	30,4
career-guidance work	7,4
other variants	2,2

Among the problems that determine the imperfection of the system of interaction, the respondents mentioned the academic isolation of universities in practical problems solving of the enterprises, and the impossibility to solve promptly industrial problems, together with the representatives of the universities because of their distance from the enterprises (Table 1.1.2).

Based on these findings one can note that for the solution of the existing problems we need to develop a dialogue between enterprises and universities, as well as strengthen the role of modern communication systems.

Table 1.1.2 - Answers to the question «What is the main problem of cooperation between universities and enterprises?»

Variant	Mention percent
universities are too remote from industrial problems	28,4
at the university they deal with theory, and we need practice	26,3
universities are far and problems must be solved instantly	20,0
you should pay money to university, and we would like them to assist us free of charge	3,2
there are no problems of cooperation, universities are always ready to help and to interact in any areas	14,7
other variants	7,4

Specialists of the enterprises unanimously estimate universities as a source of experienced staff. The vast majority of the respondents consider career assignment at an enterprise after university study to be compulsory (91,1 %). Besides, 39.2% of the respondents believe that the compulsory work period of career assignment should be prolonged to 5 years.

Taking into account the existing problem of assignment of a graduate to the university as a first work place and mentioned expediency to prolong the period of work to 5 years the enterprise specialists were asked about the factors that may affect the binding of a graduate at the workplace upon the expiration of the compulsory career assignment. As the most significant factors there were marked decent salaries and the solution of the housing question(Table 1.1.3).

Table 1.1.3 - Answers to the question «What factors may affect the binding of the graduate in the workplace upon the expiration of the compulsory two years of work?»

Variant	Mention percent
decent salary	32,9
prestige of the profession	2,2
opportunity for career growth	16,9
solution of the housing question	25,3
interesting work	11,1
good team spirit	11,6

Only 6.4% of the respondents believe that the knowledge of young professionals correspond to the modern development of technique and technology. Considering this partial matching of knowledge note 78.2% of the respondents. This indicator is quite high and reflects the existing practice at which the young professional coming at the enterprise, under specific conditions complements the knowledge and skills obtained at universities. This is confirmed by the answer to the question of the psychological qualities that a young professional should have in the first place. In 21.1% of the answers such quality as learning ability was mentioned (Table 1.1.4). However that fact got our attention, that 14,1% of respondents described the level of graduates knowledge as inappropriate to modern requirements of production requirements.

Since the majority of the respondents noted partial compliance of the graduate's knowledge to the level of modern manufacture, we took interest to know the opinion of experienced industry staff about concrete shortcomings of the young professional's qualification. Analyzing the data presented in Table 1.1.5, it can be noted that the vast majority of the respondents noted the lack of practical experience of the graduates. Also more than in 20% of cases the respondents mentioned lack of knowledge of the latest equipment.

Table 1.1.4 - Answers to the question «What psychological qualities should a young professional have in the first place?»

Variant	Mention percent
hard working	14,2
responsibility and discipline	25,9
ability to win people	9,9
ability to make independent solutions	15,5
initiative	13,4
learning in specific industrial environments	21,1

Table 1.1.5 - Answers to the question «Which knowledge and skills, from your opinion, young professionals feel lack of after graduation?»

Variant	Mention percent
theoretical knowledge of general technical disciplines	1,0
knowledge regarding modern technological equipment	21,8
practical experience of work	66,3
economic and management skills	9,9
other variants	1,0

And if the second shortcoming can be corrected by university teaching staff through some adjustments of the lecture course, the problem of industrial internship can be solved only together with the enterprises first of all within internships.

As mentioned above, the results of the questionnaire confirmed the assumption that one of the main directions of the interaction between universities and enterprises is the organization of internships. In this regard, while drawing up questionnaires the separate block of questions was devoted to this issue.

Only 9,9% of the respondents consider that internship supervision is performed at high level and doesn't need improvement. At the same time, almost one third of the respondents (31.7%) consider the necessity to strengthen the control over the students activity during industrial internship on the part of the university, a significant proportion of the respondents (22.8%) are not satisfied with work payment for internship supervision (Table 1.1.6).

However, as the answers to other questions of all groups of the respondents show, there is a number of organizational questions that must be resolved while passing of internship by students, not dealing with supervisor payment.

One of such questions is providing a student with housing. Textile enterprises are distributed throughout Belarus. A student, directed by the university in another location, should be provided with some temporary residence. Specialists of the enterprises almost unanimously

consider that during internship the student is to be provided with housing. Only 5, 3% of respondents consider that there is no need in it.

Table 1.1.6 - Answers to the question «How to improve the supervision of students while industrial internships?»

Variant	Mention percent
select a job position of the one, responsible for the internship	16,8
increase payment for the supervision of internship	22,8
strengthen the control over internship on the part of enterprise supervision	14,9
strengthen the control over internship on the part of the university	31,7
internship supervision is carried out at a high level and does not require improvement	9,9
other variants	4,0

16% of specialists of the enterprises consider that the question of providing a student with housing during an internship has to be solved by the university. However, the majority of the respondents (65.4%) believe that this issue should be solved together by university and enterprises.

The most important issue in this area is the internship content. 94% of survey participants answered positively the question about the need to develop students' skills in work methods of the equipment operator, as these skills are useful in work in different work situations. Therefore, these results should be taken into account in adjusting the programs of industrial internships.

Another important problem arising while internship is the availability of information. On the one hand, the restriction of the access to the technologic information is the part of the policy of any industrial enterprise. However without providing information to the educational institution and, in particular, to students it will be not possible to prepare a competent professional. As a positive result of the questionnaire we consider that fact that none of the respondents does consider the need in a complete denial of information providence (Table 1.1.7). However, the majority of the respondents believe that the list of required information in a good time must be agreed by the university with the administration of the enterprise.

It should be noted that the procedure of approval does not currently exist. The executing this procedure realization within the framework of the processes will be carried out within this project.

Table 1.1.7 - Answers to the question «Should students and university staff have free access to technical and economic information during industrial internships for writing reports?»

Variant	Mention percent
yes, full access to any information	9,5
technical information only	2,4
economic information only	1,2
information not related to the latest outcomes	16,7
all information must be confidential	0,0
the list of required information must be agreed with the enterprise supervision	67,9
other variants	2,4

Only 36% of the interrogated specialists of the enterprises consider that during an internship students can get access to the information of economic character necessary while course and thesis projects performance. 6.7% of the respondents believe that the provision of such information is unacceptable.

Absolute majority of the respondents were in favor of possibility to provide limited access to economic information. This answer required explanation as a must. In this connection the majority of enterprise specialists noted that current economic information (reports on financial activity) may have a character of «commercial confidentiality». Information of the last 1 - 2 years should be non-public and should not be the subject to disclosure. Information should be provided only to the extent necessary for the course and thesis projects. Also there was a point of view that providing information is possible if the student uses it for its intended purpose. However, neither universities' teaching staff nor specialists of enterprises can determine how a student will use the information obtained.

In this connection some respondents noted that the list of documentation provided must be agreed with the manager of the enterprise. At the same time, these answers did not specify the procedure of approval regulations.

Lack of possibility to use actual information reduces the level of student's training, particularly on economic specialties. In this connection, as it was established in the result of the questionnaire of university teaching staff, the problem is one of the most important in the list of issues of the interaction between enterprises and universities.

Another important issue that was discussed in the questionnaire was correspondent education. Most of enterprise specialists surveyed (87.2%) believe that students studying by correspondence, should receive paid leave for a session. 3.8% of the respondents believe that students have to take unpaid leave. At the same time, 9% of the respondents believe that

paid leave to undergo sessions may be possible only in case of a contract between a student and an enterprise, according to which after graduation the student must work at the company for some period of time as a full-time student.

Talking about the quality of training, received education in various forms of training, almost a third of the respondents believe that full-time graduates are better prepared for work at an enterprises (Table 1.1.8). At the same time the vast majority of the respondents believe that the level of training depends not on the form of education, but the personality of a young professional.

Table 1.1.8 - Answers to the question «Professionals of which form of training are best prepared to work in the enterprise?»

Variant	Mention percent
full-time education	30,4
correspondence department	5,1
part-time education correspondence department (based on college diploma);	3,8
this is individually and does not depend on form of education	60,8

An important issue in terms of labor market analysis is the need for specialists of different categories at enterprises. Analyzing the results of the answers shown in Table 1.1.9, it can be noted that most popular at the textile enterprise are foreman assistants and technologists, and then equipment operators and masters.

In their own variants of the answers the respondents specified the needs of their enterprises (marketing experienced specialists, engineers, electricians, plumbers, etc.).

Thus, the total demand in different categories of higher education staff of the textile enterprises makes up to about 50%.

Table 1.1.9 - Answers to the question «Which specialists, in your opinion, does your enterprise need mostly?»

Variant	Mention percent
equipment operators	19,8
assistants of master	24,1
masters	17,3
foremen, their deputy shop foremen	5,6
technologists	22,8
chiefs	5,6
other variants	4,9

Quite unanimously the respondents answered to the question about what should be the subject of the graduates' thesis. 74.7% of specialists of enterprises answered that the subject should be interesting and promising for the enterprise, to which the graduate is distributed, 19% believe that a student must perform a thesis project for the evaluation of the knowledge acquired at the university. The remaining 6.3% believe that the theme of the project does not matter.

A separate unit touched possible ways to improve the qualification of the specialists of the enterprise. 81.6 % of the respondents believe in the necessity of increasing of skills of the enterprise specialists in frames of activities organized by universities, 5.3% of the respondents believe that the existing level of knowledge and skills is enough to perform basic functions of specialists, 5.3% doubt that universities will be able to teach employees at least anything. Among other answers there was suggested joint development of program training courses by universities and enterprises.

To determine the range of issues advisable to consider while training of specialists of the enterprises they were asked if they feel lack of training and in which disciplines taught at universities, while carrying out their professional activities. The responses to this question several times there were mentioned technical disciplines, management, psychology and foreign languages (Table 1.1.10).

To the question of whether there is a possibility of professional development directly in the enterprise, the majority of respondents (62.2 % response rate) noted that in the enterprises there regularly are organized refresher courses. 21.6 % believe such courses are useful, despite the fact that they are not aware of whether at the moment they are conducted. However, a substantial proportion of the respondents (8.1%) state that universities should deal with these issues. Among other responses indicated that it will be more appropriate to conduct full-time courses out of job or to attend other businesses to share experiences.

Table 1.1.10 - Answers to the question «In the field of which disciplines taught at universities, do you feel lack of knowledge while you carry out your professional activity?»

Variant	Mention percent
technological	34,9
economical	9,4
management and psychology	29,2
foreign languages	17,9
enough knowledge in all fields	3,8
other variants	4,7

Specialists of the enterprises consider that the most preferred methods of improvement of qualification are scientific and technical activities conducted at the universities, courses conducted by teachers directly at the enterprise, as well as foreign training (Table 1.1.11). Due to the lack of e-learning courses and the lack of knowledge about this form of training by the specialists of the enterprises at present only 5.4% of them believe this way of improvement of qualification is preferred.

On the other hand, 39,2% of staff of the enterprises actually visit the events of interest organized by universities (table 1.1.12). Half of the respondents would like to visit such arrangements, but has no opportunity.

Table 1.1.11 - Answers to the question «What way of improvement of qualification for enterprise specialists do you consider to be preferable?»

Variant	Mention percent
there is no need in improvement qualification	0,5
second higher education	4,3
short correspondence improvement of qualification courses	15,8
e-learning on the job	5,4
self-education	10,3
participation in seminars and scientific conferences organized by universities	21,2
foreign internships	20,7
improvement of qualification courses with representatives of the universities at the enterprise directly	20,7
other variants	1,1

Table 1.1.12 - Answers to the question «Do you or your colleagues visit scientific and technical events carried out at universities?»

Variant	Mention percent
yes, it is an opportunity to broaden my horizons	39,2
yes, but formally, the subject of activities does not interest me	0,0
no, but I would like to	50,0
no, I do not consider it to be necessary	10,8

In view of different level of interaction of universities and the interrogated enterprises in the sphere of scientific researches, the assessment of the level of the corresponding activities of the specialists was various (table 1.1.13). Despite the fact that a quarter of the respondents highly appreciated the level of scientific research, more than half believes that not always

researches conducted by the staff of the university correspond to the requirements of the enterprises.

Table 1.1.13 - Answers to the question «How do you rate the research and development work conducted by university staff at your enterprise?»

Variant	Mention percent
high level, all the research corresponds to the subject, interesting to the enterprise	25,5
middle, the ongoing research meets the needs of the enterprises not always	52,7
low level, university staff addresses the issues they are interested only	3,6
university staff do not do research and development at our enterprise	18,2

Specialists of the enterprises in different degree take part in the research works carried out by the university staff under industrial conditions (table 1.1.14). At those enterprises where the university carries out scientific researches, all the specialists with various stipulations are ready to render them assistance.

Table 1.1.14 - Answers to the question «Do you help university staff in scientific research?»

Variant	Mention percent
yes, we do all we can	35,1
yes, if it is part of my duty	19,5
yes, if the administration instructs me	18,2
I am willing to help, in the case of additional payment for this work	5,2
no, I do not consider it to be necessary	0,0
university staff do not do research here	22,1

1.2 Questioning results analysis of young professionals of textile enterprises (last 5 years alumni)

During questioning 38 young professionals (graduates of 2009 - 2013.) of textile enterprises were interrogated, listed in section 1.

The purpose of the questioning of young professionals was to assess the degree of compliance of their level of preparation, and their expectations also to real work environment in which they had to apply knowledge gained at the university for the first time.

The positive fact is that none of the respondents does consider the level of their education to be completely inappropriate with the requirements of modern manufacture (table 1.2.1).It is possible to note that young professionals estimate the preparation higher than their experienced colleagues, which partially testifies to successful adaptation of graduates at the enterprise.

Table 1.2.1 - Answers to the question «The level of your education from your point of view corresponds to demands of modern industry as?»

Variant	Mention percent
completely corresponds	15,8
partly corresponds, but I can improve it in the process of my work in the industry	78,9
does not correspond	0,0
other variants	5,3

None of the graduates agreed that the student can receive practical experience only at the university (table 1.2.2). In various degrees the contribution of industrial internships was estimated by young professionals higher, than the contribution of laboratory work. However more than 40% of respondents considers that practical experience can be gained only after graduation in work process at the enterprise. It indicates the defect of universities in the organization of educational process.

At the same time young professionals believe that in their work they largely lack the knowledge of foreign languages, as well as knowledge not only in the field of special subjects (Table 1.2.3).It is connected with that in the course of modernization of the enterprises there is an installation of the latest foreign equipment, to master which young professionals try to use various sources of information, including foreign languages.

Table 1.2.2 - Answers to the question «Where from point of view a student can get practical experience for work in industry in future?»

Variant	Mention percent
during laboratory work and educational practice at the university	0,0
during laboratory work at the university, as well as in training in workshop environments	23,9
only within industrial practices	32,6
you can only get practical experience in work process at the enterprise after graduation	43,5

Table 1.2.3 - Answers to the question«In what field of knowledge, studied at the university, do you feel lack in your professional activity?»

Variant	Mention percent
subject-oriented	25
economical	10,7
management and psychology	19,6
foreign languages	37,5
enough knowledge in all fields	7,1

More than a half of the graduates consider that the content of special disciplines at university generally corresponds to a current state of manufacture, but contains partially outdated material (table 1.2.4). However 13,2 % (5 respondents) consider that training courses are torn completely off from reality that is negative result.

Table 1.2.4 - Answers to the question«Do you agree that the content of special disciplines studied at the university, corresponds to the modern state of industry?»

Variant	Mention percent
yes, completely corresponds	13,2
partly corresponds, lecture material contains partially outdated information	55,3
partly corresponds, lecture material contains information that advances the level of industrial development	13,2
does not correspond, training courses are completely divorced from reality	13,2
other variants	5,3

The difference of the answers testifies also to essential differences of technological level of the enterprises of the sector and in this connection, it is rather difficult to create training courses in compliance with manufacture realities.

As the way to bring the training courses into compliance with an actual state of manufacture young professionals highlighted first of all the increase of academic hours at the enterprises (table 1.2.5). It confirms the formulated above conclusion that only in industrial environment one can develop practical skill at a sufficient level. Besides, graduates consider the updating of lecture courses and re-equipment of laboratories to be useful. However, as it was stated above, experienced specialists of the enterprises don't consider that the enterprise should take responsibility for material base of universities reinforcement.

Table 1.2.5 - Answers to the question «What changes of the educational process from your point of view can eliminate the gap between the knowledge acquired and industrial requirements?»

Variant	Mention percent
renewal of the lecture material	20
equipping laboratories with modern machines	20
equipping audiences with multimedia equipment	7,1
renewal of modern literature in library stock	7,1
increasing the number of studies at enterprises	29,4
regular increasing of professional skills of high educational staff	10,6
improvement of the psychological climate in the classroom during the lessons	1,2
other variants	4,7

Regarding updating of the material of training courses 28,1% of the graduates supported that, general education and all-technical disciplines have to be designed in accordance with industrial requirements. At the same time most part of the respondents (71,2%) considers that partially the content of general education disciplines (the mathematics, physics, etc.) have to remain invariable while technical courses (theoretical mechanics, machinery) have to be conformed to the specialty and industrial requirements. None of the respondents agreed that the maintenance of the specified courses has to remain untouched.

Despite the insignificant term of the work at the enterprise after the university graduation the essential part of the interrogated graduates wishes to increase the qualification at the

enterprise, but has no such opportunity (table 1.2.6). Nearly half of the respondents increase their qualification at courses which are organized by the enterprises.

Table 1.2.6 - Answers to the question «Are there opportunities for training in the enterprise?»

Variant	Mention percent
no, but would not prevent	42,1
no, it is not necessary	0,0
yes, various courses are periodically organized	47,4
universities should deal with it	5,3
other variants	5,3

Graduates consider foreign training to be one of the most preferable options of professional development, and also the correspondent short-term courses (table 1.2.7). It should be noted that young professionals to a greater extent highlighted the e-learning as a possible form of improvement of qualification in comparison with more experienced staff of the enterprises.

Table 1.2.7 - Answers to the question «How would you like to improve your skill level?»

