

Nazarbayev Intellectual Schools Graduates' opinions as a factor of validity in the development of educational processes and assessment of learning outcomes

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The opinion of school leavers and higher education graduates has the potential to provide institutions with significant qualitative data with which to reflect on the relative success of their students' learning journeys, both in terms of the quality of their education and the validity of methods used to assess learning outcomes. Analyzing data relating to students' educational preparation for university and their subsequent experience of higher education will provide:

1. An accumulation of detailed information relating to students' pedagogical experiences.
2. The relevance of these results with regard to a students' subsequent performance in higher education and preparations for future careers.

The case-study presented here examines the experience of students who have studied at 6 Nazabayev Intellectual Schools (NIS) in the Republic of Kazakhstan (at least 458 responses from undergraduates enrolled on degree programs at the different universities across the Republic of Kazakhstan have been received). Each was questioned on their satisfaction with, and perceived relevance of the education received at their NIS school and also the education they are currently receiving at their chosen University.

Criteria used for the design of each student's questionnaire included: recent academic and extracurricular achievements at their chosen university; specific factors characterizing an individual's academic experience at their chosen university; NIS results used to obtain their place at university; satisfaction with their NIS education; examination results obtained at their NIS school; perceived relevance of their NIS education. The questionnaire was delivered by means of an online survey.

Introduction

In a special report on higher education in the framework of the common project of the Ministry of Education and Science of Kazakhstan and the World Bank as part of the project of the Joint Economic Research Program of the Republic of Kazakhstan (2007) it was mentioned that "even the best system of higher education is not able to ensure the competitiveness of the country, if the education is not pertinent at early levels". Therefore, it is expedient for schools to provide feedback about their graduate's satisfaction with the quality of educational services. Under the educational services, we mean content of curriculums, educational, research and extracurricular activities, as well as appropriate environment for training.

It should be mentioned that graduates estimation is one of the recognized valid indicators which reflects the quality characteristics of the educational process and which is used in many international rankings (for example Quality Assurance Agency for Higher Education, QAA). As it was mentioned by Tricker "The student experience has become an important dimension in the measurement of quality of education" (2003).

In this matter, satisfaction with higher education can be expressed by positive emotional state of students as a result of the high level of educational activities, which allows students to solve theoretical and practical educational tasks effectively in obtaining the profession.

Thus, opinion poll of graduates allowed to:

- Gather information on relevant training, consistency and providing graduates of NIS with access to quality higher education and the labor market;
- Study of some characteristics of quality of educational services provided by universities of the Republic of Kazakhstan.

Methodology

The method of research was an online survey of graduates (resource - limesurvey.com), studying in universities of the Republic of Kazakhstan. The questionnaire included 20 questions, which were divided into several criteria and reflected:

1. Satisfaction with the content of curriculum;
2. Satisfaction of graduates with academic environment of universities;
3. Satisfaction of graduates with the contribution of teaching staff into the educational process;
4. Personal, social and professional development opportunities of graduates;
5. Review of the views of respondents characterizing university education by means of open-ended questions.

Along with this the survey results provide information about the characteristics of the respondents. The survey was carried out in the period from 5 to 19 June, 2015.

The total number of respondents who participated in a survey is **458 graduates** of the Nazarbayev Intellectual Schools. Graduates of six Nazarbayev Intellectual Schools (Astana, Kokshetau, Semey, Taldykorgan, Uralsk, Ust-Kamenogorsk) took part in survey.

Respondents who participated in survey presented **25 universities** of the Republic of Kazakhstan (two of the respondents did not want to specify the University in which they studied).

Among the respondents there graduates were 12 people of 2010, 2011 - 31 people, 2012 - 91 people, 2013 - 156 people, 2014 - 168 people.

All of them get full-time higher education.

As recommended by Fieger, for analytical purposes simple satisfaction means were used in this survey. It was stated in his work that “this methodology can easily be applied retrospectively to historical data and applied to future survey results with minimal effort” (Fieger, 2012).

The results of the sociological survey were represented in a special detailed analytical report of the Center for Educational Measurement. This article provides an overview of the main results and conclusions.

