



© В. И. Курко, Е. А. Евсеенко, Е. В. Малахова, Н. П. Копцева

DOI: [10.15293/2226-3365.1706.01](https://doi.org/10.15293/2226-3365.1706.01)

УДК 373.68 (571.56-81)

ВЫБОР КАРЬЕРЫ ДЕТЬМИ КОРЕННЫХ НАРОДОВ СЕВЕРА, УЧАЩИХСЯ В СТАРШИХ КЛАССАХ СРЕДНЕЙ ШКОЛЫ РЕСПУБЛИКИ САХА (ЯКУТИЯ)*

В. И. Курко, Е. А. Евсеенко, Е. В. Малахова, Н. П. Копцева (Красноярск, Россия)

Проблема и цель. В статье представлено исследование факторов, определяющих выбор карьеры детей коренного народа Севера – эвенков, учащихся старших классов средних общеобразовательных школ, расположенных в экстремальных климатических и ландшафтных зонах на территории Республики Саха (Якутия). Цель статьи – определить основные факторы, влияющие на выбор карьеры детьми – представителями коренных малочисленных народов Севера, Сибири и Дальнего Востока.

*Исследование выполнено при поддержке краевого государственного автономного учреждения «Красноярский краевой фонд поддержки научной и научно-технической деятельности» в рамках реализации проекта № 2017022301419 «Традиционный образ жизни коренных малочисленных народов Севера Красноярского края и адаптация молодежи к современным условиям индустриализации».

*Исследование выполнено в рамках регионального конкурса отделения гуманитарных и общественных наук РФФИ «Российское могущество прирастает будет Сибирью и Ледовитым океаном» 2017 – Красноярский край при поддержке краевого государственного автономного учреждения «Красноярский краевой фонд поддержки научной и научно-технической деятельности». Проект «Развитие и воспроизводство человеческого капитала – основа для улучшения качества жизни коренных малочисленных народов Севера и Арктики Красноярского края в условиях традиционного природопользования» № 17-16-24004.

*Исследование выполнено при поддержке краевого государственного автономного учреждения «Красноярский краевой фонд поддержки научной и научно-технической деятельности» в рамках реализации проекта: «Декоративно-прикладное искусство коренных малочисленных народов Красноярского края: современное состояние, перспективы развития».

Курко Владимир Игоревич – доктор физико-математических наук, кафедра технологии и предпринимательства, Красноярский государственный педагогический университет им. В. П. Астафьева, кафедра рекламы и социально-культурной деятельности, Сибирский федеральный университет.

Е-mail: director.nifti@mail.ru

Евсеенко Екатерина Андреевна – ассистент кафедры географии и методики преподавания географии, Красноярский государственный университет им. В. П. Астафьева.

Е-mail: vsinka666@gmail.com

Малахова Екатерина Валерьевна – специалист по инновационной деятельности, научно-исследовательский отдел, Красноярский государственный педагогический университет им. В. П. Астафьева.

Е-mail: malkaterok@mail.ru

Копцева Наталья Петровна – доктор философских наук, кафедра культурологии, Сибирский федеральный университет.

Е-mail: decanka@mail.ru



Методология. Исследование проводилось на основании полевых работ на территории Республики Саха (Якутия). В ходе полевых исследований 2016 года была апробирована методика по выявлению корреляции выбора карьеры старшеклассниками, желаниями их родителей и мнением учителей. Применение этой методики позволит выявить существование или отсутствие реальных противоречий во влиянии родителей и учителей на выбор карьеры учащимися старших классов.

Результаты. Делается вывод о степени влияния родителей и учителей детей коренных народов Севера. Родители этих детей ведут традиционный образ жизни и занимаются традиционной экономикой (охотой, кочевым оленеводством, рыбной ловлей). Учителя школы также проживают на территории Арктики в экстремальных условиях и оказывают большое влияние на формирование образов успешности у школьников старших классов.

Заключение. Проведенные комплексные исследования показали, что в постсоветской России усиливается территориальная и экономическая образовательная дифференциация школьников. Условия получения среднего образования и повседневный опыт школьников из числа коренных народов Арктики недостаточны, чтобы выбор карьеры был свободным и соответствовал бы собственным представлениям школьников о содержании успешной жизни.

Ключевые слова: выбор карьеры; коренные народы Арктики; Сибирь; эвенки; образование; профессиональная ориентация.