Variant	Mention percent
I do not need to improve the skills	0
second higher education in another specialty	15,3
correspondence short term extension courses	17,3
e-learning on-the-job	15,3
self-education	12,2
visiting seminars and scientific conferences organized by the University, with the assistance of foreign specialists	12,2
foreign training	25,5
training courses conducted by the university representatives at the enterprise	2,0

The essential share of the interrogated graduates finds it possible for themselves to continue education within retrain courses, organized by the university which they graduated from (table 1.2.8).

Despite the mentioned value of internships in the questionnaires in educational process, graduates estimated their contribution in their practical experience formation not so unanimously (table 1.2.9).

Table 1.2.8 - Answers to the question «Do you consider the possibility of improvement of qualification at the university, which you graduated?»

Variant	Mention percent
yes, I am going to enter the Masters' course with full-time education	0
yes, I am going to enter the Masters' course with part-time learning	2,6
yes, I am going to get second higher education	15,4
it is possible if the university will organize retraining courses interesting for my direction	28,2
it is possible if conditions are created for distance learning	12,8
no, I am planning to continue my education in other educational institution	17,9
no, I am not planning to continue my education	17,9
other variants	5,1

Table 1.2.9 - Answers to the question «How do you estimate the role of industrial internship in practical experience formation?»

Variant	Mention percent
high, mostly practical experience were obtained during internship	5,3
high enough, but the basic skills were obtained by passing only pre-degree practice	10,5
middling, practice allows only superficially focus on industry	60,5
unsatisfactory, the practice did not give me any skills, all skills were obtained after work assignment	15,8
other variants	7,9

More than 60% of the respondents indicated that internships allowed only sketchy orient in the enterprise. Nearly 16% of the graduates estimated internships as unsatisfactorily\ineffective.

Thus graduates consider that greatest responsibility for the efficiency of passing of internship lies directly on the student, instead of his heads from the enterprise and university (table 1.2.10).On the other hand, the university and the enterprise have to create such conditions under which a student will be mostly interested in receiving a complex of knowledge and skills during internship.

Table 1.2.10 - Answers to the question «Who is largely responsible for the acquisition of skills by a student in industrial internship.

Variant	Mention percent
adviser from University	7,7
adviser from enterprise	19,2
University and the enterprise roughly equally	28,8
student	38,5
it is impossible to gain practical experience while practice	3,8
other variant	1,9

Among suggestions on improvement of internships for young professionals more supported the idea that a student should have his internship at the enterprise where he allegedly will be distributed (table 1.2.11).However this wish is accepted only while pre-degree practice passing although within other practical trainings the student should get acquainted with the enterprises of the sector as much as possible.

More than 20% of the graduates supported the inclusion in the program of internships of questions connected with the development of working skills that will be coordinated with the opinion of more experienced specialists of the enterprises.

Besides, among the interrogated graduates only 3% consider that there is no need in the development of work skills within internships. 47% claim, possession of work skills to be necessary, 43% - desirably, 7% -possibly if the student desires.

Table 1.2.11 - Answers to the question «What would you change in the conduct of internship for students of technical specialties?»

Variant	Mention percent
I would pay more attention to assembly, disassembly and installation of equipment	12,0
I would pay more attention to mastery of working methods	21,7
I would strengthen the oversight of practices on the part of teachers	18,1
I would send students to the enterprise, where they will allegedly work	30,1
I would include in the program of practice compulsory scientific research of technical processes	15,7
other variant	2,4

Besides, during industrial internship the student can receive organizational and administrative skills. More than 55% of graduates consider that it is necessary, and nearly 32% - desirably.

Graduates estimated differently the experience of research work performed by them within study at the university, including during thesis projects (table 1.2.12).The majority of the respondents in different degree consider the gained experience to be useful. However about a half of the respondents considered the studied methods of research work to be torn off from real life. It first of all can be explained thus: the research methods applied are usually simplified under industrial conditions in comparison with those studied at universities, and the purposes of researches are limited to the framework of concrete industry.

In their answers the respondents specified that the experience of their researches wasn't useful because they work at the positions not corresponding to the specialization which they were trained.

On the other hand an essential share of the respondents mentioned the discrepancy of the research topic to the production needs that confirms the need to develop the dialogue between universities and the industry.

Table 1.2.12 - Answers to the question «How useful was for you the experience of the research work carried out by you while studying at university, including thesis project?»

Variant	Mention percent
the experience was useful, it helps me in my job	22,9
the experience was useful only in part of the research of a specific industrial problem, at the same time the research methods studied in real industry are not applicable	25,7
the experience was useful partly, because I can use in my job the studied research methods, although the subject of my thesis did not meet the industrial requirements	14,3
the experience was not useful at all as the subject of my research does not correspond to research needs of the industry, and the methods used are cut off from real life	25,7
other variants	11,4

The separate block of questions was connected with that, whether expectations of the graduates from their assignment to the concrete enterprise are met.

According to the questionnaire it appeared impossible to define the prevailing reasons for which the student makes a choice of his first place of work (table 2.13). It is possible to mention that the wages at a stage of assignment isn't a defining factor. The enterprise

arrangement close to a residence of the graduate, and also a technological level of the industry about which the student learns within internship and from teaching staffs play much more essential reasons. In other versions of the answers it is specified that students had no choice, and also the enterprise was directly in the hometown of the graduate.

Table 1.2.13 - Answers to the question «Give reasons (no more than five), for which you have been assigned or settled yourself at the enterprise?»

Variant	Mention percent
I liked the enterprise during the internship	12,7
responses of enterprise specialists	9,5
teachers' advice	15,9
modern enterprise	15,9
high wages	4,8
career opportunities	3,2
the proximity of the residential place to my hometown	19,0
I liked the residential place	6,3
other variants	12,7

The most part of the graduates at the moment of employment to a variable degree was satisfied with the choice (table 1.2.14). However about a quarter of the respondents notes that they weren't provided with an option.

Table 1.2.14 - Answers to the question «Were you happy with your choice at the time of employment?»

Variant	Mention percent
yes, I wanted to work in the enterprise	34,2
partly, I chose the best of what I was offered, although hoped for more	34,2
no, but there were no better variants	34,2
other variants	7,9

Expectations from the employment were met to a variable degree at two thirds of the respondents (table 1.2.15). It speaks, how with objective, and the subjective reasons. On the

one hand expectations could be over estimated, the assessment of the qualification and ability to adaptation could be also biased.

Among the reasons for which expectations are met partially the following is noted:

- low wages;
- lack of rooms in a hostel;
- often the young professionals are not perceived seriously, with their opinion not taken into consideration;
- considerable psychological pressure from more experienced specialists and heads.

Table 1.2.15 - Answers to the question «Did you meet your expectations while working at the enterprise?»

Variant	Mention percent
yes, I met what expected	25,0
partly (specify the reasons for non-conformance of the results and expectations)	38,9
did not meet	33,3
other variants	2,8

The only negative result is that 21% of the graduates feel interaction existence between the university and the enterprise (table 1.2.16) in different directions and 29% - only concerning the organization of the internship. This result confirms the necessity for carrying out some activity, planned within this project.

Table 1.2.16 - Answers to the question «Do you feel in your work the presence of interaction between the university and the enterprise?»

Variant	Mention percent
yes, the enterprise is actively cooperating with the university on several fronts	21,1
I did not feel the interaction of university and enterprise except for matters relating to their home internship	28,9
no, there is no interaction	44,7
other variants	5,3

1.3 Questioning results analysis of the teaching staff of Vitebsk State Technological University

In Vitebsk the state technological university the questionnaire of the teachers touched the following departments:

- natural and chemical fibers spinning;
- weaving;
- technology of knitted goods manufacture;
- commercial activity;
- management.

In total 32 teachers were questioned.

From all directions of interaction of the enterprises and universities as the most important respondents noted carrying out of industrial internships of thesis projects, and then the performance of research and development (table 1.3.1). Few mentions of improvement of qualification enhancement of the enterprises specialists is an established practice consequence. Now the university practically doesn't conduct activities on the creation of the improvement of qualification courses directly for the enterprises of the sector.

Table 1.3.1 - Answers to the question «What questions of interaction of university and enterprises of the sector do you consider to be most important?»

Variant	Mention percent
research and development (R&D)	27,3
development of training courses and material and technical basis of the university	20,5
conducting of internship and thesis projects	34,1
improvement of qualification of specialists of enterprises	13,6
career- guidance work	3,4
other variants	1,1

The most common reason for seeking teacher staff in departments of the University is to appeal for help in preparing the documentation on ongoing research and development. Nearly a half of all addresses (45%) fall on this purpose. Concerning carrying out of work internships teachers interact with university departments in 30% of cases. Essential number of addresses (22,5%) is also connected with training courses improvement.

Taking into account the opinion of the specialists of the enterprises about the isolation of research topic and R&D which are carried out by universities, from industrious side several teachers' answers about the necessity to develop the Book of problems from the industry the analogue of which is developed in the Ministry of Industry of Belarus Republic may be of interest.

The majority of teachers expressed expediency of the list of tasks in the solution of which the enterprises of the sector (table 1.3.2) are interested. However, nearly two thirds of the respondents specified that the existence of this book of problems wouldn't mean to use it obligatory while developing the thesis project topic.

Table 1.3.2 - Answers to the question «Do you consider it is necessary to develop a list of problems (a book of problems from industry), which would appropriately be solved within the thesis project?»

Variant	Mention percent
Yes, this list is essential, because the subject of a thesis project should be formed only on the basis of the specific needs of enterprises	25,7
the development of such a list is desirable, but the specific subject of the thesis project may not consider the tasks in the list	62,9
the development of this list is useless, since the employees' idea about the thesis project can not meet the requirements of the Higher School	5,7
other variants	5,7

Besides, the enterprises take interest in the development of a concrete subject and support it in the process of carrying out and those are the most essential conditions of the subsequent deliverables of student's R&D (research and development) in the industry (table 1. 3.3).

It is interesting that only 21% of the interrogated teachers consider that training programs on special disciplines correspond to the modern level of the development of branch enterprises. 70% of the respondents claim that the contents of programs correspond in most part, and 9% - only partially. However these data in many respects coincide with the opinion of other groups of the respondents.

Among the reasons which prevent teachers from bring courses given by them into compliance with industry requirements, they put insufficient level of equipment of the laboratories with modern processing, test equipment, the software, technical means of training foremost, and

then mention lack of knowledge of the teacher about the equipment of the enterprises of branch (table 1.3.4). Results of the questionnaire don't allow defining the reasons for which teachers don't raise the knowledge level.

Table 1.3.3 - Answers to the question «Which factors from your point of view can increase the number of implemented student scientific research into the industry?»

Variant	Mention percent
R&D topics should be relevant to the order of the enterprise	33,7
enterprise support during work process	31,4
formation of student working groups (laboratories, project groups) for the complex accomplishment of the task	7,0
involving into the process of accomplishment not only graduates, but younger students of 3 and 4 courses	10,5
equipping university laboratories with modern equipment	15,1
other variants	2,3

Table 1.3.4 - Answers to the question «What do you think are the most significant reasons for the lack of correspondence?»

Variant	Mention percent
lack of teacher's awareness about the technical equipment of enterprises of the industry	20,4
lack of teachers' knowledge of modern approaches to technological processes management	11,1
insufficient level of equipment of educational audiences with technical training aids	20,4
insufficient level of equipment with modern technological, test equipment and software	29,6
updating of training material and teaching publications is carried out at an insufficient rate	1,9
updating of training material and teaching publications is carried out without considering modern information	5,6
other variants	11,1

More than 77% of the interrogated teachers consider that to increase the degree of satisfaction with the level of graduates it is necessary to strengthen the participation of the enterprises in improvement of educational process.

The main directions in which teachers consider help strengthening expedient, are connected with the organization of industrial internships (table 1.3.5). More than in 20% of teachers'

questionnaires specify that as the help it is possible to consider the maximum providing all technological information at inquiries from university and within internships. Also teachers note expediency of creation of the possibility of formation of practical experience within internships, including, training work skills.

Table 1.3.5 - Answers to the question «What kind of help on the part of enterprises to universities one needs to strengthen?»

Variant	Mention percent
providing the university with free use of the equipment or its individual units	8,8
purchase of equipment, components of modern machinery and / or software within the modernization of its own industry	11,4
providing maximally all technological information if there are inquiries from the university and within the internship	20,2
conducting of training sessions by the leading specialists of enterprises	7,0
improving the quality of pre-degree practice supervision;	11,4
creating the possibility of practical experience formation within the internship, including training techniques work	14,9
targeted training of freshmen (1 course specialists)	6,1
specialized training for graduates of specific enterprises starting from 3-4 courses	14,0
participation of leading specialists of enterprises in the development of curricula	4,4
other variants	1,8

In the organization of internships teachers of university consider the most important questions to be: availability of information, and also the supervision of internship from the enterprise (table 1.3.6) as in some cases the enterprises are located distantly from the university, and the teacher has no opportunity to control the students' work during the whole period of his internship.

However teachers consider that the issue of internship supervision on the part of the enterprises shouldn't be resolved within interaction of universities and the industry. The choice of internship supervisor and control of his work is an internal affair of the enterprise. In questionnaires only in 8,7% cases teachers supported the participation of university in the matter. The greatest number of teachers considers that the university has to solve the problem of availability of information together with the enterprises (21,7%), and also to be

engaged in the conclusion of contracts with the enterprises on carrying out internship (20,7%). The last corresponds to the established practice of interaction.

Table 1.3.6 - Answers to the question «Which of the following questions of the organization of internship do you find most important?»

Variant	Mention percent
conclusion of contracts with enterprises for carrying out training	15,5
decision of questions related to the residence of students at the place of training	9,3
qualification of supervisor of training	3,1
the quality of the supervision of the student work from the enterprise	21,6
problems associated with the availability of technological and economic information, collection and analysis which is scheduled in the program of internship	26,8
the possibility of acquiring by a student of practical experience related to the technological methods gaining	12,4
the possibility of acquiring by a student of organizational and managerial skills	10,3
subject formation of individual tasks	1,0
other variants	1,0

Among other questions of interaction teachers specified

- carrying out training of teachers at the enterprises in other regions for the purpose of development of modern methods of management;
- training of teachers by specialists of the enterprises which have mastered the modern equipment, the software, skills works;
- the organization of branches of departments at the enterprises.

But the teaching staff has no general point of view if there is need in combination of various functions in one department (таблица1.3.7). None of the teachers supported the idea that in one department there should be combined all the functions of the existing structural divisions, realizing processes, connected with interaction. On the average the teaching staff supported the combination of three various functions.

The greatest number of teachers (14 of 32, that is 44%) think that in one department there should be combined the functions connected with the assignment of the graduates (a) and professionally oriented (g). Also an essential number of the respondents (13 teachers, 41%) consider it expedient to solve jointly questions connected with assignment (a) and

organization of industrial internships (b). In favor of combination of three specified functions (a, b, g) were 8 teachers or 33% of all the respondents.

The insignificant number of the respondents supported the combination of these functions connected with R&D (research and development) (c and d), and also functions on development and coordination of curricula (g, f, h) with other functions concerning questions of interaction with the industry.

Table 1.3.7 - Answers to the question «Which functions, including, currently performed by various units of the university, are to be combined in one department to improve the efficiency of their implementation?»

Variant		Mention percent
a	work assignment of graduates	20,0
b	organization of industrial internship	13,7
c	coordinating with enterprises promising topics of research works	10,5
d	research and development supervision under direct contracts with enterprises	7,4
e	coordinating of plans for improvement qualification courses	7,4
f	coordinating of contents of educational disciplines of the first and second stages of learning	5,3
g	career-guidance work	18,9
h	development of e-learning plans of specialists of enterprises	9,5
i	material and technical equipping of the University through the enterprises aid	5,3
j	additional variants	2,1

Only 18% of the interrogated teachers supported the creation of a separate department, carrying out the function of "one stop principal" to address for those interested concerning interaction with the enterprises. About 40% of the respondents consider that creation of similar department is inexpedient, and the function of "one stop principal" can be fulfilled by one of the existing departments. In one of their own answers it is specified that the role of such a department may play the educational and methodical department. 40% of the respondents consider that there is no need in the formation "one stop principal". This results from the fact that the issues resolved by different departments are specific, and also that in most cases the graduate department fulfils "one stop principal" function.

Among the statements about the lack of need in the creation of "one stop principal" one of the teachers considers to be more expedient database creation about the enterprises for the general access.

1.4 Questioning results analysis of the students of Vitebsk State Technological University

In Vitebsk State Technological University there were questioned 93 students studying on the following specialties:

- Technology of yarns, woven, knitted fabrics and nonwovens;
  Specializations:
  - spinning of natural fibres;
  - preprocessing and spinning of bast fibres;
  - technology of fabrics;
  - technology of knitted fabrics;
  - art design of textiles;
- economic and industrial engineering (light industry).

All interrogated students passed one or several internships in the conditions of textile enterprises of Belarus. Within the poll there was a purpose to define how the students estimated the compliance of material of training courses to real industrial conditions while their internships.

The main part of the students appreciates highly enough the level of their preparation (table 1.4.1). Thus it's worth mentioning that students' self-assessment almost completely coincides with the assessment given to them by their experienced specialists at the textile enterprises.

Table 1.4.1 - Answers to the question «The level of students' education (young professionals) from your point of view corresponds to demands of modern industry as»

Variant	Mention percent		
	student	graduate (young professional)	experienced specialist
completely corresponds	5,4	15,8	6,4
partly corresponds, but I can improve it in the process of my work in industries	77,2	78,9	78,2
does not correspond	16,3	0,0	14,1
other variants	1,1	5,3	1,3

Only 13% of students consider that the content of special disciplines at the university corresponds to manufacture current state, and 10% that the lecture material contains the data advancing the current level of the manufacture (industrialization). However two thirds

of the students visited the enterprise, consider that lecture material contain partially outdated data. This fact testifies the necessity to bring the courses in compliance with the actual level of manufacture.

Table 1.4.2 - Answers to the question «Do you agree that the content of special disciplines studied at the university, corresponds to the modern state of manufacture?»

Variant	Mention percent
yes, completely corresponds	13,0
partly corresponds, lecture material contains partially outdated information	66,3
partly corresponds, lecture material contains information that advances the level of industrial development	9,8
does not correspond, training courses are completely divorced from reality	10,9

As the main ways to bring the educational process in compliance with the industrial requirement the students offer equipping of the laboratories with the modern machinery and increasing of hours at the enterprises (table 1.4.3).