Results and Findings

As the subject of the survey is the satisfaction of graduates with educational services of the whole Kazakhstan universities and estimation of validity of training in Nazarbayev Intellectual Schools, this survey was not aimed at gradation of data for each individual university. In the meantime, the survey allowed determining the integral index of the average grade level of satisfaction of graduates of NIS with educational services provided by Kazakhstan universities they study in.

In this regard, the presentation of results of the survey was carried out broken down by group of universities, which have been combined by the level of satisfaction with graduates of NIS according to the degree of preference of the University (see Table 1).

Table 1 - Distribution of respondents by groups of universities

Group	Interval of satisfaction level, %	Group description	Group total, people
Group 1	above 80	This group was represented by a single university, which has the highest level of satisfaction with the quality of educational services as a result of survey. The highest satisfaction has a	169

		reasonable justification, given the continuity of learning models in NIS and in the University, as well as a major share of NIS graduates enrolled in it.	
Group 2	from 70 up to 79	Group 2 included three universities demonstrating above average level of satisfaction.	65
Group 3	from 60 up to 69	Group 3 was formed from four universities, which included 65 respondents showed an average level of satisfaction.	65
Group 4	below 60	Group 4 presented the views of 126 respondents enrolled in 4 Kazakhstan universities, degree of satisfaction with educational services of which can be classified as below average .	126
Group 5	Nonrepresentational group	The last group 5 combined universities for which data are not representative because the number of respondents is less than 1% of the total number of the survey participants. Their views were taken into account when assessing the overall situation of Kazakhstan universities and analyzing quality indicators. However, it can not be used in assessing the situation in terms of presented groups.	31

Figure 1 shows the averages in the context of the level of satisfaction in the earlier study in NIS, now for each group of universities on all surveyed characteristics.

As seen in Figure 1, the lowest level of satisfaction among graduates is marked on the indicators characterizing the **content of curriculum of universities**. Satisfaction with the content of curriculum based on the total sample of respondents is observed in average of only 59% of graduates, in partial satisfaction of approximately 25%; others show a low degree of satisfaction (10.6%) or find it difficult to answer (3.7%). Analyzing variables of individual aspects of the content of curriculum, low level of criteria should be mentioned: choice of subjects - 42.8%; level of disciplines catalogue renewal in the university - 47.2%; the possibility of learning certain subjects in English - 38.4%.

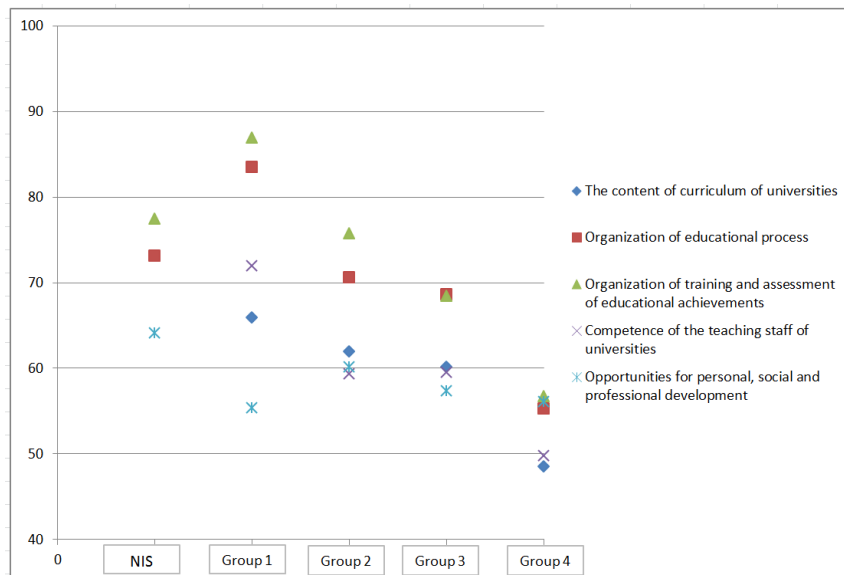


Figure 1.