СПИСОК ЛИТЕРАТУРЫ

1. Anyo G., Brunekreef B., De Meer G., Aarts F., Janssen N. A. H., Van Vliet P. Early, current and past pet ownership: associations with sensitization, bronchial responsiveness and allergic symptoms in school children // *Clinical & Experimental Allergy*. – 2002. – Vol. 32, Issue 3. – P. 361–366. DOI: <https://doi.org/10.1046/j.1365-2222.2002.01254.x>
2. Arcidiacono P. Ability sorting and the returns to college major // *Journal of Econometrics*. – 2004. – Vol. 121, Issue 1-2. – P. 343–375. DOI: <https://doi.org/10.1016/j.jeconom.2003.10.010>
3. Armitage D., Berkes F., Dale A., Kocho-Schellenberg E., Patton E. Co-management and the co-production of knowledge: Learning to adapt in Canada's Arctic // *Global Environmental Change*. – 2011. – Vol. 21, Issue 3. – P. 995–1004. DOI: <https://doi.org/10.1016/j.gloenvcha.2011.04.006>
4. Astin A. W. What matters in college: Four critical years revisited. – San Francisco: Jossey-Bass, 1993. [Google Scholar](#)
5. Bernabe E., Icaza J. L., Delgado-Angulo E. K. Reasons for choosing dentistry as a career: a study involving male and female first-year students in Peru // *European Journal of Dental Education*. – 2006. – Vol. 10, Issue 4. – P. 236–241. DOI: <https://doi.org/10.1111/j.1600-0579.2006.00422.x>
6. Brown M. M. Caribbean first-year teachers' reasons for choosing teaching as a career // *Journal of Education for Teaching*. – 1992. – Vol. 18, Issue 2. – P. 185–195. DOI: <https://doi.org/10.1080/0260747920180207>
7. Cullen J. B., Jacob B. A., Levitt S. D. The impact of school choice on student outcomes: an analysis of the Chicago Public Schools // *Journal of Public Economics*. – 2005. – Vol. 89, Issue 5-6. – P. 729–760. DOI: <https://doi.org/10.1016/j.jpubeco.2004.05.001>
8. Galotti K. M., Ciner E., Altenbaumer H. E., Geerts H. J., Rupp A., Woulfe J. Decision-making styles in a real-life decision: Choosing a college major // *Personality and Individual Differences*. – 2006. – Vol. 41, Issue 4. – P. 629–639. DOI: <https://doi.org/10.1016/j.paid.2006.03.003>



9. **Ginzberg E.** Toward a theory of occupational choice: A restatement // *The Career Development Quarterly*. – 1972. – Vol. 20, Issue 3. – P. 2–9. DOI: <https://doi.org/10.1002/j.2164-585X.1972.tb02037.x>
10. **Greene M. J.** Gifted adrift? Career counseling of the gifted and talented // *Roeper Review*. – 2003. – Vol. 25, Issue 2. – P. 66–72. DOI: <https://doi.org/10.1080/02783190309554201>
11. **Hays R. B.** Choosing a career in general practice: the influence of medical schools // *Medical education*. – 1993. – Vol. 27, Issue 3. – P. 254–258. DOI: <https://doi.org/10.1111/j.1365-2923.1993.tb00265.x>
12. **Holland J. L.** Making vocational choices: A theory of vocational personalities and work environments. – Odessa: Psychological Assessment Resources, 1997. [Google Scholar](#)
13. **Jacobs J. A., Ahmad S., Sax L. J.** Planning a Career in Engineering: Parental Effects on Sons and Daughters // *Social Sciences*. – 2017. – Vol. 6, № 1. – P. 2. DOI: <https://doi.org/10.3390/socsci6010002>
14. Karron R. A., Singleton R. J., Bulkow L., Parkinson A., Kruse D., DeSmet I., Indorf C., Petersen K.M., Leombruno D., Hurlburt D., Santosham M., Harrison L. Severe respiratory syncytial virus disease in Alaska Native children // *The Journal of infectious diseases*. – 1999. – Vol. 180, Issue 1. – P. 41–49. DOI: <https://doi.org/10.1086/314841>
15. **Kirko V. I., Malakhova E. V., Pack N. I.** Education for the Future: New Strategies of Distance Education for the Universities of Eastern Siberia. *Turkish Online Journal of Distance Education*. 2014. Vol. 15, № 4. P. 23–33. URL: <https://elibrary.ru/item.asp?id=23994510>
16. **Koptseva N. P., Kirko V. I.** The Impact of Global Transformations on the Processes of Regional and Ethnic Identity of Indigenous Peoples Siberian Arctic // *Mediterranean Journal of Social Sciences*. – 2015. – Vol. 6, № 3 S5. – P. 217–223. DOI: <https://doi.org/10.5901/mjss.2015.v6n3s5p217>
17. **Koptseva N. P., Reznikova K. V.** Refinement of the causes of ethnic migration North Selkups based on the historical memory of indigenous ethnic groups Turukhansk district of Krasnoyarsk Krai // *Bylye gody*. – 2015. – Vol. 38, Issue 4. – P. 1028–1038. URL: http://www.bg.sutr.ru/journals_n/1449044743.pdf
18. **Lannes D., Flavoni L., De Meis L.** The concept of science among children of different ages and cultures // *Biochemical Education*. – 1998. – Vol. 26, Issue 3. – P. 199–204. DOI: [https://doi.org/10.1016/S0307-4412\(98\)00083-1](https://doi.org/10.1016/S0307-4412(98)00083-1)
19. **Montmarquette C., Cannings K., Mahseredjian S.** How do young people choose college majors? // *Economics of Education Review*. – 2002. – Vol. 21, Issue 6. – P. 543–556. DOI: [https://doi.org/10.1016/S0272-7757\(01\)00054-1](https://doi.org/10.1016/S0272-7757(01)00054-1)
20. **Stevens K. A., Walker E. A.** Choosing a career: why not nursing for more high school seniors? // *Journal of Nursing Education*. – 1993. – Vol. 32, № 1. – P. 13–17. URL: <https://www.healio.com/nursing/journals/jne/1993-1-32-1/%7Bfeaae55b-5493-49d9-8b48-27707d91bd5a%7D/choosing-a-career-why-not-nursing-for-more-high-school-seniors>
21. **Wendel T. M., Godellas C. V., Prinz R. A.** Are there gender differences in choosing a surgical career? // *Surgery*. – 2003. – Vol. 134, Issue 4. – P. 591–596. DOI: [https://doi.org/10.1016/S0039-6060\(03\)00304-0](https://doi.org/10.1016/S0039-6060(03)00304-0)