Table 1.4.3 - Answers to the question «What changes of the educational process from your point of view can eliminate the gap between the knowledge acquired and industrial requirements?»

Variant	Mention percent
renewal of the lecture material	18,0
equipping of laboratories with modern machines	23,8
equipping of the classrooms with multimedia equipment	7,4
renewal of modern literature in library stock	7,4
increasing the number of studies at enterprises	23,8
regular increasing of professional skill level of high educational staff	4,1
improvement of the psychological climate in the classroom during the lessons	13,9
other variants	1,6

About a third of the graduates (32,8%) consider, as general education and all-technical disciplines should develop according to industrial requirements. 55,1% of respondents consider that partially the content of general education disciplines (maths, physics, etc.) has

to remain invariable while technical courses (theoretical mechanics, machinery) have to conform to specialty and industrial requirements. At the same time, unlike graduates, 12,4% of students supported that the maintenance of the specified courses has to remain invariable.

Only 40% of students are completely satisfied with the university internship supervision (table 1.4.4).

Table 1.4.4 - Answers to the question «Are you satisfied with the supervision of industrial internship on the part of the university?»

Variant	Mention percent
yes, completely	40,4
yes, partly	39,4
to the most extent satisfied	17,0
no, not completely satisfied	2,1
other variants	1,1

The main reason for students' dissatisfaction was called the contents of methodical instructions on internship which often is not clear to the specialists of the enterprises (table 1.4.5). Besides, the students consider that consultations of university supervisor upon the internship, and also the requirement to the report aren't rather concrete.

Table 1.4.5 - Answers to the question «What you are not satisfied in the internship supervision on the part of the university?»

Variant	Mention percent
The internship supervisor on the part of the university did not assist in the process of internship	14,3
the consultation of the supervisor from the university while sending to the training was not well-defined	20,2
methodical instructions on internship contain requirements that are not understood by the specialists of the enterprises	40,5
the content of the report specified in the methodical instructions on the internship is not well-defined	13,1
during of internship it was impossible to contact the supervision for consultations on problem questions	3,6
housing question had not been previously agreed	7,1
the contract of the traineeship was not signed with the enterprise beforehand	1,2

Even less students are satisfied with the internship supervision on the part of the enterprise (table 1.4.6).

One of the students' issues with the internships' organization in the enterprise was about the busyness of their supervisors with current routine, refusal of information access, lack of conditions to gain the practical experience in the frame of the internship.

Table 1.4.6 - Answers to the question «Are you satisfied with how the supervision of the internship is carried on the part of the enterprise?»

Variant	Mention percent
yes, completely	32,3
yes, partly	41,9
to the most extent satisfied	20,4
no, unsatisfied completely	5,4

Table 1.4.7 - Answers to the question «What you are not satisfied in industrial internship supervision on the part of the enterprise?»

Variant	Mention percent
the internship supervisor from the enterprise did not have enough time to assist	22,5
I was not provided with housing	1,4
provided housing was in poor condition	7,2
I was refused in a portion of the requested information required for the report	18,8
single source of information, has not been determined to obtain it in full I had to address many enterprise specialists	15,2
conditions for my acquisition of practical experience of industrial activity were not created	18,1
only minor part of the internship was spent on the direct study of the industry, basically the internship was limited to collecting of information in departments	15,9
other variants	0,7

One of the purposes of the internship is the acquaintance of a student with work conditions in manufacture for the purpose of his best orientation in the question of a choice of the first workplace while work assignment. Students mentioned that more than in 40% of cases the

question of the work assignment to the enterprise at which they were interning (table 1.4.8) was discussed with them. It is rather a high percentage as only about a half of the interrogated students graduate from the university in the current year. Is also a positive fact that the majority of similar discussions occurred on the initiative of the staff of the enterprise that confirms their interest in personnel updating.

More than 40% of the interrogated students are interested in the work assignment to the enterprise where they had the internship (table 1.4.9).

Table 1.4.8 - Answers to the question «Did they discuss during the internship the question of the future work assignment to the enterprise?»

Variant	Mention percent
yes, we discussed upon my initiative	17,2
yes, we discussed upon the initiative of the enterprise's staff	24,7
no, we did not discuss it	58,1

Table 1.4.9 - Answers to the question «Are you interested in the work assignment to the enterprises, which hosted one of the internship?»

Variant	Mention percent
yes	43,5
no	37,0
I have not thought about the question of the work assignment	16,3
other variants	3,3

Among the reasons of unwillingness to find a job on the concrete enterprises the majority of students specified low wages, and also poor conditions of the accommodation, created for young professionals (table 1.4.10). It should be noted that students consider questions connected with the work assignment more rationally in comparison with previous years graduates. It will allow them to avoid disappointments which were found in a number of questionnaires of young professionals.

When passing the internships the main part of the students felt the interaction of the enterprises and universities directly in the questions of organization of these internships (table 1.4.11). However nearly a third of students noted that they noticed interaction and in other questions that is the positive fact taking into account a limited period of the internship.

Table 1.4.10 - Answers to the question «Indicate reasons (no more than five) of your reluctance to work at the enterprise in the future»

Variant	Mention percent
low salary	32,7
bad psychological climate at the enterprise	6,5
low industrial standards	10,3
outdated technological equipment	9,3
lack of career growth	5,6
graduate reviews assigned to the enterprise in the past years	8,4
poor infrastructure of the residential place	5,6
distances of the residential place to my hometown	8,4
poor living conditions created for young professionals	12,1
other variants	0,9

Table 1.4.11 - Answers to the question «While internship did you feel the presence of the liaison between the university and the enterprise?»

Variant	Mention percent
yes, the enterprise is actively cooperating with the university in some areas	32,6
I did not feel the liaison of university and enterprise with the except for matters relating to my internship	56,5
no, there is no liaison	9,8
other variants	1,1

More than a half of all interrogated students consider to be expedient such department at the university where they could address on the questions connected with interaction with the enterprises. However 43% of respondents taking into account the settled practice consider that in case of need they can address the graduating department and thus there is no need in the creation of such a department.

1.5 . Analysis of the functions of Vitebsk State Technological University structural divisions

In Vitebsk state technological university the works connected with the interaction with industrial enterprises, are carried out by the staff of the following structural divisions:

- educational and methodical department;
- light industry's transfer technology center;
- advanced training faculty and personnel development (ATF&PD);
- marketing department;
- tests-and-certification center;
- staff office.

The following functions of **educational and methodical department** connected only with the organization of carrying out internships of students at the enterprise belong to the questions of interaction, including:

- contract conclusion for students traineeship with the enterprises;
- payment organization of externship to the enterprise specialists;
- contract registration for the organization of all types internships of students with the enterprises; with other higher education institutions on exchange of hostels within the internship for university students;
- conducting correspondence in accordance with the established procedure with the organizations and the enterprises for questions of internship of the students;
- calculating the organizations for invoices for the supervision of internship of employees of the enterprises and the organizations together with accounting department of the university.

Light industry's transfer technology center carries out interaction works in the field of scientific researches in the following directions:

- advertizing, exhibition activity;
- commercialization of scientific deliverables;
- conferencing together with the enterprises;
- signs direct contracts on deliverables in equipment technologies for the enterprises;
- carries out the development of scientific and technical documentation according to demands of the enterprises;
- carrying out technological marketing among the enterprises;

- rendering information services to the enterprises, including providing data:
  - about producers of goods, products and services;
  - about new technologies;
  - about scientific and technical achievements;
- comparative assessment of innovative development of university scientists and similar foreign deliverables;
- organization of participation in competitions, conferences, symposiums, exhibitions;
- selection of business partners in Belarus Republic and abroad.

The list of functions of the department doesn't include the conclusion of contracts with the enterprises about providing the right of use of the deliverables of scientific and technical activity and about possession of scientific and technical deliverables. The need for conclusion of similar contracts is defined by the Decree of the President of Republic of Belarus of February 4, 2013 No. 59 "About commercialization of the deliverables of the scientific and technical activity created at the expense of public funds". In this regard, for strengthening of interaction of university with the enterprises it is expedient to include this type of activities in the Regulation about light industry's transfer technology center.

The tests-and-certification center of carries out tests of product samples for certification and scientific researches according to the demands of the enterprises and organizations, and also cooperates with central and regional bodies of State Committee for Standardization, Belarusian state center of accreditation, other certified subjects in the field of information support and exchange of experience.

To strengthen the interaction of university departments and industrial enterprises it is expedient to include in the list of functions of the center the following: carrying out of tests of new product types of textile and light industry developed by the divisions of VSTU, and also technical regulations (TR development) on production of textile and light industry;

The solution of questions of improvement of qualificationof enterprise specialists is carried out today by ATF&PD. The faculty carries out the following functions:

- studying of the requirements of the enterprises in educational programs on improvement of qualification and personnel development.
- development and coordination with the enterprises-customers of curricula and programs for additional education for adults.
- contracts conclusion for services in retraining of the experienced specialist and improvement qualification.
- corresponding with enterprises-customers for advertising and new educational programs organization.

- studying of degree of satisfaction by quality of educational services in e-learning on the basis of questioning and maintaining the Visitors' book of listeners of ATF&PD about the level and quality of the education.
- Calculating the price for educational services to the enterprises (invoices manually, acts of the performed works and the reconciliation statement with the enterprises).

For increase of efficiency of the solution of the questions connected with improvement of qualificationof specialists of the enterprises of the textile industry and other branches on which preparation at university is carried out, maintaining a database on the enterprises customers of educational services by the staff of deanery of ATF&PD is expedient. The list of functions of faculty can be also added with the following functions connected with interaction:

- The advisory help to the enterprise with introduction in practice of the knowledge gained by listeners in the course of training.
- Development of individual (personal) educational programs at the request of the concrete enterprise.
- Interaction with the enterprises acting as bases of carrying out training for listeners of retraining (the conclusion of the contract on training, coordination of the program of training, the analysis of the report on training passing).

The main activity of **department of marketing** is connected with distribution of graduates of university. Functions of department include:

- Studying of need of the republic, the region, branches in the experienced specialists released by university, conducting correspondence with the enterprises for the matters.
- Registration of long-term bilateral contracts on training of specialists with the enterprises, the organizations and establishments, their account and drawing up necessary data on them.
- Synthesis of demands of the enterprises, the organizations and the establishments, available contracts on training of specialists and formation of a package of orders of the interested enterprises and the organizations on specialists of university, updating of data on need for graduates of university on prospect.
- Work with contracts for training of specialists:
  - development and correction of forms of contracts for paid training, development of blanks documentation on questions of payment for training of specialists together with the legal adviser;
  - registration of contracts, additional agreements to contracts for training of specialists;
  - maintaining the accounting of the signed contracts for training of specialists;

- registration and sending (issue) of invoices for payment for training;
- control of receipt of money, processing and systematization of data on the money got for training of specialists;
- control of observance of conditions of the signed contracts;
- corresponding legal entities and individuals on compensation of expenses for training of specialists according to the signed contracts;
- rendering the methodical help with questions of the conclusion of contracts for training of specialists both on paid, and on a free basis, contracts for target training of specialists;
- carrying out of work on cancellation of contracts for training of specialists in cases of expel of students from university or non-performance of contractual obligations by them.

— Specification of requirement of the enterprises in young professionals according to the signed contracts for preparation, definition and search of new places of assignment.

— Preparation of the list of places of assignment according to the signed contracts and arrived demands.

— Studying, together with the deaneries, the reasons for unemployment of the graduates and definition of possible options of their employment.

— databank formation of places for graduates employment, on the basis of monitoring of labor market and the declared need for shots (together with the deaneries and graduate department).

— Ensuring the demands for reassignment and employment of the graduates of the university who haven't found a job for various reasons (together with the deaneries and graduate department).

— Studying of opinion of the enterprises about graduates of the university and its influence on work assignment, preparation of suggestions for improvement of specialists training.

— Development of strategy for carrying out publicity in mass media.

At present the university signed contracts on interaction with 106 enterprises.

The essential role in questions of interaction is played by **graduate department**. Problems of cooperation with the enterprises.

To solve the problems of cooperation with the industry the department carries out the following functions:

— organizes research work of students, course and thesis projects, educational and technological (manufacture) internships;

- discusses the finished R&D (research and development), makes recommendations about their publications, takes part in introduction of deliverables into industry and educational process;
- conducts scientific researches on the most important problems of equipment and technology of weaving;
- participates in carrying out of vocational supervision of pupils;
- solves an issue about the necessity of creation of educational scientific-industrial complexes and department branches at textile enterprises of the Republic of Belarus.

The department within its competence has the right to represent university interests in the relationships with third-party organizations for sectoral work of the department.

The department carries out work on expansion and strengthening of ties with manufacture in the following directions:

- develops cooperation with the enterprises in training of specialists which is directed on mastering students of professional skills, the advanced methods of the organization and management;
- organizes speeches of the managers and leading experienced specialists of the enterprises of textile and light industry in front of students and teaching staff of the department;
- conducts promotion of scientific and common cultural knowledge.

2. ANALYSIS OF SYSTEM OF INTERACTION OF MOGILYOV STATE UNIVERSITY OF FOOD STUFF AND ENTERPRISES FOR PRODUCTION OF FIBROUS MATERIALS

2.1 Questioning results analysis of the specialists of the enterprises for production of fibrous materials

Specialists of 4 enterprises of the Republic of Belarus took part in questioning:

- JSC Mogilevkhimvolokno (Mogilyov);
- JSC Svetlogorskhimvolokno (Svetlogorsk);
- JSC Grodnoazot of PTK "Man-made fiber" (Grodno);
- JSC Naftan Polimir plant (Novopolotsk).

During questioning 20 specialists of the enterprises were interrogated.
Among the interrogated specialists 30,0% personally face the solution of questions concerning interaction with universities 40,0% several times a month, - several times a year, 10,0% once in some years. Never participate in the solution of similar questions 20,0% of the respondents. The received results testify that the respondents are generally familiar with the problems considered within the poll.

Only 36,8% of the respondents highly appreciate the current system of interaction of the enterprises and universities, the greatest number of the respondents estimated this system as middle (57,9%) and 5,3% – as satisfactory. These results confirm the relevance of the work being carried-out on the improvement of system of interaction.
The majority of the respondents (80,0%) consider that the enterprise takes partial responsibility for the level of students being trained while 20,0% note that the enterprise and its employees have no relation to the process of training of specialists.

The level of responsibility of the enterprise for the quality of training also is shown in the answers to a question whether the enterprises should help universities free of charge with the equipment of educational laboratories. 55,0% of the respondents consider that such help there should be as it allows to raise the level of training of specialists. 25% of the respondents consider that it is necessary to help, but the help shouldn't be free of charge. The remained 20,0% consider that the enterprises shouldn't help universities with strengthening of their material base.

The respondents consider improvement qualification of experienced specialists and the solution of the questions connected with the organization of industrial internships and

diploma projects to be the most important questions of interaction of universities and the industrial enterprises (table 2.1.1, table 2.1.2).

Table 2.1.1 - Answers to the question «What questions of university and enterprises interaction of the sector do you consider to be most important?»

Variant	Mention percent
research and development (R&D);	23,8
development of training courses and material and technical basis of the university	14,3
conducting of industrial internship and thesis projects	28,6
improvement of qualification of enterprises' experienced specialists	33,3
career-guidance work	0,0
other variants	0,0

35% of the respondents consider that there are no problems in cooperation and universities are always ready to help and to interact in any direction. Among the problems defining imperfection of system of interaction, 30% of the respondents noted the impossibility to solve industrial questions on-the-spot together with the staff of universities in view of their distance (remoteness) from the enterprises.

Basing on the data obtained, it is possible to note that for the solution of available problems it is necessary to develop a dialogue between enterprises and universities, and also to strengthen a role of modern systems of communication.

Table 2.1.2 - Answers to the question «What is the main problem of cooperation between universities and enterprises?»

Variant	Mention percent
universities are too remote from industrial problems	15,0
at the university they deal with theory, and we need practice	20,0
universities are far and problems must be solved instantly	30,0
you should pay money to university, and we would like them to assist us free of charge	0,0
there are no problems of cooperation, universities are always ready to help and to interact in any areas	35,0

Specialists of the enterprises unanimously estimate universities as a source of qualified personnel. Vast majority of the respondents consider work repayment of the graduates at the enterprises after gaining of higher education to be obligatory (85,0%). Besides, 10% of the respondents consider that the term of work repayment period has to be increased till 5 years and only 5% consider that there is no need in work repayment.

Taking into account the existing problem of fixing of the graduate of university at the first workplace and the specified expediency of increasing period of work repayment till 5 years specialists were asked the question of factors capable to influence fixing of the graduate after the term of obligatory work repayment period at the enterprises. As the most significant factors were noted: good salary and solution of a housing question (table 2.1.3).

Table 2.1.3 - Answers to the question «What factors may affect the binding of the graduate in the workplace upon the expiration of the compulsory two years of work?»

Variant	Mention percent
decentsalary	31,7
prestige of the profession	1,7
opportunity for career growth	26,7
solution of the housing question	28,3
interesting work	8,3
good team spirit	3,3

Answering the question about compliance of knowledge of young professionals to a modern level of development of equipment and technology opinions of the respondents divided: 50% answered "corresponds completely" and 50% – "corresponds partially". This high indicator also reflects the existing practice when a young professional comes at the enterprise and in specific conditions supplements knowledge and skills gained at universities. It is confirmed also by the answer to the question of psychological qualities which a young professional first of all has to possess. In 23,3% of answers was mentioned such quality, as initiative (tab. 2.1.4). Almost the same importance the respondents attach to the abilities of young professionals to learn in specific work conditions (21,7%) and to diligence (20,0%).

Table 2.1.4 - Answers to the question «What psychological qualities should a young professional have in the first place?»

Variant	Mention percent
hard working	18,3
responsibility and discipline	20,0
ability to win people	-
ability to make independent solutions	16,7
initiative	23,3
learning in specific industrial environments	21,7

As half of the respondents noted partial compliance of knowledge of the graduate to the level of modern manufacture, we were interested in the opinion of experienced staff of the enterprises on concrete shortcomings of young professionals' qualification. Analyzing the data provided in table 2.1.5, it is possible to note that the vast majority of the respondents noted graduates' shortage of practical experience at work. Also a little more than in 20% of cases the respondents mentioned lack of knowledge of the latest equipment. And if the second shortcoming can be modified by teachers of universities correcting the lecture course, the problem of practical preparation can be solved only together with the enterprises, first of all within work internship.