Organization of educational process provides for: an optimal training load; the possibility of project work and research on modern trends (nanotechnology, biotechnology and robotics); extracurricular activities of the university; individual educational path with a choice of courses and teachers; qualified English-speaking environment; training practices and other. Questions and answers on the organization of the educational process show a high satisfaction with this process in group 1 (83.5%), whereas in group 4, the index is only 55.3%. In particular, the most critical parameters (more than 50% of dissatisfaction) on group 4 were found by the following factors: the

opportunity to perform project work and research in the laboratories of modern directions of nanotechnology, biotechnology, robotics, etc.; support for all stages of education at a distance; having a choice of courses and teachers.

Organization of training and assessment of educational achievements have been studied by the influence of factors such as: orientation of training on the development of a wide range of skills (academic writing, public speaking skills, critical thinking, creative thinking, research skills and activities, language skills, problem solving, etc.); providing with clear and understandable assessment criteria; conformity of assessment requirements with the curriculum, etc. The degree of satisfaction of respondents in group 1 and other higher educational institutions of our country are very different. The difference between the highest (86.9%) and the lowest (56.5%) findings is 30.2%, indicating to the low level of the organizational learning process and system of control of students educational achievements. Thus, in group 1 on average 87.2% of graduates are satisfied by the assessment of educational achievements; group 2 - 78.4%; group 3 - 71.8%; group 4 - 59.8%. The degree of dissatisfaction with this indicator in universities is as follows: 1.8%, 6.2%, 6.7% and 15.9% in the respective groups.

In view of the foreground development of university teacher training development system the practical interest for the organizers of the survey was the question: how do the graduates of NIS evaluate **professional skills of the teaching staff of universities**. The results show that the students in group 1 have rather positive view of the level of professional activity of its university teaching staff - 71.9%, whereas only half of university students of group 4 is satisfied with the professional skills of their teachers (49.8%). Among the indicators characterizing the lowest degree of satisfaction in terms of groups, we can mention the frequency of recurrence of such factors as the introduction of ICT in teaching (52.4%), the level of the skills and techniques for effective teaching (57.9%), the degree of renewal of educational materials (59.4%) and the level of interaction with the students (60.5%).

The results of analysis of the indicators of success of training in NIS and universities, show insufficient **opportunities for personal, social and professional development** provided to graduates of NIS. In the context of the groups there is equitability of results. In this section the group 2 takes the leading position. In other groups there is the difference in the range of +/- 2%. The respondents answers indicate low level of all respondents in terms of participation in the academic competitions of different levels for all groups of universities. Consequently, among the graduates of NIS significantly low level of satisfaction was mentioned concerning participation in the Olympiads, competitions of regional, international and university levels.

In turn, the survey of the level of satisfaction in a comparative perspective between the NIS and universities shows that most of the students showed sufficiently high level of satisfaction with the quality of curriculum, organization of training and assessment of educational achievements in the NIS (75.3%). The findings show the highest activity of graduates in the field of personal and social development, as well as research activities (72.6%) in the walls of the Nazarbayev Intellectual Schools.

Determination of the level of readiness of graduates for future careers is one of the most important indicators of the system of higher education. Thus, considerable practical interest is the question of the level of self-assessment of professional readiness and employment prospects of graduates (Figure 2). Respondents were asked to rate each statement that reflects their level of readiness for the future professional activity on a scale of 1 (low) to 5 (high).

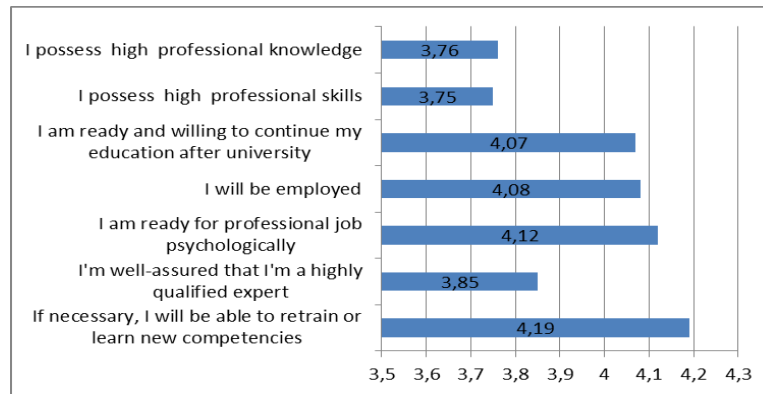


Figure 2. Average of self-assessment on the level of readiness for professional work after graduation

This question was answered only by students of final years, where the highest average score of 4.19 was given to thesis "If necessary, I will be able to retrain or learn new competencies", which shows the willingness and awareness of the idea of life-long learning by graduates. As can be seen from the data respondents do not fully evaluate highly those statements which characterize their own professional knowledge, skills and qualifications of the expert. At the same time, statements concerning their own motivation and emotional state get enough self-assessment.