Table 2.1.5 - Answers to the question «Which knowledge and skills, from your opinion, young professionals feel lack of after graduation?»

Variant	Mention percent
theoretical knowledge of general technical disciplines	10,7
knowledge regarding modern technological equipment	21,4
practical experience of work	64,3
economic and management skills	3,6

As it was stated above, the results of the poll confirmed the assumption that one of the main directions of interaction of universities and enterprises is the organization of industrial internships. In this regard, by drawing up questionnaires the separate block of questions was devoted to this direction.

Only 9,7% of respondents consider that internship management is performed at a high level and doesn't need improvement. 29% of the respondents find it expedient to have a separate

position for a specialist, responsible for internship. At the same time almost fourth of the respondents (22,6%) consider necessity of strengthening of internship control on the part of university. The same number of specialists of the enterprises support strengthening of control of internship on the part of the enterprise management.16,1 % of the respondents aren't satisfied with their payment for internship management (table 2.1.6).

However, as the answers to other questions of all groups of the respondents show, there is a number of organizational questions to be solved when students pass their internship, not connected with compensation of the supervisor.

Table 2.1.6 - Answers to the question «How to improve the students supervision while industrial internships?»

Variant	Mention percent
select a separate position for a specialist, responsible for the internship	29,0
increase payment for the supervision of internship	16,1
strengthen the control over internship on the part of enterprise management	22,6
strengthen the control over internship on the part of the university	22,6
Internship supervision is carried out at a high level and does not require improvement	9,7
other variants	0,0

One of such questions is providing students with housing. The enterprises producing fibrous materials are dispersed across all Belarus. The student directed by university to another settlement, needs a granted temporary place of residence. The majority of specialists of the enterprises (70,0%) consider that during internships the student has to be provided with housing. 30,0% of the respondents consider that there is no need in it.

The vast majority of specialists of the enterprises (95,0%) consider that during internship the university together with the enterprise have to be engaged in the solution of a question of proving a student with housing. Other 5% consider that the enterprise has to deal with this issue.

The most important question in this direction is the content of internship. To a question if there is need in development with students working skills of operators of the equipment 95,0% of the interrogated experienced specialists answered affirmatively as these skills can be useful in work in various production situations. At the same time, as it will be shown further, according to other groups of the respondents, the development of these skills is

possible under production conditions only. Therefore, the specified results have to be considered when updating programs of internship.

Another important problem arising during internship is availability of information (table 2.1.7) is. On the one hand, restriction of access to technological information is part of policy of any industrial enterprise. However without providing information to establishments of education and, in particular, to students - training of the competent experienced specialist is impossible. We consider to be a positive result of poll that fact that none of the respondents considers it completely necessary to refuse from information providing. However the majority of the respondents (60%) consider that required data has to be in advance coordinated by the university with the enterprise management. Thus the most part of the respondents (70%) expressed possibility of limited access to information of economic character when performing course and diploma projects, 20% possibilities of full access and 10% impossibility of providing similar information.

It should be noted that coordination procedure at the moment doesn't exist. The creation of this procedure will be carried out within the processes carried out within this project.

Table 1.1.7 - Answers to the question «Should students and university staff have free access to technical and economic information during internship for writing reports?»

Variant	Mention percent
yes, full access to any information	5,0
technical information only	10,0
economic information only	0,0
information not related to the latest outcomes	25,5
all information must be confidential	0,0
the list of required information must be agreed with the enterprise supervision	60,0
other variants	0,0

Another important problem which was considered when questioning, was correspondence form of education. Most part of the interrogated specialists of the enterprises (95,0%) consider that students trained in the correspondence form, have to get paid back leave for sessions (within the current legislation). 5,0% consider that students have to take vacation at their own expense.

Speaking about quality of training of specialists, who got education with different forms of education, half of the respondents consider to be better prepared for work at the enterprises

full-time graduates (table 2.1.8). The same number of the respondents considers that the level of preparation depends not on an education form, but on personal qualities of the experienced specialist.

2,6% of respondents specified that their enterprise doesn't feel need in the specified experienced specialists.

Thus, in general requirement of different categories of personnel at the enterprises for production of fibrous materials experienced specialists with the higher education make about 74,4%.

Table 2.1.8 - Answers to the question «Specialists of which form of training are best prepared to work in the enterprise?»

Variant	Mention percent
full-time education	50,0
correspondence department	0,0
part-time education correspondence department (based on college diploma);	0,0
this is individually and does not depend on form of education	50,0

An important question from the point of view of the analysis of labor market is the need of the enterprises for experienced specialists of various categories. Analyzing the results of the answers presented in table 2.1.9, it is possible to note that at the enterprises for production of fibrous materials mostly need masters and technologists, and to a lesser extent – operators of the equipment.

Table 2.1.9 - Answers to the question «Which specialists, in your opinion, does your enterprise need mostly?»

Variant	Mention percent
equipment operators	15,4
assistants of master	7,7
masters	30,8
foremen, their deputy shop foremen	12,8
technologists	30,8
chiefs	0,0
other variants	2,6

Rather unanimously the respondents answered to a question of what has to be the subject of the thesis of the graduate. 80,0% of specialists of the enterprises answered that the subject has to be interesting and perspective for the enterprise where the graduate is assigned, 20% consider that the student has to carry out the diploma project for an assessment of all gained knowledge in higher education institution.

The separate block of questions was concerned the need and possible ways of further professional training of enterprise specialists. All the respondents (100%) are sure of need of improvement qualification by the specialists of the enterprise within the actions organized by higher education institutions.

To define a circle of questions which are expedient to consider at improvement qualification by the specialists of the enterprises they were asked of in the field of what subject matters studied in higher education institutions, they feel lack of knowledge in their professional activity. In answers to the question more times management and psychology were mentioned (22,6%), a foreign language (19,4%) and economic knowledge (19,4%) (table 2.1.10). A third part of the respondents considers that they don't feel lack of knowledge in any area.

Table 2.1.10 - Answers to the question «In the field of which disciplines taught at universities, do you feel lack of while you carry out your professional activity?»

Variant	Mention percent
technological	16,1
economical	19,4
management and psychology	22,6
foreign languages	19,4
enough knowledge in all fields	32,3

To a question, whether there are possibilities of improvement qualification of the experienced specialists directly at the enterprise, the majority of the respondents (70,0% of answers) noted that at the enterprises are organized advanced training courses, 30,0% consider such courses to be expedient in spite of the fact that at the moment there are no such courses.

Most preferable ways of improvement qualification (according to the specialists of the enterprises)which won 18,5% of answers were considered scientific and technical events held at universities, courses conducted by teachers directly at the enterprise, and also self-education (table 2.1.11). Foreign training were mentioned by 14,8% of the respondents.

Distance learning and correspondence short-term courses consider to be acceptable as a way of improvement qualification 11,1% of the respondents.

Table 2.1.11 - Answers to the question «What way of improvement qualification for enterprise specialists do you consider to be preferable?»

Variant	Mention percent
there is no need in improvement qualification	0,0
second higher education	7,4
short correspondence courses of improvement qualification	11,1
e-learning on the job	11,1
self-education	18,5
participation in seminars and scientific conferences organized by universities	18,5
foreign internships	14,8
Improvement qualification courses with representatives of the universities at the enterprise directly	18,5

On the other hand, only 25,0% of staff of the enterprises actually visit the actions organized by universities (table 2.1.12). Thus the most part of the respondents (75,0%) would like to visit such activities, but do not have such opportunity.

Table 2.1.12 - Answers to the question «Do you or your colleagues visit scientific and technical events carried out at universities?»

Variant	Mention percent
yes, it is an opportunity to broaden my horizons	25,0
yes, but formally, the subject of activities does not interest me	0,0
no, but I would like to	75,0
no, I do not consider it to be necessary	0,0

In view of different level of interaction of universities and the interrogated enterprises in the sphere of scientific researches, the assessment of the level of relevant works by the experienced specialists was various (table 1.13). In spite of the fact that third part of the respondents highly appreciated the level of research works, nearly half consider that by no means always researches conducted by the staff of university correspond to the requirements of the enterprises.

Table 2.1.13 - Answers to the question «How do you rate the research and development work conducted by university staff at your enterprise?»

Variant	Mention percent
high level, all the research corresponds to the subject, interesting to the enterprise	30,0
middle, the ongoing research meets the needs of the enterprises not always	45,0
low level, university staff addresses the issues they are interested only	0,0
university staff do not do research and development at our enterprise	25,0

Specialists of the enterprises in different degree take part in carrying out by the staff of universities of research works under production conditions (table 2.1.14). At those enterprises where university carries out scientific researches, all experienced specialists with various reservations are ready to render them assistance.

Table 2.1.14 - Answers to the question «Do you help university staff in scientific research?»

Variant	Mention percent
yes, we do all we can	35,0
yes, if it is part of my duty	20,0
yes, if the administration instructs me	15,0
I am willing to help, in the case of additional payment for this work	0,0
no, I do not consider it to be necessary	5,0
university staff do not do research here	25,0

2.2 Questioning results analysis of young professionals of the enterprises for production of fibrous materials (graduates of the last 5 years)

50 young professionals of the enterprises for production of fibrous materials listed in section 2.1 (graduates of 2009 - 2013) took part in the poll.

The purpose of the poll for young professionals was to assess the degree of compliance of their level of preparation, and also their expectations, to real work conditions in which they had to apply the knowledge gained at university for the first time.

The positive fact is that none of the respondents considers the level of his\her education to be completely inappropriate to the modern production requirements (table 2.2.1). It can be mentioned that young professionals estimate the preparation practically similar to their experienced colleagues that testifies their successful adaptation at the enterprise.

Table 2.2.1 - Answers to the question «The level of your education from your point of view corresponds to demands of modern industry as?»

Variant	Mention percent
completely corresponds	48,0
partly corresponds, but I can improve it in the process of my work in the industry	52,0
does not correspond	0,0

About 9,1 % of the graduates agreed with the statement that a student can receive practical experience only within the university (table 2.2.2). In various degrees the contribution of internships was estimated as more highly by young professionals than that of laboratory works. However more than 40% of the respondents consider that practical experience can be received only after graduation in the course of work at the enterprise. It indicates a universities' defect in the organization of educational process.

Thus young professionals consider that in their work they feel lack of knowledge in economic subjects and foreign languages (table 2.2.3). It is connected with that in the process of modernization of some enterprises the installation of the latest foreign equipment takes place, to study which young professionals try to use various sources of information, including information in foreign languages.

Table 2.2.2 - Answers to the question «Where from your point of view a student can get practical experience for work in industry in future?»

Variant	Mention percent
during laboratory work and educational practice at the university	9,1
during laboratory work at the university, as well as within the internships in workshop environment	32,7
only within internships	14,5
you can get practical experience within work process at the enterprise after graduation only	43,6

Table 2.2.3 - Answers to the question «In what field of knowledge, studied at the university, do you feel lack in your professional activity?»

Variant	Mention percent
subject-oriented	8,1
economical	29,7
management and psychology	17,6
foreign languages	28,4
enough knowledge in all fields	16,2

Nearly third of the graduates (36,0%) consider that the content of special disciplines at university generally corresponds to a current state of manufacture, but contain partially outdated material (table 2.2.4). The dispersion of answers testifies also essential distinctions of a technological level of the enterprises of the sector and in this connection it is rather difficult to create training courses according to production realities.

Table 2.2.4 - Answers to the question «Do you agree that the content of special disciplines studied at the university, corresponds to the modern state of manufacture?»

Variant	Mention percent
yes, completely corresponds	42,0
partly corresponds, lecture material contains partially outdated information	36,0
partly corresponds, lecture material contains information that advances the level of industrial development	22,0
does not correspond, training courses are completely divorced from reality	0,0
other variants	0,0

One of the ways to bring the training courses curriculum into compliance with an actual state of production as young professionals highlighted is to equip the laboratories with modern machinery (table 2.2.5). Less number of the respondents noted an increase in quantity of studies at the enterprises and updating of a library stock by modern literature (19,7%). It confirms the conclusion formulated above that the development of practical experience at sufficient level is possible only under production conditions. Besides, graduates consider it expedient to update lecture courses (16,2%). However, as it was stated above, only half of experienced specialists of the enterprises consider the enterprises to be responsible for strengthening of material base of universities.

Table 2.2.5 - Answers to the question «What changes of the educational process from your point of view can eliminate the gap between the knowledge acquired and industrial\production requirements?»

Variant	Mention percent
renewal of the lecture material	16,2
equipping laboratories with modern machines	24,6
equipping audiences with multimedia equipment	7,7
renewal of modern literature in library stock	19,7
increasing the number of studies at enterprises	19,7
regular increasing of professional skills of high educational staff	12,0
improvement of the psychological climate in the classroom during the lessons	0,0
other variants	0,0

Table 2.2.6 - Answers to the question «Are there opportunities for training in the enterprise?»

Variant	Mention percent
no, but would not prevent	42,1
no, it is not necessary	0,0
yes, various courses are periodically organized	47,4
universities should deal with it	5,3
other variants	5,3

Regarding the updating of material of training courses 24,0% of the graduates supported that, as general education and all-technical disciplines have to develop according to production

requirements. At the same time most part of the respondents (70,0%) considers that partially the content of general education disciplines (mathematics, physics, etc.) has to remain invariable while technical courses (theoretical mechanics, machinery) have to conform to specialty and production requirements. Only 6% of young professionals consider that the maintenance of the specified courses has to remain invariable.

Despite the insignificant term of work at the enterprise after the university termination a quarter of the interrogated graduates wishes to increase their qualification at the enterprise, but have no such opportunity (table 2.2.6). Most part of the respondents (76,0%) increases the qualification at courses which will enterprises organize.

Table 2.2.6 - Answers to the question «Are there opportunities for training in the enterprise?»

Variant	Mention percent
no, but would not prevent	24,0
no, it is not necessary	0,0
yes, various courses are periodically organized	76,0
universities should deal with it	0,0
other variants	0,0

Graduates consider visiting of seminars and scientific conferences organized by university, with foreign experienced specialists involvement, as well as foreign training and self-education to be the most preferable options for improvement qualification (table 2.2.7).

Table 2.2.7 - Answers to the question «How would you like to improve your skill level?»

Variant	Mention percent
I do not need to improve the skills	0
second higher education in another specialty	9,5
correspondence short term extension courses	13,5
e-learning on-the-job	14,2
self-education	16,9
visiting seminars and scientific conferences organized by the University, with the assistance of foreign specialists	18,9
foreign training	16,9
training courses conducted by the university representatives at the enterprise	10,1

The essential share of the interrogated graduates finds it possible to continue training themselves within retraining courses, organized by the university they graduated from (table 2.2.8).

Despite the importance of internship in educational process noted in the questionnaires, graduates estimated the internship contribution into formation of their practical experience not so unanimously (table 2.2.9). About a half (52,0%) of the respondents specified that practical training allowed superficially orientation only in manufacture. Only 4% of the graduates estimated the role of internship as unsatisfactorily.

Table 1.2.8 - Answers to the question «Do you consider the possibility of improvement of qualification at the university, which you graduated from?»

Variant	Mention percent
yes, I am going to enter the Masters' course with full-time education	1,7
yes, I am going to enter the Masters' course with part-time learning	3,5
yes, I am going to get second higher education	12,1
it is possible if the university will organize retraining courses interesting for my direction	44,8
it is possible if conditions are created for distance learning	17,2
no, I am planning to continue my education in other educational institution	1,7
no, I am not planning to continue my education	15,5
other variants	3,4

Table 2.2.9 - Answers to the question «How do you estimate the role of industrial internship in practical experience formation?»

Variant	Mention percent
high, mostly practical experience were obtained during internships	28,0
high enough, but the basic skills were obtained by passing only pre-degree practice	16,0
middling, internship allows only superficially orientation in manufacture	52,0
unsatisfactory, the practice did not give me any skills, all skills were obtained after work assignment	4,0
other variants	0,0

Thus graduates rest most responsibility for efficiency of industrial internship passing on the enterprise and university or on the management of the enterprise (table 2.2.10). On the other hand, the student has to show an initiative and maximum interest in receiving a complex of knowledge and skills in the course of internship.

Among suggestions for improvement of internship young professionals supported the idea that the student should have practical training at the enterprise where he allegedly will be assigned (table 2.2.11). However this wish is accepted only when passing externship (pre-degree practice) while within other internships the student has to be maximally get acquainted with the sector enterprises.

Table 2.2.10 - Answers to the question «Who is largely responsible for the acquisition of skills by a student within industrial internship?»

Variant	Mention percent
University supervisor	2,0
Enterprise supervisor	34,0
University and the enterprise roughly equally	40,0
student	22,0
it is impossible to gain practical experience within internship	2,0
other variants	0,0

Table 2.2.11 - Answers to the question «What would you change in the conduct of industrial internship for students of technical specialties?»

Variant	Mention percent
I would pay more attention to assembly, disassembly and installation of the equipment	9,9
I would pay more attention to mastery of work skills	30,8
I would strengthen the oversight of practices on the part of teachers	16,5
I would send students to the enterprise, where they will allegedly work	33,0
I would include in the program of internship compulsory scientific research of technical processes	9,9
other variants	0,0

Almost the same number of the graduates (30,8%) supported the inclusion in the program of internship of the questions connected with the development of working skills that makes a third part of more experienced specialists' opinion of the enterprises.

Besides, among the interrogated graduates 10% consider that there is no need in work skills development within internship. 38% claims that possession of work skills is necessary, 38% – is desirable, 14% – is possible on request of the student.

Besides, on work practice a student can receive organizational and administrative skills. 18% of the graduates consider that it is necessary, 70% –it is desirable, 12% –is possible, but on request of the student.

The graduates of the enterprises estimated differently the experience of the research work performed by them within university study, including diploma project (table 2.2.12). Half of the respondents consider the gained experience to be useful. 18% of the respondents consider that researches methods studied aren't applicable in real manufacture. First of all it is explained by that fact that research methods applied under production conditions, as a rule, are simplified in comparison with studied at universities, and the purposes of researches are limited to concrete production.

In their answers the respondents specified that research experience wasn't useful because they work in the positions not corresponding to specialization they were trained to.

On the other hand, a quarter of the respondents (24%) note the discrepancy of research subjects to production needs that confirms the necessity of a dialogue between universities and industry.

Table 2.2.12 - Answers to the question «How useful was for you the experience of the research work carried out by you while studying at university, including diploma project?»

Variant	Mention percent
the experience was useful, it helps me in my job	50,0
the experience was useful only in part of the research of a specific industrial problem, at the same time the research methods studied in real industry are not applicable	18,0
the experience was useful partly, because I can use in my job the studied research methods, although the subject of my thesis did not meet the industrial requirements	24,0
the experience was not useful at all as the subject of my research does not correspond to research needs of the industry, and the methods used are cut off from real life	0,0
other variants	8,0

The separate block of questions was connected with the issue, whether the expectations of graduates from their assignment to the concrete enterprise were met.

According to the poll it appeared to be impossible to define the prevailing reasons for which the student carries out a choice of the first place of work (table 2.2.13). It is possible to note that the salary at a stage of assignment isn't the most important factor. Much more essential is the possibility of career growth and technological level of manufacture about which the student learns in internship. In other versions of answers it is specified that students had no choice, and also the enterprise was directly in the hometown of the graduate.

Table 2.2.13 - Answers to the question «Give reasons (no more than five), for which you have been assigned or settled yourself at the enterprise?»

Variant	Mention percent
I liked the enterprise during the internship	14,2
responses of enterprise specialists	6,3
teachers' advice	7,9
modern enterprise	20,5
high wages	17,3
career opportunities	21,3
the proximity of the residential place to my hometown	7,1
I liked the residential place	5,5
other variants	0,0

The most part of the graduates at the time of employment in various degrees were happy with the choice (table 2.2.14). One third of the respondents chose the best from what was offered to them though counted on the bigger.

Table 2.2.14 - Answers to the question «Were you happy with your choice at the time of employment?»

Variant	Mention percent
yes, I wanted to work in the enterprise	60,0
partly, I chose the best of what I was offered, although hoped for more	36,0
no, but there were no better variants	4,0
other variants	0,0

The most part of the graduates at the time of employment in various degree were happy with the choice (table 2.2.14). One third of the respondents chose the best from this that it was offered to them though counted on the bigger.

Expectations from employment were met in various degree with two thirds of the respondents (table 2.2.15). It can be explained both by objective, and subjective reasons. On the one hand expectations could be overestimated, the assessment of qualifications and ability to adaptation could be also biased.

Among the reasons for which expectations are met partially, the following was noted:

- low wages;
- lack of rooms in a hostel;
- considerable psychological pressure from more experienced specialists and supervisors.

Table 2.2.15 - Answers to the question «Did you meet your expectations while working at the enterprise?»

Variant	Mention percent
yes, I met what expected	60,0
partly (specify the reasons for non-conformance of the results and expectations)	38,0
did not meet	2,0
other variants	0,0

Positive result is that 44% of the graduates feel interaction between university and the enterprise (table 2.2.16) in different directions and 52% – only concerning the organization of work practice. Nevertheless, the work, planned within this project, is expedient and necessary.

Table 2.2.16 - Answers to the question «Do you feel in your work the presence of interaction between the university and the enterprise?»

Variant	Mention percent
yes, the enterprise is actively cooperating with the university on several fronts	44,0
I did not feel the interaction of university and enterprise except for matters relating to their home internship	52,0
no, there is no interaction	4,0
other variants	0,0

2.3 Questioning results analysis of the teaching staff of Mogilev State University of Food Stuff

At the Mogilev State University of Food Stuff the questioning touched the teaching staff of the following departments:

- chemical technology of high-molecular compounds;
- chemistry;
- HVAC (heating, ventilation and conditioning system);
- Economy and production organization.

In total 20 teachers were interrogated.

Of all the areas of cooperation between enterprises and universities internships, thesis project and performance of R&D (research and development) were noted as the most important (table 2.3.1). Rather few mentions of improvement of qualification of the specialists of the enterprises is a consequence of established practice. Now the university practically doesn't conduct works on the creation of improvement of qualification courses directly for the enterprises for production of fibrous materials.

Table 2.3.1 - Answers to the question «What questions of interaction of university and enterprises of the sector do you consider to be most important?»

Variant	Mention percent
research and development (R&D)	30,0
development of training courses and material and technical basis of the university	25,0
conducting of industrial internship and thesis projects	30,0
improvement of qualification of specialists of enterprises	10,0
career- guidance work	3,3
other variants	1,7

On the question «For which of the areas in question 1 do you apply more often to university departments?» most teachers mentioned «research and development», «industrial internships management and thesis project».

Taking into account specialists' opinion about R&D topic isolation which are carried out by universities, from production needs, teachers' answers about the necessity to create a "Book

of problems from the industry" are of great interest. Its analog is developed in the Ministry of the industry of the Republic of Belarus.

The vast majority of teachers (95%) expressed the necessity to create such a list of tasks in solutions of which the enterprises of the sector (table 2.3.2) take interest. Thus 85% of the respondents specified that the existence of this book of problems wouldn't mean obligation of its use when developing the subject of thesis project.

Table 2.3.2 - Answers to the question «Do you consider it is necessary to develop a list of problems (a book of problems from industry), which would appropriately be solved within the thesis project?»

Variant	Mention percent
Yes, this list is essential, because the subject of a thesis project should be formed only on the basis of the specific needs of enterprises	10,0
the development of such a list is desirable, but the specific subject of the thesis project may not consider the tasks in the list	85,0
the development of this list is useless, since the employees' idea about the thesis project can not meet the requirements of the Higher School	5,0

«To approach» student's scientific deliveries to manufacture, according to all interrogated teachers, the laboratories of the university should be equipped by modern equipment (table 2.3.3). The following important factor in introduction of deliveries into production is the support of the enterprise during its performance and compliance of a subject of the delivery to the order from the enterprise.

Inerestingly, only 35% of the interrogated teachers consider that training programs on special disciplines correspond to a modern level of development of the enterprises of the sector. 65% claim that the contents of programs correspond more. These data testify to self-criticism of university teachers as it is the worst result, in comparison with opinion of other groups of the respondents.

Among the reasons which prevent teachers from bringing courses given by them into compliance with production requirements, they first of all name poor laboratory equipment, lack of modern processing, test equipment, software, and then – lack of knowledge among the teaching staff about a hardware of the enterprises of the sector (table 2.3.4). The results

of the poll don't allow to define the reasons for which teachers don't raise their level of knowledge.

85,0% of the interrogated teachers consider that to increase the degree of satisfaction with the level of graduates it is necessary to strengthen the participation of the enterprises in improvement of educational process.

Table 2.3.3 - Answers to the question «Which factors from your point of view can increase the number of implemented student scientific research into the industry?»

Variant	Mention percent
R&D topics should be relevant to the order of the enterprise	21,4
enterprise support during work process	24,3
formation of student working groups (laboratories, project groups) for the complex accomplishment of the task	7,1
involving into the process of accomplishment not only graduates, but younger students of 3 and 4 courses	18,6
equipping university laboratories with modern equipment	28,6

Table 2.3.4 - Answers to the question «What do you think are the most significant reasons for the lack of correspondence?»

Variant	Mention percent
lack of teacher's awareness about the technical equipment of enterprises of the industry	33,8
lack of teachers' knowledge of modern approaches to technological processes management	0,0
insufficient level of equipment of educational audiences with technical training aids	11,1
insufficient level of equipment with modern technological, test equipment and software	38,9
updating of training material and teaching publications is carried out at an insufficient rate	11,1
updating of training material and teaching publications is carried out without considering modern information	5,6

The main directions in which teachers consider help strengthening expedient, are connected with the organization of internships (table 2.3.5). Nearly 20% of questionnaires of teachers specify that as the help it is possible to consider maximum providing all technological information at inquiries on the part of the university and within internship. Also teachers note

expediency of granting university of the used equipment and think that leading experienced specialists of the enterprises should give several lectures.

Table 2.3.5 - Answers to the question «What kind of help on the part of enterprises to universities one needs to strengthen?»

Variant	Mention percent
providing the university with free use of the equipment or its individual units	17,3
purchase of equipment, components of modern machinery and / or software within the modernization of its own industry	8,6
providing maximally all technological information if there are inquiries from the university and within the internship	19,8
conducting of training sessions by the leading specialists of enterprises	16,0
improving the quality of predegree practice management;	12,3
creating the possibility of practical experience formation within the internship, including training techniques work	6,2
targeted training of freshmen (1 course specialists)	4,9
specialized training for graduates of specific enterprises starting from 3-4 courses	11,1
participation of leading specialists of enterprises in the development of curricula	1,2
other variants	1,2

To the question «Which of the following questions of the organization of internships do you find most important?» (table 2.3.6) the majority of teachers mentioned «conclusion of contracts for internships with enterprises », «solution of problems related to the residence of students within the internship», «problems associated with the availability of technological and economic information, collection and analysis which is scheduled in the program of internship».

On the first place among the questions connected with the organization of internship, teachers put the problems concerning availability of technological and economic information, collecting analyzing of which is planned within the program of internship (table 2.3.6). Almost the same significance is attached to quality of the student's management on the part of the enterprise.

To the question «Which functions, including, currently performed by various units of the university, are to be combined in one department to improve the efficiency of their

implementation?» 75% of teachers noted inexpediency of association of several functions in one department as it will lead to decrease of efficiency of their performance.

Table 2.3.6 - Answers to the question «Which of the following questions of the organization of internship do you find most important?»

Variant	Mention percent
conclusion of contracts with enterprises for carrying out training	13,0
decision of questions related to the residence of students at the place of training	13,0
qualification of supervisor of training	14,5
the quality of the supervision of the student work from the enterprise	20,3
problems associated with the availability of technological and economic information, collection and analysis which is scheduled in the program of internship	24,6
the possibility of acquiring by a student of practical experience related to the technological methods gaining	10,1
the possibility of acquiring by a student of organizational and managerial skills	1,4
subject formation of individual tasks	3,9
other variants	0,0

Other teachers suggested to unite in one department such functions, as:

- «Coordination of perspective subjects of research works with the enterprises», «Maintenance of research works on direct contracts with the enterprises», «Coordination of advanced training courses of the experienced specialists», «Professional orientation work» and «Material equipment of the university with the help of the enterprises»;
- «Development of e-learning plans of enterprises specialists» and «Coordination of plans of improvement of qualification courses of the experienced specialists».

To the question «In case of combining not all of the functions do you consider that it is necessary to create a separate department, acting as a "one stop principle" for all stakeholders calls for interaction with enterprises?» 55% of the interrogated teachers answered that don't see necessity for it, 25% consider that «one stop principal» function can be carried out by one of the existing departments and 10% consider the creation of the department which is carrying out the function of «one stop principal» expedient.

2.4 Questioning results analysis of the students of Mogilev State University of Food Stuff

At the Mogilev State University of Food Stuff took place questioning of 98 students who are training in "Chemical technology of organic substances, materials and products" (specialization "Technology of chemical fibers").

All the interrogated students passed one or several internships in the conditions of chemical and textile enterprises of Belarus. Within the poll the purpose to define as far as in the course of internship students estimated the compliance of material of training courses to real work conditions was set.

The main part of the students highly appreciates the level of their preparation (table 2.4.1). Thus we should mention that the self-assessment of students studying at the moment was lower than the assessment given by the graduates and experienced specialists of the enterprises for production of fibrous materials.

Table 2.4.1 - Answers to the question «The level of students' education (young professionals) from your point of view corresponds to demands of modern industry as»

Variant	Mention percent		
	student	graduate (young professional)	experienced specialist
completely corresponds	19,0	48,0	50,0
partly corresponds, but I can improve it in the process of my work in industries	76,0	52,0	50,0
does not correspond	7,0	0,0	0,0
other variants	0,0	0,0	0,0

30% of the students consider that the content of special disciplines at university corresponds to the current state of the enterprise, and 5% that the lecture material contains the data advancing the level of production growth (table 2.4.2). Nearly two thirds of the students (59%), who visited the enterprise, consider that a lecture material partially contains outdated data. This fact reflects the need for completion of the courses to bring them in compliance with the actual level of the enterprise.

As the main ways of bringing educational process into compliance with production requirements students offered equipment of laboratories by modern equipment and updating of a library stock by modern literature (table 2.4.3).

Table 2.4.2 - Answers to the question «Do you agree that the content of special disciplines studied at the university, corresponds to the modern state of manufacture?»

Variant	Mention percent
yes, completely corresponds	30,0
partly corresponds, lecture material contains partially outdated information	59,0
partly corresponds, lecture material contains information that advances the level of industrial development	5,0
does not correspond, training courses are completely divorced from reality	4,0

Table 2.4.3 - Answers to the question «What changes of the educational process from your point of view can eliminate the gap between the knowledge acquired and industrial requirements?»

Variant	Mention percent
renewal of the lecture material	19,2
equipping of laboratories with modern machines	28,9
equipping of the classrooms with multimedia equipment	12,6
renewal of modern literature in library stock	20,1
increasing the number of studies at enterprises	9,6
regular increasing of professional skill level of high educational staff	5,9
improvement of the psychological climate in the classroom during the lessons	3,8
other variants	0,0

About a third of the students (32,9%) consider that, as general education and all-technical disciplines have to develop according to enterprise requirements. 60,2% of the respondents consider that partially the content of general education disciplines (the mathematics, physics, etc.) has to remain invariable while technical courses (theoretical mechanics, details of cars) have to conform to specialty and enterprise requirements. At the same time, 6,8% of students supported that the maintenance of the specified courses has to remain invariable (a similar indicator was and among the graduates).

Only 48,9% of students are completely satisfied with the industrial internship supervision on the part of the university (table 2.4.4).

Table 2.4.4 - Answers to the question «Are you satisfied with the supervision of internship on the part of the university?»

Variant	Mention percent
yes, completely	48,9
yes, partly	44,3
to the most extent satisfied	5,7
no, not completely satisfied	1,1
other variants	0,0

The main reason for dissatisfaction the students called contents of methodical instructions on internship which often isn't clear to the experienced specialists of the enterprises (table 2.4.5). Besides, students claim that consultations of the internship supervisor on the part of the university, and also the requirement to the report are not very concrete.

Table 2.4.5 - Answers to the question «What you are not satisfied in the internship supervision on the part of the university?»

Variant	Mention percent
The internship supervisor on the part of the university did not assist in the process of internship	14,3
the consultation of the supervisor from the university while sending to the training was not well-defined	23,2
methodical instructions on internship contain requirements that are not understood by the specialists of the enterprises	35,7
the content of the report specified in the methodical instructions on the internship is not well-defined	17,9
during of internship it was impossible to contact the supervision for consultations on problem questions	1,8
housing question had not been previously agreed	3,6
the contract of the traineeship was not signed with the enterprise beforehand	1,8

Still less students were satisfied with the management of internship on the part of the enterprise (table 2.4.6).

The main claims of the students to the internship organization on the part of the enterprise are connected with busyness of the supervisor with current affairs, refusals in obtaining information, and also that generally internship was limited to collection of information on departments and didn't create conditions for obtaining practical experience (table 2.4.7).

Table 2.4.6 - Answers to the question «Are you satisfied with how the supervision of the internship is carried on the part of the enterprise?»

Variant	Mention percent
yes, completely	38,6
yes, partly	45,5
to the most extent satisfied	13,6
no, unsatisfied completely	2,3

Table 2.4.7 - Answers to the question «What you are not satisfied in internship supervision on the part of the enterprise?»

Variant	Mention percent
the internship supervisor from the enterprise did not have enough time to assist	43,5
I was not provided with housing	3,3
provided housing was in poor condition	1,1
I was refused in a portion of the requested information required for the report	19,6
single source of information, has not been determined to obtain it in full I had to address many enterprise specialists	6,5
conditions for my acquisition of practical experience of industrial activity were not created	12,0
only minor part of the internship was spent on the direct study of the industry, basically the internship was limited to collecting of information in departments	13,0
other variants	1,1

One of the purposes of an internship is students' acquaintance with working conditions at an enterprise for the purpose of its best orientation in the question of a choice of the first workplace for career assignment. More than 50% of the students noted that the question of career assignment to the enterprise at which they had internship (table 2.4.8) was discussed with them. It is rather a high percentage as only about half of the interrogated students graduates from the university in the current year. And, some share of similar discussions occurred at the initiative of employees of the enterprise that confirms their interest in updating of personnel structure.

Table 2.4.8 - Answers to the question «Did they discuss during the industrial internship the question of the future work assignment to the enterprise?»

Variant	Mention percent
yes, we discussed upon my initiative	43,9
yes, we discussed upon the initiative of the enterprise's staff	17,1
no, we did not discuss it	39,0

Only about a third of the interrogated students were interested in career assignment to the enterprise where they had internship (table 2.4.9).

Table 2.4.9 - Answers to the question «Are you interested in the work assignment to the enterprises, which hosted one of the internship?»

Variant	Mention percent
yes	36,6
no	46,3
I have not thought about the question of the work assignment	14,6
other variants	2,4

Among the reasons of unwillingness to employ to the concrete enterprises 33% of the students noted low wages, and also outdated processing equipment (table 2.4.10).

Table 2.4.10 - Answers to the question «Indicate reasons (no more than five) of your reluctance to work at the enterprise in the future»

Variant	Mention percent
low salary	29,8
bad psychological climate at the enterprise	6,4
low industrial standards	4,3
outdated technological equipment	23,4
lack of career growth	8,5
graduate reviews assigned to the enterprise in the past years	17,0
poor infrastructure of the residential place	0,0
distances of the residential place to my hometown	6,4
poor living conditions created for young professionals	4,3
other variants	0,0

It should be noted that students, considering assignment, pay more attention, comparatively to the previous years graduates, to salary level at the enterprises, and also to compliance of technologies and the equipment to a modern level of development of equipment.

When passing the internship 44% of students felt interaction of the enterprises with universities directly in questions of the organization of these internships (table 2.4.11). However nearly half of the students (44,3%) marked out that they noticed interaction and in other questions that is a positive fact taking into account limited period of internship.

Table 2.4.11 - Answers to the question «While industrial internship did you feel the presence of the liaison between the university and the enterprise?»

Variant	Mention percent
yes, the enterprise is actively cooperating with the university in some areas	44,3
I did not feel the liaison of university and enterprise with the except for matters relating to my internship	50,0
no, there is no liaison	4,5
other variants	1,1

Nearly a half of all interrogated students (51,1%) consider the existence of the department, where they could address on the questions connected with interaction with enterprises, at university to be necessary. 48,9% of the respondents taking into account the settled practice consider that in case of need they can address to graduate department and in this connection the creation of similar department doesn't make sense.