Respondents were asked to explain the high level of evaluation in this paragraph by the possible causes from the list (Figure 3). Thus, we found out that a high level of evaluation of the statement is explained by almost close degree of the level of knowledge gained in the NIS (38.7%) and the level of knowledge gained in high school (33.2%). At the same time, the readiness to professional activity, according to respondents, is due to other causes: 18.8% rank this to own academic success; 20.1% of respondents indicated other internal reasons which are, in our opinion, adequate perception of reality by graduates.

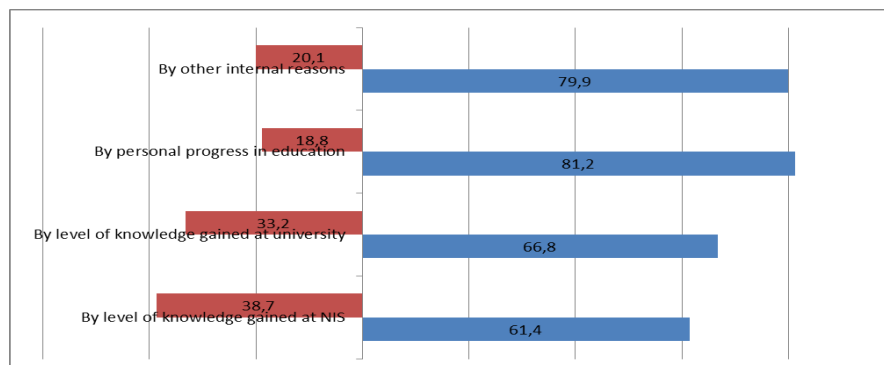


Figure 3. Factors influencing the high level of self-assessment of readiness for professional work as viewed by graduates

Analyzing the respondents answers, where they argue their opinions on the strengths and weaknesses of their universities, we can conclude that the quality of education is a priority almost for all respondents. For graduates of NIS getting quality knowledge, social and civic activity of the individual, the struggle against negative phenomena in society are vital and play an important role in their life.

Respondents opinion survey, describing the University by means of open-ended questions:

1. On the question, "If I had the opportunity to re-select the university, I would ..." (Table 2).

Table 2. The average percentage of graduates willing to continue their study in their own university/change university/study abroad

Change the major	Would study abroad	Would choose another University	Would stay in the University he/she studies in
3,3%	17,3%	34,3%	45,1%

The greatest numbers of respondents believe that their choice was deliberate and mention that would remain in his/her university (45.1%). A certain number of respondents would choose to study abroad (17.3%). Analysis of the results shows that most of the graduates are confident in their choices.

2. Answers to the question "Education in this university gives me the opportunity to ..." was analyzed by means of lexical analysis. In this regard, responses were ranked as the frequency of use (Figure 5).



Figure 5. Opportunities given by the University

The analysis allows us to formulate conclusions that employment opportunities for graduates is of the highest priority. Getting professional skills, high qualification of teachers, the opportunity to get an education, career prospects, the demand for his specialty, the opportunity to study in English is also important for the graduates. Graduates also mention the possibility of further development, motivation to be successful, the possibility of continuing their education in prestigious universities abroad.

3. To the question "Does University education promote the further development of the education provided by the NIS?" (Table 3), the majority of respondents answered positively. However, in the range of 15.4% to 25.4% of respondents believe that university education does not promote to further development of the knowledge acquired in school or find it difficult to answer.