2.5 Analysis of functions of structural divisions of Mogilev State University of Food Stuff

At the Mogilev State University of Food Stuff the works connected with interaction with the industrial enterprises for production of fibrous materials, are carried out by the staff of the following structural divisions:

- department of chemical technology of high-molecular connections;
- educational and methodical department;
- improvement of qualification and personnel development institute;
- R&D sector;
- personnel department.

The following functions of **educational and methodical department** belong to questions of interaction:

- coordination of work on the organization, carrying out and improvement of internships, methodical ensuring of students' internship;
- the conclusion of contracts with the enterprises for students' internships;
- organization of payment of externship to experienced specialists of the enterprise;
- registration of contracts with the enterprises for the organization of all types students' internships; with other higher education institutions on exchange of hostels for passing the internship by university students;
- corresponding with organizations and enterprises for questions of students' internship as an established procedure;
- together with the accounting department of the university making calculations by invoices for the management of internship of employees of the enterprises and the organizations.

The **R&D sector** carries out works on interaction in the field of scientific researches in following directions:

- advertizing and exhibition activity;
- commercialization of scientific development;
- holding seminars, conferences together with enterprises;
- signing direct contracts for R&D performance with enterprises.

Institution of Advanced Training and Personnel Development (IAT and PD) carries out activities connected with interaction with the enterprises of the sector, in the following directions:

— retraining of executives and the experienced specialists with higher education;
— improvement of qualification courses for executives and the experienced specialists with higher or secondary professional education;
— training, retraining and improvement of qualification of employees;
— conclusion of contracts for retraining services of the specialist and improvement of qualification;
— database maintaining on the enterprises-customers of educational services;
— corresponding with enterprises customers;
— development of personal educational programs at the request of concrete enterprise;
— calculating of educational services for the enterprises;
— interaction with advertizing companies and mass media on commercial promotion of (IAT and PD);
— the organization of training courses (thematic seminars, practical works, trainings, corporate trainings, etc.).

Personnel department carries out registration and the analysis of the demands of the enterprises connected with employment of students, graduating from university.

The department of chemical technology of high-molecular connections (graduate department in «Chemical technology of organic substances, materials and products») carries out following kinds of activity connected with interaction with the enterprises of the sector:

— professional orientation work;
— the organization of activities (educational process, its methodical maintenance, etc.) on training of specialists for the enterprises for production of fibrous materials (concern «Belneftekhim») and for finishing and dyeing of textile materials (concern «Bellegprom»);
— organization and carrying out externships and internships;
— **R&D** activity in the fields answering to inquiries of the enterprises;
— retraining and improvement of qualification of enterprises´ staff;
— the activity connected with the assignment of graduates to the enterprises of the sector;

On the basis of questioning results analysis of specialists of the enterprises, graduates, students and teachers of university it is possible to note:

— between university and the enterprises there is a certain system of interaction (35% of the interrogated experienced specialists consider that problems of cooperation are absent and the university is always ready to the help and interact with any directions);
— the main problems of interaction consists in insufficient knowledge of university of the current industrial problems;
— training of students has more theoretical character (64,3% of specialists of the enterprises noted insufficiency of practical training of students) and in incomplete degree reflects a current state of production (it 83,0% of students and half of the respondents from the enterprises noted);
— organization of internship demands adjustment in respect of increase of satisfaction of students by internships' management on the part of university and enterprises;
— half of the students and more than half of the teachers consider a separate department organization which is carrying out function of «one stop principal» to be inexpedient.

On the basis of questioning analysis and functions of structural divisions of the Mogilev State University of the Food Stuff we propose actions on interaction deepening between university and enterprises.

On the personnel department:

— we propose to conduct marketing research of the enterprises requirements for young professionals.

On the educational methodically department:

— to carry out updating of standard documentation on the organization of passing of internship by part-time students;
— to organize satisfaction monitoring of the enterprises by young professionals' training and to analyze the information received.

On the department of chemical technology of high-molecular connections:

— to hold meeting of university staff and enterprises for the purpose of coordination of research and development and technological works;
— to fashion the stand displaying research and development of department and results of activity of the enterprises, making and processing fibrous materials;
— to do some activities on development of subject of term and thesis projects and activities, connected with improvement, development and justification of existing and new technological decisions and types of production;

- to develop standard tasks and to make actual methodical providing for increase of internships efficiency by part-time students at the enterprises making and processing fibrous materials;
- to make actual the Internet page of the department in aspect of interaction of university with the enterprises for the following directions:
- to make actual the department´s website in the aspect of interaction between university and the enterprises for the following directions:
    - information about enterprises with which cooperation is being conducted;
    - research and development;
    - carrying out and participation in activities like seminars, conferences, etc.;
    - realization of the Tempus project.
- to make actual existing and to develop programs of new courses for students of the specialty «Chemical Technology of Organic Substances, Materials and Products»;
- to make actual existing and to develop new manuals for students of the specialty «Chemical Technology of Organic Substances, Materials and Products»;
- to carry out improvement of qualification of employees for the purpose of personnel training;
- target training of university graduates according to the needs of employers;
- to do some activities on realization of the practically-focused training of masters;
- to carry out monitoring of consumers satisfaction with educational services, and also the enterprises on which graduates are assigned;
- to do some activities on the section organization at University Council for coordination of interaction of structural divisions of university with the enterprises.

3. THE ANALYSIS OF INTERACTION SYSTEM OF BELARUSIAN STATE ECONOMIC UNIVERSITY WITH INDUSTRIAL ENTERPRISES

3.1 Questioning results analysis of the teaching staff of Belarusian State Economic University

In questioning concerning interaction among university and enterprises took part 48 teachers of the following departments: management, economic information science, logistics and price policy, the budget and finance of foreign economic activity, monetary management, the credit and stock market, finance and financial management, accounting, the analysis and audit in agro- industrial complex and transport, accounting, the analysis and audit in branches of a national economy, accounting, the analysis and audit in commerce, statistics, commerce economic and management in foreign and domestic market, economy of trade, merchandize of foodstuff.

As the interrogated can specify some versions of answers or not answer single questions, the total assessment not always makes 100%.

From all directions of interaction between enterprises and university (table 3.1.1) as the most important teachers noted carrying out internships and thesis project, then performance of research and development, improvement of training courses and material base of university. The important place is allocated for improvement of qualification of specialists of the enterprises and career-guidance work. As the answer to the question «other variants» teachers specify performance of work on the basis of economic contracts and the invitation of specialists of the enterprises for participation in educational process.

Table 3.1.1 – Answers to the question «Which questions of the university and enterprises interaction of the sector do you consider to be most important?»

Variant	Mention percent
research and development (R&D);	24
development of training courses and material and technical basis of the university	19,3
conducting of industrial internships and thesis projects	25,8
enterprise specialists improvement of qualification	23
career-guidance work	5,5
other variants	2,4

To a question «For which of the areas in question 1 do you apply more often to university departments?» the preference is given to questions of the organization of internship, carrying out research and development and improvement of qualification of teachers.

Need of development of the list of tasks (the book of problems from the industry) expressed 29,1% of respondents, the most part (45,8%) answered that development of such list is desirable, but the concrete scope of thesis project cannot consider the tasks given in the list as students of university pass pre-degree internship in various branches of a national economy and in the organizations of different types of property. 20,8% of respondents noted that development of such list is useless since idea of staff of the enterprises about the thesis project cannot conform to requirements of the higher school. Results are given in table 3.1.2.

Table 3.1.2 - Answers to the question «Do you consider it is necessary to develop a list of problems (a book of problems from industry), which would appropriately be solved within the thesis project?»

Variant	Mention percent
Yes, this list is essential, because the subject of a thesis project should be formed only on the basis of the specific needs of enterprises	29,1
the development of such a list is desirable, but the specific subject of the thesis project may not consider the tasks in the list	45,8
the development of this list is useless, since the employees' idea about the thesis project cannot meet the requirements of the Higher School	20,8
other variants	4,3

From the point of view of interrogated teachers increase in number of the introduced student's development generally influence compliance of a subject of development to the order from the enterprise, enterprise support during work performance, equipment of laboratories of university by the modern equipment, and also formation of the student's working groups (laboratories, circles) for complex performance of a task and attraction to performance of work not only graduates , but also junior students. Results of poll are given in table 3.1.3.

From the listed questions of the organization of internship the greatest number of respondents (21,1%) pointed to the problems connected with availability of technological and economic information, collecting and which analysis is planned in the program of internship, 18,6%-for quality of management of the student from the enterprise, 14,6% - the conclusion

of contracts with the enterprises on carrying out the internships and 13,9% - possibility of acquisition by students of the practical experience connected with development of processing methods. Results are given in table 3.1.4.

Table 3.1.3 - Answers to the question «Which factors from your point of view can increase the number of implemented student scientific research into the industry?»

Variant	Mention percent
R&D topics should be relevant to the order of the enterprise	29,2
enterprise support during work process	24,2
formation of student working groups (laboratories, project groups) for the complex accomplishment of the task	14,1
involving into the process of accomplishment not only graduates, but younger students of 3 and 4 courses	12,2
equipping university laboratories with modern equipment	19,2
other variants	1,1

Table 3.1.4 - Answers to the question «Which of the following questions of the organization of industrial internships do you find most important?»

Variant	Mention percent
conclusion of contracts with enterprises for carrying out practice	14,6
decision of questions related to the residence of students at the place of practice	6
qualification of supervisor of internship	9,2
the quality of the supervision of the student work from the enterprise	18,6
problems associated with the availability of technological and economic information, collection and analysis which is scheduled in the program of industrial practice	21,1
the possibility of acquiring by a student of practical experience related to the technological methods gaining	13,9
the possibility of acquiring by a student of organizational and managerial skills	12,6
subject formation of individual tasks	2,7
other variants	1,3

To a question «Which of the following problems mentioned in the organization of industrial practices should be solved in the process of interaction between the university and the

enterprise?» teachers put emphasis on coordination of programs of internship, quality of the management of internship of students from the enterprise, access to information. Only 14,5% of the interrogated teachers consider that training programs on special disciplines correspond to a modern level of development of the enterprises. 41,6% of respondents claim that the contents of programs correspond more, 39,5% of respondents - only partially and 5,4% of respondents - don't correspond.

Among the discrepancy reasons which prevent teachers to bring courses given by them into accord with production requirements, on the first place insufficient level of equipment of educational audiences by technical means of training, and also laboratories the modern processing, test equipment and the software is put. Then updating of the educational and methodical editions which are carrying out with an insufficient speed, insufficiency of knowledge of the teacher about a hardware of the enterprises of branch, updating of educational and methodical editions without modern information. Results of poll are given in table 3.1.5.

Table 3.1.5 - Answers to the question «What do you think are the most significant reasons for the lack of correspondence?»

Variant	Mention percent
lack of teacher's awareness about the technical equipment of enterprises of the industry	12,7
lack of teachers' knowledge of modern approaches to technological processes management	10,2
insufficient level of equipment of educational audiences with technical training aids	24,2
insufficient level of equipment with modern technological, test equipment and software	24,2
updating of training material and teaching publications is carried out at an insufficient rate	15,3
updating of training material and teaching publications is carried out without considering modern information	12,2
other variants	1,2

77,1% of the interrogated teachers consider that for increase of degree of satisfaction of graduates it is necessary to strengthen participation of the enterprises in improvement of educational process.

The main directions in which teachers consider help strengthening expedient, are connected with the organization of internship. In 18,7% of questionnaires of teachers it is specified that

as the help it is possible to consider the maximum providing all technological information at inquiries from university and within internship. Also teachers note expediency of carrying out part of studies by leading experienced specialists of the enterprises and creations of possibility of formation of practical experience within internship, including, training in working receptions. Results of poll are given in table 3.1.6.

Table 3.1.6 - Answers to the question «What kind of help on the part of enterprises to universities one needs to strengthen?»

Variant	Mention percent
providing the university with free use of the equipment or its individual units	3,1
purchase of equipment, components of modern machinery and / or software within the modernization of its own industry	6,2
providing maximally all technological information if there are inquiries from the university and within the internship	18,7
conducting of training sessions by the leading specialists of enterprises	16,4
improving the quality of pre-degree practice management;	13,5
creating the possibility of practical experience formation within the internship, including training techniques work	14
targeted training of freshmen (1 course specialists)	8,6
specialized training for graduates of specific enterprises starting from 3-4 courses	11,7
participation of leading specialists of enterprises in the development of curricula	7
other variants	0,8

According to the interrogated teachers of 25% consider that for increase of efficiency of realization of various functions which are carried out by divisions of university, it is expedient to unite in one department of questions of the organization of internship, then - work assignment of graduates. Results of poll are given in table 3.1.7.

Table 3.1.7 - Answers to the question «Which functions, including, currently performed by various units of the university, are to be combined in one department to improve the efficiency of their implementation?»

Variant	Mention percent
work assignment of graduates	16,1
organization of internship	25
coordinating with enterprises promising topics of research works	10,5
research and development supervision under direct contracts with enterprises	12,1
coordinating of plans for improvement of qualification courses	11,3
coordinating of contents of educational disciplines of the first and second stages of learning	8,9
career-guidance work	11,3
development of e-learning plans of specialists of enterprises	1,6
material and technical equipping of the University through the enterprises aid	0,8
your additional variant	0,8
I consider that association of several functions in one department is inexpedient as will lead to decrease in efficiency of their performance	1,6

To a question of creation of separate department (in case of association not all functions), «one window» carrying out function, for addresses of all interested persons on interaction with the enterprises, 50% of respondents answered that one of existing departments can carry out the «one window» function. Results of questionnaire are given in table 3.1.8.

Table 3.1.8 - Answers to the question «Do you consider that it is necessary to create a separate department, acting as a «one window» for all stakeholders calls for interaction with enterprises?»

Variant	Mention percent
yes, it is necessary	25
no, but the function of «one window» can perform one of the existing departments	50
no, in the formation of "one stop principle" is unnecessary;	22,7
other variants	2,3

The list of the questions connected with interaction of universities and the enterprises which aren't mentioned in the questionnaire from the point of view of the interrogated:

- payment of the management by practice from university;
- inclusion of teachers in structure of various commissions discussing problems of development of branch and making strategic administrative decisions;
- definition of perspective scientific researches of subjects and sources of their financing;
- carrying out excursions to the enterprises for students of 2-4 courses;
- the training of teachers;
- inclusion of the students who are doing practical training at the enterprises in perspective projects of the enterprise. It is especially important for the IT sphere;
- mutual motivation, including faculty;
- the organization of in addition paid occupations with students from other states;
- questions of perspective development of the enterprise;
- investment of money the enterprise in perspective research and development;
- the centralized formation of subject the …. of research and development corresponding to real problems of the enterprises.

3.2 Questioning results analysis of the students of Belarusian State Economic University

100 students of 3-4 courses of the specialties «Marketing», «Commercial Activity», «Merchandizing and Experienced specialist Examination of Food Stuff», «Finance and Credit», «Management», «Accounting, Analysis and Audit» took part in the questionnaire concerning interaction of universities and the enterprises.

Part of them passed all the internships covered by curricula, including predegree, other part – fact-finding and industrial one.

During the assessment of the level of the preparation (table 3.2.1) the bulk of the respondents consider that it as a whole conforms to requirements of modern manufacture and allows improving knowledge for performance of functions in a short time in course of work.

Table 3.2.1 - Answers to the question «The level of students' education (young professionals) from your point of view corresponds to demands of modern manufacture as»

Variant	Mention percent
completely corresponds	13
partly corresponds, but I can improve it in the process of my work in industries	76
does not correspond	11
other variants	-

According to the majority of students (65, 7%) the content of special disciplines generally answers a current state of production, but sometimes contains outdated data (table 3.2.2).

Completely satisfied with the quality of lecture material are15,1% of the respondents, and 12,1% consider that they are given the material advancing a level of manufacture development.

It is offered to invite more leading experienced specialists of the enterprises to the participation in educational process, in due time to update training programs of studied disciplines, to change a technique of carrying out an internship.

Table 3.2.2 - Answers to the question «Do you agree that the content of special disciplines studied at the university, corresponds to the modern state of manufacture?»

Variant	Mention percent
yes, completely corresponds	15,1
partly corresponds, lecture material contains partially outdated information	65,7
partly corresponds, lecture material contains information that advances the level of industrial development	12,1
does not correspond, training courses are completely divorced from reality	7,1
other variants	-

Elimination of available incomplete compliance of gained knowledge to production requirements, according to the majority of students, will also contribute to equipping of educational laboratories with modern equipment, increasing in quantity studies at the enterprises, updating of a library stock by modern literature (table 3.2.3).

Table 3.2.3 - Answers to the question «What changes of the educational process from your point of view can eliminate the gap between the knowledge acquired and industrial requirements?»

Variant	Mention percent
renewal of the lecture material	16,3
equipping of laboratories with modern machines	19,6
equipping of the classrooms with multimedia equipment	10,4
renewal of modern literature in library stock	14,8
increasing the number of studies at enterprises	19
regular increasing of professional skill level of high educational staff	10,3
improvement of the psychological climate in the classroom during the lessons	9,6
other variants	-

About half of the respondents consider that along with special courses general education and natural-science disciplines have to undergo changes, other half assumes their constancy (table 3.2.4).

For obtaining practical experience for work at the enterprise in the future (table 3.2.5) 43,5% of students gave preference to laboratory works at the university with fixing in internship under enterprise conditions. At the same time, 27,8% incline to opinion that it can be gained only in course of work at the enterprise after the end of training. This fact testifies to significant improvement of the organization of internships.

Table 3.2.4 - Answers to the question «Do you think that not only the special courses, but also educational and technical disciplines must develop in accordance with the requirements of industry?»

Variant	Mention percent
yes, it is a must	40
partially: the content of general education disciplines (mathematics, physics, etc.) should remain unchanged, while the technical courses (theoretical mechanics, machine parts) must meet the requirements of the specialty and industry	50
no, these disciplines should not be changed	7
other variants	3

Table 3.2.5 - Answers to the question «Where, from your view, the student can gain practical experience for working in industry in the future?»

Variant	Mention percent
during laboratory work and teaching practice at the university	7,4
during laboratory work at the university, and within practice in industrial conditions;	43,5
only within the internships	21,3
practical experience can be received only in work process at the enterprise after graduation	27,8

Confirmation to that are answers to the questions given below about satisfaction of students with quality of carrying out the internship, the management of internship from university and the enterprises. So completely satisfied with the management of internship from university are only 39% of the respondents, and quite considerable part (32%) isn't satisfied completely or more (table 3.2.6).

Table 3.2.6 - Answers to the question «Are you satisfied with the supervision of work-experience internship on the part of the university?»

Variant	Mention percent
yes, completely	38,7
yes, partly	32
to the most extent satisfied	23,6
no, not completely satisfied	5,7

Thus the main reasons for such statistics marked out not concreteness of the objectives and methodical instructions for work-experience internship, and also the insufficient help in practice process from the supervisor of internship from university (table 3.2.7).

Table 3.2.7 - Answers to the question «If answering the previous question you selected the option (a), specify what you are not satisfied in the practice supervision on the part of the university?»

Variant	Mention percent
The industrial internship supervisor on the part of the university did not assist in the process of internship	18,1
the consultation of the supervisor from the university while sending to the training was not well-defined	25,3
methodical instructions on internship contain requirements that are not understood by the specialists of the enterprises	20,5
the content of the report specified in the methodical instructions on the internship is not well-defined	20,5
during of internship it was impossible to contact the supervision for consultations on problem questions	8,4
housing question had not been previously agreed	4,8
the contract of the traineeship was not signed with the enterprise beforehand	2,4

With internship supervision on the part of the enterprise are satisfied 42% and the same are satisfied partially. However and here not everything is safe as 15% of the students aren't happy with it completely or more (table 3.2.8).

Table 3.2.8 - Answers to the question «Are you satisfied with how the supervision of the industrial internship is carried on the part of the enterprise?»

Variant	Mention percent
yes, completely	42,4
yes, partly	42,4
to the most extent satisfied	10,1
no, unsatisfied completely	5,1

Among the reasons are called limited access to information necessary for writing of the report, lack of conditions for acquisition by the student of experience of an industrial activity (table 3.2.9) busyness of supervisors of internship from the organization and, as a result, insufficient attention to the probationer.

Table 3.2.9 - Answers to the question «What you are not satisfied in industrial internship supervision on the part of the enterprise?»

Variant	Mention percent
the internship supervisor from the enterprise did not have enough time to assist	30
I was not provided with housing	7
provided housing was in poor condition	2
I was refused in a portion of the requested information required for the report	16
single source of information, has not been determined to obtain it in full I had to address many enterprise specialists	14
conditions for my acquisition of practical experience of industrial activity were not created	20
only minor part of the internship was spent on the direct study of the industry, basically the internship was limited to collecting of information in departments	11
other variants	-

Questions of internship are closely connected with future employment of young professionals. Therefore it is quite natural that students while performing it are interested in possibility of work assignment to the enterprise in which they have the internship. As statistics shows (tables 3.2.10, 3.2.11, 3.2.12), the initiative in the matter discussed more belongs to students, than to the staff of the enterprises (35% against 20%).

Table 3.2.10 - Answers to the question «Did they discuss during the industrial internship the question of the future work assignment to the enterprise?»

Variant	Mention percent
yes, we discussed upon my initiative	36,7
yes, we discussed upon the initiative of the enterprise's staff	20,4
no, we did not discuss it	42,9

Table 3.2.11 - Answers to the question «Are you interested in the work assignment to the enterprises, which hosted one of the internship?»

Variant	Mention percent
yes	35
no	35
I have not thought about the question of the work assignment	30

Table 3.2.12 - Answers to the question «Indicate reasons (no more than five) of your reluctance to work at the enterprise in the future»

Variant	Mention percent
low salary	18
bad psychological climate at the enterprise	6
low industrial standards	10
outdated technological equipment	10
lack of career growth	16
graduate reviews assigned to the enterprise in the past years	6
poor infrastructure of the residential place	11
distances of the residential place to my hometown	12
poor living conditions created for young professionals	8
other variants	3

Half of the students didn't express the desire to find a job in the organization which hosted their internship. Thus the reasons of the unwillingness call in decreasing order a low salary, lack of career growth, distances of the residential place to hometown, lack of housing, uncomfortable work conditions connected with low culture of production, an unfavourite psychological climate in collective.

The most part of students (56%) while they perform internship felt university interaction with the enterprise generally concerning carrying out internship. At the same time 22% noted such interaction in some and other directions as well (table 3.2.13).

Table 3.2.13 - Answers to the question «While internship did you feel the presence of the liaison between the university and the enterprise?»

Variant	Mention percent
yes, the enterprise is actively cooperating with the university in some areas	22
I did not feel the liaison of university and enterprise with the except for matters relating to my internship	56
no, there is no liaison	19
other variants	3

80% of the respondents considered it expedient to have as a part of university structure or the person to whom it would be possible to address for contacts establishment with subjects of managing (table 3.2.14).

Table 3.2.14 - Answers to the question «Do you consider it is necessary to have the department at the university where you could turn on the matters related to the liaison with enterprises?»

Variant	Mention percent
yes, that makes sense	80,4
no, if necessary I will contact the professorial chair	19,6

As a whole the results of questioning show that in the issues of interaction of institutions of higher education and enterprises there is rather a big area of activity for improvement of educational process, strengthening of interconnection for the purpose of improvement of quality of training of the qualified experienced specialists.

3.3 Functions analysis of structural divisions of Belarusian State Economic University which is responsible for interaction with industrial enterprises

BSEU interaction with the enterprises is carried out in a number of the directions. The main ones are:

- students enrollment and assignment of graduates;
- organization and carrying out of all types students internships;
- performance of joint research and development;
- participation of the enterprises in the organization and carrying out educational process;
- improvement of qualification of the enterprises staff and improvement of qualification of university teachers.

The considerable area of interaction takes the formation of the contingent of trainees and the list of specialties of the university. On the basis of long-term forecasting by the enterprises of the requirements for experienced specialists and its annual specification on specialties (directions of specialties, specializations) faculties and departments prepare offers on target figures of enrollment and present them to the Ministry of Education for the statement, make necessary changes to contracts on interaction, to the Nation-wide qualifier of the Republic of Belarus "Specialties and qualifications" for the purpose of inclusion of new and cancellation of non-demanded specialties (the directions of specialties, specializations).

During the discovery of new specialties departments conduct marketing researches of the requirements of economy sectors in experienced specialists, study labor markets and educational services, and the enterprises declare such requirement for specialists training.

Departments carry out active professional orientation work at the enterprises for involvement of experienced specialists to get first and second higher education, to be trained for master degree.

Directly in BSEU the graduate departments which work is coordinated by the supervisor of internship from the university, entering structure of the center of coordination of educational process (CCEP) are engaged in internships organization.

Graduate departments:

- organize the development of internship programs and reading of internship programs by the supervisors of the enterprises (organizations);
- carry out a choice of the enterprises for internship;

- appoint supervisors of internship from department and organize the development of individual tasks to students on internship;
- organize carrying out of meetings concerning internships, management, control of internship performance;
- discuss results and analyze internship programs performance at the meetings of departments;
- present to dean's offices and to the supervisor of internship in ЦКОП the reports on practice performance with offers on its improvement.

Supervisor of internship:

- coordinates with the enterprises the place of internship by students;
- signs contracts on internship;
- brings to departments the data on existence of internship places according to the signed contracts;
- together with departments and dean's offices of faculties conducts work on improvement of process of internship performance;
- controls the organization and internship performance ;
- analyzes and generalizes results of internship;
- controls terms of development of programs for internship;
- analyzes reports of departments on the results of internship.

Besides, the supervisor of internship forms annually filled up base of the enterprises at which students perform internship according to the passports made by graduate departments.

The passport of the enterprise contains:

- the full name of the enterprise;
- head office;
- number of staff;
- primary activities;
- enterprise structure (managements, departments, services);
- requisite details of the director of the enterprise (surname, name, middle name, phone numbers);
- legal address.

The existence of such base and the analysis of students' responses allow to choose those enterprises at which internship is carried out with high efficiency and, on the contrary, to refuse from those which don't allow to execute the program of internship fully.

For closer interaction with employers at the university annually on the eve of predegree practice there take place fairs of vacancies (further fair) with the invitation of representatives of the organizations of various forms of ownership interested in university graduates. Long-term practice of carrying out such an action showed its high efficiency.

Dean's offices of faculties, departments, (CCEP) take part in the organization of a fair. Information on its carrying out is published on university website, brought directly to the attention of the enterprises, for which the university prepares profile professionals. In the course of fair we see contracts on carrying out of internship signed, questionnaire of participants carried out, contacts made between the organizations and departments.

The university progressively increases the number of basic organizations through the conclusion of contracts with them about interaction, opens branches of departments for performance of the collaborations representing mutual interest.

Questions of the organization of internships are adjoined closely by employment of the graduates. Here the main links are dean's offices of the faculties. They accumulate the demands of the organizations for young professionals, specify with the enterprises work conditions. The representatives of the employers who are notified previously about the time and place of its performance are invited to the meetings of the commissions on assignment.

Student's human resources department:

- makes certificate for graduates about work assignment;
- notifies the enterprises on arrival of young professionals and exercises the control of their arrival;
- keeps personal account of assignment and employment of the graduates for 2 years after graduation;
- organizes reassignment of graduates.

The server of employment System «Start a career» is on the website of the university. Its main objective – assistance to dean's offices and departments in the organization and carrying out of all types of internships and employment of graduates of BSEU.

Employers have opportunity to get acquainted with the list of specialties and preparation specializations, with personal data of students, to place information on available vacancies.

Students as users of the system, can place the curriculum vitae, estimate the requirements of employers to specialists, receive information on temporary or continuous employment.

Maintenance and updating of operation of the server is carried out by the department of Internet center of the development of information technologies.

The educational and methodical department of quality management entering into the structure of CCEP, annually carries out an assessment of satisfaction of consumers with the quality of representation of educational services. Questionnaire of managers and employees of the organizations, including graduates of the university of different years is carried out for this purpose.

In questionnaires they raise questions of professionalism and competence of graduates, relevance of the gained knowledge and their compliance to the requirements of the enterprise, availability and completeness of information on the university, the generalized assessment of quality of rendered services, readiness for further cooperation.

Processing of questionnaires was carried out by the **department of economic sociology** with the involvement of the students. By its results the analysis of the received offers was carried out and recommendations about their use were developed.

The coordination of interaction of university with the enterprises for performance of joint research and development is carried out by the center of scientific researches BSEU which main functions are:

— formation of subjects of researches according to the main scientific directions of university and offers of the enterprises;
— the organization of the research and development performed on state, industrial and regional scientific programs, with the involvement of representatives of the enterprises;
— the organization of research works, on the contracts signed with customers and financed at the expense of their own means;
— ensuring interaction of university divisions with the establishments and the organizations in the field of science and scientific service;
— work on creation and coordination of activity of temporary research teams for performance of scientific researches and development.

Doctoral candidates, postgraduates, teaching staff of the departments are engaged in the performance of research and development.

There are steady contacts with the ministries and departments, leading enterprises of sectors during the organization of educational process, development of educational standards, coordination of standard curricula and programs. Their offers on structure and the maintenance of subject matters, definition of qualification characteristics of specialists and some other moments promoting improvement of quality of education are considered.

While organizing of educational process the interaction is carried out between the departments of the university and the enterprises.

Departments organize:

- training of professionals according to educational standards;
- participation of the enterprises in development of material base of the university, in formation of subject course and thesis projects, master theses;
- carrying out excursions and actions at the enterprise;
- student's final works supervision and their reviewing by the staff of the enterprises;
- joint seminars, round tables, conferences both on the basis of university, and on the basis of the enterprises;
- inclusion of representatives of subjects of managing in structure of state examination committees;
- introduction of the results of scientific researches and development in manufacture and educational process;
- involvement of leading experienced specialists of the enterprises to lecturing, carrying out internships.

The enterprises develop offers on updating of curricula and training programs, organize exchange of information on the questions representing mutual interest.

Some of them appoint special grants to perfect and advanced students.

For strengthening of ties with the enterprise the university offers a wide range of specialties of retraining and improvement of qualification of employees of the enterprises.

Retraining and improvement of qualification are carried out by Institute of professional development and retraining of the economic staff, being structural division of university. Formation of the contingent of the being trained is carried out on the basis of continuous carrying out of monitoring of a labor market, active professional orientation work as the staff of the institute, the established relations with the organizations and establishments. Educational standards, curricula and programs of specialties of retraining are agreed with

interested parties. The institute has acquired educational programs of improvement of qualification, but if necessary quickly reacts to the offers of the organizations on training on subject of their interest. To teaching, along with BSEU faculty, are attracted leading experienced specialists of sectors.

On the other hand, for the purpose of studying of a current state of production teachers pass training in various organizations using advanced technologies. The gained experience actively is used in preparation and carrying out of lessons.

Close contacts of the university with subjects of managing on various activities allow to carry out training of specialists taking into account modern requirements and promote improvement of educational process.

CONCLUSIONS

1. The carried-out analysis allowed to reveal the most vital issues taking place in the course of interaction of universities and the industrial enterprises of textile, light and chemical industries. The greatest concern of all groups of the respondents causes the organization of internship, in particular, availability of information and possibility of acquisition of practical experience. Among the important directions of interaction also joint carrying out research and development and improvement of qualification, both teachers of universities, and specialists of the enterprises is noted. On the basis of the analysis suggestions for improvement of the system of interaction will be issued. They will be presented at the first meeting of UNITE Council.

2. At all universities participating in the project, there are structural divisions which are carrying out functions which are connected with interaction with the industrial enterprises. The circle of resolved issues practically coincides. However the organizational structure of the universities is different taking into account number of students, variety and specifics of the directions of specialists training, the settled traditions, etc. Change of the created structure can't but consider the specified features of each of universities. A number of offers on corrections of functions of structural divisions taking into account the problems established during questionnaire is formulated. Besides, one of the directions of structural transformations is not reorganization of existing departments, and creation of additional structure (for example, Section on interaction at Educational and methodical council of the university) which will consist of the staff of the departments which are carrying out functions, connected with the interaction. Creation of such structure will create additional possibility of coordination of the solution of appropriate questions at university and will promote increase of efficiency of functioning of system of interaction.

Appendix A

Tempus	ENTERPRISE SPECIALISTS'QUESTIONNAIRE on the matters of universities and enterprises liaison

Indicate your field:

-supervision of an enterprise;
- departments and laboratories of an enterprise;
- industry (foreman, master);
- human resources.

1. Which questions of university and enterprises interaction of the sector do you consider to be most important:

a) research and development (R&D);
b) development of training courses and material and technical basis of the university;
c) conducting of internship and thesis projects;
d) enterprise specialists improvement qualification;
e) career- guidance work;
f) your variant_____

2. How often do you personally have to face the solution of questions that relate to the liaison with universities:

a) several times a month;
b) several times a year;
c) once in several years;
d) never.

3. How do you assess the current system of interaction between your enterprise and universities?

a) high;
b) middling;
c) satisfactory;
d)unsatisfactory.

4. Does the enterprise partially take responsibility for the level of training of students?

a) yes;
b) no, we do not deal with that;
c) your variant _____.

5. What is the main problem of cooperation between universities and enterprises?

a) universities are too remote from industrial problems;
b) at the university they deal with theory, and we need practice;
c) universities are far and problems must be solved instantly;
d) you should pay money to university, and we would like them to assist us free of charge;
e) there are no problems of cooperation, universities are always ready to help and to interact in any areas;
f) your variant _____

6. Do you consider a compulsory two-year work after graduation in enterprises of graduates to be necessary?

a) yes, it is necessary, otherwise the enterprise does not get any young professionals;
b) Yes, and I think the period of working should be prolonged to 5 years;
c) no, there is no need in that;
d) your variant_____

7. Do you consider that the knowledge of young professionals corresponds to modern development of technique and technology?

a) fully corresponds;
b)partially corresponds;
c)does not correspond;
d) your variant_____

8. What psychological qualities should a young professional have in the first place? Indicate no more than three opinions.

a) hardworking;
b) responsibility and discipline;
c) ability to win people;
d) ability to make independent solutions;
e)initiative;
f) learning in specific industrial environments;
g) your variant_____.

9. What factors, from your view, may affect the binding of the graduate in the workplace upon the expiration of the compulsory two years of work? Indicate no more than three options

a) decent salary;
b) prestige of the profession;
c) opportunity for career growth;
d) solution of the housing question;
e) interesting work;
f) good team spirit;
g) your variant_____

10. How to improve the supervision of students while internship?

a) select a job position of the one, responsible for the internship;
b) increase payment for the supervision of internship;
c) strengthen the control over industrial practice on the part of enterprise supervision;
d) strengthen the control over internship on the part of the university;
e) supervision internship is carried out at a high level and does not require improvement;
f) your variant_____

11. Who should be responsible for the internship of students?

a) representative of the personnel department;
b) representative of educational or ideological department;
c) technologist in the industry;
d) technologist of a technical department;
e) master of the industry;
f) your variant_____

12. Should a student be provided with housing during his internship?

a) necessarily;
b) desirably;
c) there is no necessity in it.

13. Who should deal with the issue of providing the student with housing during the industrial internship?

a) university staff;
b) enterprise staff;
c) student himself;
d) university together with the enterprise;
d) your variant _____

14. Is it necessary for an engineer to gain the skills of equipment operator?
    a) yes, it can be useful in different work situations;
    b) no, there are operators for it;
    c) your variant_____

15. Should students and university staff have free access to technical and economic information during internship for writing reports?
    a) yes, full access to any information;
    b) technical information only;
    c) economic information only;
    d) information not related to the latest outcomes;
    e) all information must be confidential;
    f) the list of required information must be agreed with the enterprise supervision;
    g) your variant _____

16. Can students get access to economic information in the performance of course and thesis work?
    a) yes, they can;
    б) no, they cannot;
    c) limited access is possible (clarify)_____

17. Should correspondence faculty students receive paid leave for a session?
    a) yes, under the current legislation;
    b) no, they have to take unpaid leave of absence.
    c) your variant _____.

18. Which specialists, in your opinion, does your enterprise need mostly? Indicate no more than three options.
    a) equipment operators;
    b)assistants of master;
    c) masters;
    d)foremen, their deputy shop foremen;
    e) technologists;
    f) chiefs;
    g) your variant_____.

19. Specialists of which form of training are best prepared to work in the enterprise?
    a) full-time education;
    б) correspondence department;
    c) part-time education correspondence department (based on college diploma);
    d) this is individually and does not depend on form of education.