Table 3. Possible answers to the question "Does University education promote the further development of the education provided by the NIS?", %

Group	Total, people	Yes	No	No answer
1	169	84,6	3,0	12,4
2	65	78,5	1,5	20,0
3	65	80,0	4,6	15,4
4	126	74,6	9,5	15,9

For a complete disclosure of the findings of the above issue graduates were asked to indicate the reasons for their answers. An interesting, and already obvious fact is that most of the graduates

believe that the strong language training has become a solid base for further learning. Most of them believe that the knowledge acquired in the NIS are fundamental, and no matter whether they have changed the direction of the profile, in-depth knowledge acquired on the school curriculum in all subjects promotes to be successful in university. Some of them emphasize the teaching in the NIS subjects such as mathematics, physics, including the possibility of learning them in English. Respondents with positive answers state in their comments, that university education, certainly contributes to the further development of the knowledge gained in school.

Analysis of comments of respondents who believe that university education does not promote further development of the knowledge gained in the NIS shows that requirements were higher and requirements to the level of knowledge that students must master were extended.

Respondents who find it difficult to give a definite answer in the comments also indicate the causes, the most common of which is change of profile training in high school, a low level of English language teaching. However, some of the graduates believe that everything depends on their efforts in order to keep up their knowledge.

The analysis of responses shows that the knowledge that graduates got in the NIS in general continues to evolve during their stay in university, especially when graduates enter Universities, training policy which corresponds to the policy of training in the NIS, where the organization of the educational process, material and technical basis, contingent faculty and opportunities for personal development is consistent with international standards.

Conclusion

In general, statistics show mixed responses on satisfaction of graduates with organization of the educational process of their universities. The vast majority of graduates find that their expectations of the quality of educational programs are met partially. In contrast, most respondents expressed a high degree of satisfaction with the quality of secondary education acquired in the NIS. A detailed analysis of the survey of graduates allows us to formulate some general conclusions:

1. 4 groups of universities with varying degrees of satisfaction of educational services quality were identified based on empirical data: the highest (over 80%), above average (70% -79%), average (60% - 69%) and below average (below 60%).
2. There is a high level of expectations of the NIS graduates from training in universities, they appreciate the quality of educational process and specify significant requirements for all aspects of university services from the image to the continuity of the labor market. The data obtained allowed us to identify priority areas for graduates in the teaching process of the university, where quality of education, qualified teaching staff (including foreign teachers) opportunity to study in English, and the subsequent employment are of great importance.
3. Graduates show a positive self-assessment of their own level of language proficiency, their answers reflect maturity of their specific educational and professional goals, research skills, critical and creative thinking largely due to high-quality secondary education.
4. Contrast responses received to open-ended questions suggest the explanation that the state of education in universities varies considerably. Universities vary greatly in quality of educational process, material and technical equipment, organization and management of education and the degree of tolerance for corruption.
5. The lowest level of satisfaction among graduates is marked on the indicators characterizing the content of educational programs of universities in terms of academic planning, the choice of language of instruction, research and practical activities of graduates
6. Among the indicators that reflect the qualitative composition of the teaching staff in universities, the lowest level of satisfaction within the groups was marked on such factors as the introduction of ICT in teaching; the use of new technologies; level of skills and techniques for effective teaching; level of renewal of teaching materials; level of interaction with students and the quality of teaching lectures, practical, laboratory classes and seminars.

7. Along with the quality of educational programs, also the opportunities offered by the University for personal, social and professional development, as well as other opportunities to be successful are important for graduates.

8. As it turned out as a result of the analysis, level of readiness for future careers of graduates was evaluated quite highly (4.19 on a 5-point scale) by them mainly in relation to psycho-emotional component, with belief that, if necessary, they would be able to retrain or acquire new competencies. However, most of them associate it with the level of knowledge gained in the NIS (38.7%). However, the level of professional knowledge, skills and competencies were evaluated comparatively lower.

9. Education gained in the NIS may be considered valid in relation to the requirements of the system of higher education, and in some cases superior to the needs and circumstances of some Kazakhstan universities.

The problem of satisfaction with the quality of higher education was the subject of an independent review in this survey due to the fact that the management of AEO is concerned with contradiction between the level achieved by graduates of NIS and quality standards of Kazakhstan higher education system. The necessity to form continuity of secondary and high school raises a number of practical problems such as improving the quality of educational services provided by universities in the sphere of learning environment, curriculum, research and extracurricular activities.

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