20. Which knowledge and skills, from your opinion, young professionals feellack of after graduation?
    a) theoretical knowledge of general technical disciplines;
    b) knowledge regarding modern technological equipment;
    c) practical experience of work;
    d) economic and management skills;
    e) your variant _____

21. What, in your opinion, should be the subjects of thesis projects?
    a) it matters nothing;
    b) interesting and promising subject for the enterprise, where graduate is distributed;
    c) typical thesis project to assess all the knowledge acquired at the university;
    d) your variant _____.

22. Do you consider it to be necessary to increase the skill level of the enterprise specialists within universities' measures?
    a) yes, it is necessary to do;
    b) no, existing knowledge is enough;
    c) universities cannot teach anything enterprise specialists;
    r) your variant _____

23. In the field of which disciplines taught at universities, do you feel lack of while you carry out your professional activity of the enterprise?
    a) technological;
    b) economical;
    c) management and psychology;
    d) foreign languages;
    e) enough knowledge in all fields;
    f) your variant_____

24. Are there opportunities for improvement of qualification of specialists at the enterprise directly?
    a) no, but it would be expedient;
    b) no, it is not necessary;
    c) yes, various courses are periodically organized;
    d) universities should do it;
    e) your variant _____.

25. What way of improvement of qualification for enterprise specialists do you consider to be preferable? Indicate no more than three options.

a) there is no need in improvement of qualification;
b) second higher education;
c) short correspondence improvement of qualification courses;
d) e-learning on the job;
e) self-education;
f) participation in seminars and scientific conferences organized by universities;
g) foreign internships;
h) improvement of qualification courses with representatives of the universities at the enterprise directly;
i) your variant_____

26. How do you rate the research and development work conducted by university staff at your enterprise?

a) high level, all the research corresponds to the subject, interesting to the enterprise;
b) middle, the ongoing research meets the needs of the enterprises not always;
c) low level, university staff addresses the issues they are interested only;
d) university staff do not do research and development at our enterprise.

27. Should enterprises donate universities with equipment of teaching laboratories?

a)yes, because it can increase the level of specialists training;
b) yes, but universities should not donate;
c) no, they should not.

28. Do you help university staff in scientific research?

a) yes, we do all we can;
b) yes, if it is part of my duty;
c) yes, if the administration instructs me;
d) I am willing to help, in the case of additional payment for this work;
e) no, I do not consider it to be necessary;
e) university staff do not do research here.

29. Do you or your colleagues visit scientific and technical events carried out at universities?

a) yes, it is an opportunity to broaden my horizons;
b)yes, but formally, the subject of activities does not interest me;
c) no, but I would like to;
d) no, I do not consider it to be necessary.

Appendix B

Tempus	GRADUATES' QUESTIONNAIRE(last 5 years alumni) on the matters of universities and enterprises interaction

Speciality:

a) technological

b) economic

Field:

a) industrial

b) organizational and management

Basing on your ndustrial internship answer the following questions:

1. The level of your education from your point of view corresponds to demands of modern industry as:
   a) completely corresponds;
   b) partly corresponds, but I can improve it in the process of my work in industry;
   c)does not correspond;
   d) your variant _____
2. In what field of knowledge, studied at the university, do you feel lack in your professional activity? Choose any number of options.
   a)subject-oriented.
   b) economical.
   c) management and psychology .
   d) foreign languages.
   e) enough knowledge in all fields.
   f) your variant _____
3. Do you agree that the content of special disciplines studied at the university, corresponds to the modern state of industry:
   a) yes, completely corresponds;
   b)partly corresponds, lecture material contains partially outdated information;
   c) partly corresponds, lecture material contains information that advances the level of industrial development;
   d) does not correspond, training courses are completely divorced from reality;
   e) your variant _____

4. What changes of the educational process from your point of view can eliminate the gap between the knowledge acquired and industrial requirements?:
   a)renewal of the lecture material;
   b)equipping laboratories with modern machines;
   c)equipping audiences with multimedia equipment;
   d)renewal of modern literature in library stock;
   e) increasing the number of studies at enterprises;
   f) regular increasing of professional skills of high educational staff;
   g) improvement of the psychological climate in the classroom during the lessons;
   h) your variant _____

5. Do you consider that not only the special courses, but also educational and technical disciplines must develop in accordance with the industrial requirements:
   a) yes, it is obligatory;
   b) partially: the content of general education disciplines (mathematics, physics, etc.) must remain unchanged, while the technical courses (theoretical mechanics, machine parts) must meet the requirements of the specialty and industry;
   c) no, these disciplines should not be changed;
   d) your variant _____

6. Are there opportunities for training in the enterprise?

   a) no, but would not prevent;
   b) no, it is not necessary;
   c) yes, various courses are periodically organized;
   d) universities should deal with it;
   e) your variant _____

7. How would you like to improve your skill level? Choose no more than 5 options.

   a) I do not need to improve the skills;
   b) second higher education in another specialty;
   c) correspondence short term extension courses;
   d) e-learning on-the-job;
   e) self-education;
   f) visiting seminars and scientific conferences organized by the University, with the assistance of foreign specialists;
   g) foreign training;
   h) training courses conducted by the university representatives at the enterprise;
   i) your variant _____

8. Do you consider the possibility of improvement of qualification at the university, which you graduated?

a) yes, I am going to enter the Masters' course with full-time education;
b) yes, I am going to enter the Masters' course with part-time learning;
c) yes, I am going to get second higher education;
d) it is possible if the university will organize retraining courses interesting for my direction;
e) it is possible if conditions are created for distance learning;
f) no, I am planning to continue my education in other educational institution;
g) no, I am not planning to continue my education;
h)your variant _____

9. Where from your point of view a student can get practical experience for work in industry in future?

a) during laboratory work and educational practice at the university;
b) during laboratory work at the university, as well as in training in workshop environments;
c) only within internship;
d)you can only get practical experience in work process at the enterprise after graduation;
e) your variant _____

10. How do you estimate the role of internship in practical experience formation?

a)high, mostly practical experience were obtained during internship;
b)high enough, but the basic skills were obtained by passing only pre-degree practice;
c)middling, practice allows only superficially focus on industry;
d)unsatisfactory, the practice did not give me any skills, all skills were obtained after work assignment;
e) your variant _____

11. Who from your point of view is largely responsible for the acquisition of skills by a student in internship?

a) adviser from University;
b)adviser from enterprise;
c) University and the enterprise roughly equally;
d) student;
e) it is impossible to gain practical experience while practice;
f) your variant _____

12. What would you change in the conduct of internship for students of technical specialties? Choose no more than three variants.

a) I would pay more attention to assembly, disassembly and installation of equipment;
b) I would pay more attention to mastery of working methods;
c) I would strengthen the oversight of practices on the part of teachers;
d) I would send students to the enterprise, where they will allegedly work;
e) I would include in the program of practice compulsory scientific research of technical processes;
f) your variant _____

13. Do you think it is necessary for students of technical specialties to create opportunity to master their working skills while internship?

a) yes it is necessary;
b) it is desirable;
d) it is possible, but if the student wants ;
e) no, it is not necessary
f) your variant _____

14. Do you think it is necessary for students to create the capacity to absorb organizational and managerial skills while passing the internship?

a) yes it is necessary;
b) it is desirable;
d) it is possible, but if the student wants ;
e) no, it is not necessary
f) your variant _____

15. How useful was for you the experience of the research work carried out by you while studying at university, including thesis project?

a) the experience was useful, it helps me in my job;
b) the experience was useful only in part of the research of a specific industrial problem, at the same time the research methods studied in real industry are not applicable;
c) the experience was useful partly, because I can use in my job the studied research methods, although the subject of my thesis did not meet the industrial requirements;
d) the experience was not useful at all as the subject of my research does not correspond to research needs of the industry, and the methods used are cut off from real life;
e) your variant _____

16. Give reasons (no more than five), for which you have been assigned or settled yourself at the enterprise?

a) I liked the enterprise during the internship;
b) responses of enterprise specialists;
c) teachers' advice;
d) modern enterprise;
e) high wages;
f) career opportunities;
g) the proximity of the residential place to my hometown;
h) I liked the residential place;
i) your variant _____

17. Were you happy with your choice at the time of employment?

a) yes, I wanted to work in the enterprise;
b) partly, I chose the best of what I was offered, although hoped for more;
c) no, but there were no better variants;
d) your variant _____

18. Did you meet your expectations while working at the enterprise?

a) yes, I met what expected;
b) partly (specify the reasons for non-conformance of the results and expectations)
_____
_____
_____
_____
c) did not meet;
d) your variant _____
_____

19. Do you feel in your work the presence of interaction between the university and the enterprise?

a) yes, the enterprise is actively cooperating with the university on several fronts;
b) I did not feel the interaction of university and enterprise except for matters relating to their home internship;
c) no, there is no interaction;
d) your variant _____
_____

Tempus	HIGHER EDUCATION STAFF' QUESTIONNAIRE on the matters of universities and enterprises interaction

1. What questions of interaction of university and enterprises of the sector do you consider to be most important? Choose no more than three options:

   a) research and development (R&D);
   b) development of training courses and material and technical basis of the university;
   c) conducting of internships and thesis projects;
   d) improvement of qualification of specialists of enterprises;
   e) career- guidance work;
   f) your variant _____

2. For which of the areas in question 1 do you apply more often to university departments (List the appropriate paragraphs): _____

3. Do you consider it is necessary to develop a list of problems (a book of problems from industry), which would appropriately be solved within the thesis project?
   a) Yes, this list is essential, because the subject of a thesis project should be formed only on the basis of the specific needs of enterprises;
   b) the development of such a list is desirable, but the specific subject of the thesis project may not consider the tasks in the list;
   c) the development of this list is useless, since the employees' idea about the thesis project can not meet the requirements of the Higher School;
   d) your variant _____

4. Which factors from your point of view can increase the number of implemented student scientific research into the industry? Choose any number of options
   a) R&D topics should be relevant to the order of the enterprise;
   b) enterprise support during work process;
   c) formation of student working groups (laboratories, project groups) for the complex accomplishment of the task;
   d) involving into the process of accomplishment not only graduates, but younger students of 3 and 4 courses;
   e) equipping university laboratories with modern equipment;
   f) your variant _____

5. Which of the following questions of the organization of internship do you find most important? (select not more than 4).
   a) conclusion of contracts with enterprises for carrying out training;
   b) decision of questions related to the residence of students at the place of training;
   c) qualification of supervisor of internship;
   d) the quality of the supervision of the student work from the enterprise;
   e) problems associated with the availability of technological and economic information, collection and analysis which is scheduled in the program of internship;
   f) the possibility of acquiring by a student of practical experience related to the technological methods gaining;
   g) the possibility of acquiring by a student of organizational and managerial skills;
   h) subject formation of individual tasks;
   i) your variant _____

6. Which of the following problems mentioned in question 5 in the organization of internship should be solved in the process of interaction between the university and the enterprise? (List the appropriate paragraphs): _____

7. Do you think that the content of curricula on special subjects is corresponded to modern level of enterprise industry development?
   a) completely corresponds;
   b) mostly corresponds;
   c) partly corresponds;
   d) does not correspond.

8. If answering the question 7 you did not select the option (a), what do you think are the most significant reasons for the lack of correspondence?
   a) lack of teacher's awareness about the technical equipment of enterprises of the industry;
   b) lack of teachers' knowledge of modern approaches to technological processes management;
   c) insufficient level of equipment of educational audiences with technical training aids;
   d) insufficient level of equipment with modern technological, test equipment and software;
   e) updating of training material and teaching publications is carried out at an insufficient rate;
   f) updating of training material and teaching publications is carried out without considering modern information;
   g) your variant _____

9. Do you consider that to improve the level of graduates one needs to strengthen the participation of enterprises in improving of educational process?
   a) yes;
   b) no;
   c) your variant _____

10. If you chose ‘yes’ in previous question, what kind of help on the part of enterprises one needs to strengthen? Choose any number of options.
   a) providing the university with free use of the equipment or its individual units;
   b) purchase of equipment, components of modern machinery and / or software within the modernization of its own industry;
   c) providing maximally all technological information if there are enqueries from the university and within the internship;
   d) conducting of training sessions by the leading specialists of enterprises;
   e) improving the quality of predegree practice management;
   f) creating the possibility of practical experience formation within the internship, including training techniques work;
   g) targeted training of freshmen (1 course specialists);
   h) specialized training for graduates of specific enterprises starting from 3-4 courses;
   i) participation of leading specialists of enterprises in the development of curricula;
   j) your variant _____

11. Which functions, including, currently performed by various units of the university, are to be combined in one department to improve the efficiency of their implementation? If you choose ‘yes’, underline any number of options.
   a) work assignment of graduates;
   b) organization of internship;
   c) coordinating with enterprises promising topics of research works;
   d) research and development supervision under direct contracts with enterprises;
   e) coordinating of plans for improvement of qualification courses;
   f) coordinating of contents of educational disciplines of the first and second stages of learning;
   g) career-guidance work;
   h) development of e-learning plans of specialists of enterprises;
   i) material and technical equipping of the University through the enterprises aid;
   j) your additional variant _____
   k) I think that combining multiple functions into a single department is unnecessary as it will reduce the effectiveness of their implementation.

12. In case of combining not all of the functions do you consider that it is necessary to create a separate department, acting as a "one stop principle" for all stakeholders calls for interaction with enterprises?

    a) yes, it is necessary;

    b) no, but the function of "one stop principle" can perform one of the existing departments;

    c) no, in the formation of "one stop principle" is unnecessary;

    d) your variant _____

13. Indicate which issues related to the interaction of universities and the enterprises, from your point of view, were not mentioned in this questionnaire

    _____

    _____

    _____

    _____

Tempus	STUDENTS' QUESTIONNAIRE on the matters of universities and enterprises liaison

Year:_____

Specialty:

a) technological

b) economic

Basing on your internship, answer the following questions:

1. The level of your education from your point of view corresponds to demands of modern industry as:
   a) completely corresponds;
   b) partly corresponds, but I can improve it in the process of my work in industries;
   c) does not correspond;
   d) your variant _____

2. Do you agree that the content of special disciplines studied at the university, corresponds to the modern state of industry:
   a) yes, completely corresponds;
   b) partly corresponds, lecture material contains partially outdated information;
   c) partly corresponds, lecture material contains information that advances the level of industrial development;
   d) does not correspond, training courses are completely divorced from reality;
   e) your variant _____

3. What changes of the educational process from your point of view can eliminate the gap between the knowledge acquired and industrial requirements (indicate not more than 4 options):
   a) renewal of the lecture material;
   b) equipping of laboratories with modern machines;
   c) equipping of the classrooms with multimedia equipment;
   d) renewal of modern literature in library stock;
   e) increasing the number of studies at enterprises;
   f) regular increasing of professional skill level of high educational staff;
   g) improvement of the psychological climate in the classroom during the lessons;
   h) your variant _____

4. Do you think that not only the special courses, but also educational and technical disciplines must develop in accordance with the requirements of industry:
   a) yes, it is a must;
   b) partially: the content of general education disciplines (mathematics, physics, etc.) should remain unchanged, while the technical courses (theoretical mechanics, machine parts) must meet the requirements of the specialty and industry;
   c) no, these disciplines should not be changed;
   d) your variant_____

5. Where, from your view, the student can gain practical experience for working in industry in the future?
   a) during laboratory work and teaching training at the university;
   b) during laboratory work at the university, and within training in industrial conditions;
   c) only within the internship
   d) practical experience can be received only in work process at the enterprise after graduation;
   e) your variant_____

6. Are you satisfied with the guidance of work-experience internship on the part of the university:
   a) yes, completely;
   b) yes, partly;
   c) to the most extent satisfied;
   d) no, not completely satisfied;
   e) your variant_____

7. If answering the previous question you selected the option (a), specify what you are not satisfied in the training guidance on the part of the university? Indicate any number of options:
   a) training adviser from the university did not assist in the process of internship;
   b) the consultation of the adviser from the university while sending to the training was not well-defined;
   c) methodical instructions on internship contain requirements that are not understood by the specialists of the enterprises;
   d) the content of the report specified in the methodical instructions on the internship is not well-defined;
   e) during of internship it was impossible to contact the guidance for consultations on problem questions;

f) housing question had not been previously agreed;
g) the contract of the traineeship was not signed with the enterprise beforehand;
h) your variant_____

8. Are you satisfied with how the guidance of the internship carried on the part of the enterprise:
   a) yes, completely;
   b) yes, partly;
   c) to the most extent satisfied;
   d) no, unsatisfied completely;
   e) your variant _____

9. If answering the previous question you did not select the option (a), specify what you are not satisfied in training guidance on the part of the enterprise? Indicate any number of options:
   a) the internship leader from the enterprise did not have enough time to assist;
   b) I was not provided with housing;
   c) provided housing was in poor condition;
   d) I was denied a portion of the requested information required for report;
   e) single source of information, has not been determined to obtain it in full I had to address many enterprise specialists;
   f) conditions for my acquisition of practical experience of industrial activity were not created;
   g) only minor part of the internship was spent on the direct study of the industry, basically the internship was limited to collecting of information in departments;
   h) your variant_____

10. Did they discuss during the internship the question of the future work assignment to the enterprise?
    a) yes, we discussed upon my initiative;
    b) yes, we discussed upon the initiative of the enterprise's staff;
    c) no, we did not discuss it;
    d) your variant_____

11. Are you interested in the work assignment to the enterprises, which hosted one of the internship?
    a) yes;
    b) no;

c) I have not thought about the question of the work assignment;
d) your variant_____

12. If you chose (b) to the previous question, please indicate reasons (no more than five) of your reluctance to work at the enterprise in the future
    a) low salary;
    b) bad psychological climate at the enterprise;
    c) low industrial standards;
    d) outdated technological equipment;
    e) lack of career growth;
    f) graduate reviews assigned to the enterprise in the past years;
    g) poor infrastructure of the residential place;
    h) distances of the residential place to my hometown;
    i) poor living conditions created for young professionals;
    j) your variant_____

13. While internship did you feel the presence of the liaison between the university and the enterprise?
    a) yes, the enterprise is actively cooperating with the university in some areas;
    b) I did not feel the liaison of university and enterprise with the except for matters relating to my internship;
    c) no, there is no liaison;
    d) your variant_____

14. Do you consider it is necessary to have the department at the university where you could turn on the matters related to the liaison with enterprises?
    a) yes, that makes sense;
    b) no, if necessary I will contact the professorial department;
    c) your variant_____