DOI: [10.15293/2226-3365.1706.01](https://doi.org/10.15293/2226-3365.1706.01)

Vladimir Igorevich Kirko, Doctor of Physics and Mathematics Sciences, Technology and Entrepreneurship Department, Astafiev Krasnoyarsk State Pedagogical University, Advertising and Socio-Cultural Activities Department, Siberian Federal University, Krasnoyarsk, Russian Federation.

ORCID ID: <http://orcid.org/0000-0002-5638-7940>

E-mail: director.nifti@mail.ru

Ekaterina Andreevna Evseenko, Geography and Methodology of Teaching Geography Department, Astafiev Krasnoyarsk State Pedagogical University, Krasnoyarsk, Russian Federation.

ORCID ID: <http://orcid.org/0000-0003-0977-3475>

E-mail: vsinka666@gmail.com

Ekaterina Valerevna Malakhova, Innovation Specialist, Astafiev Krasnoyarsk State Pedagogical University, Krasnoyarsk, Russian Federation.

ORCID ID: <http://orcid.org/0000-0003-2804-2184>

E-mail: malkaterok@mail.ru

Natalia Petrovna Koptseva, Doctor of Philosophical Sciences, Culturology Department, Siberian Federal University, Krasnoyarsk, Russian Federation.

ORCID ID: <http://orcid.org/0000-0003-3910-7991>

E-mail: decanka@mail.ru

Career choices made by middle and high schoolchildren with the main focus on representatives of indigenous peoples of the north in the Republic of Sakha (Yakutia)

Abstract

Introduction. *The article presents a study of factors that determine the career choice of indigenous children – Evenks, high school students in secondary general schools located in extreme climatic and landscape zones on the territory of the Republic of Sakha (Yakutia). The purpose of the article is to identify the main factors affecting the choice of careers for children – representatives of indigenous small-numbered peoples of the North, Siberia and the Far East.*

Materials and Methods. *The study was conducted on the basis of field work on the territory of the Republic of Sakha (Yakutia). The field research conducted on the territory of Arctic Region and the Republic of Sakha (Yakutia) resulted in an analysis of the factors defining the career choices made by the Evenk indigenous peoples' children, in particular, senior schoolchildren completing secondary general education in their respective territories located in extreme climatic and landscape zones.*

Results. *These children's parents lead a traditional life with a traditional economy (hunting, migratory reindeer breeding, and fishing). The teachers' school staff also resides in the Arctic Region territories under extreme conditions, thus, have a huge impact on the formation of images of success with senior school students. The 2016 field research resulted in approbation of methodology aimed at revealing the correlation between the senior students' career choice, their parents' opinions, and teachers' opinions. The methodology application will allow to identify whether there are parents' or teachers' impact on the career choices made by senior school students.*



Conclusions. *The completed complex research proved there to be an increase in the territorial and economic educational differentiation of schoolchildren observed in post-Soviet Russia. The conditions for obtaining secondary education and the routine experience of schoolchildren from the Arctic indigenous peoples are insufficient for guarantying their free career choice and its compliance to the students' own ideas about what a successful life contains. Political management established within the Arctic Region territories is subject to education inequality and should terminate the existing negative practices.*

Keywords: *Career; Indigenous peoples; Arctic; Siberia; Education; Research methods; Measuring scale.*

Acknowledgements

The reported study was funded by Krasnoyarsk Region Science and Technology Support Fund according to the research project № 2017022301419 "Traditional way of life of indigenous small-numbered peoples of the North of the Krasnoyarsk Territory and adaptation of youth to the modern conditions of industrialization".

The study was performed as part of the regional competition department of humanities and social sciences RFBR "Russian power will grow with Siberia and the Arctic Ocean" 2017 – Krasnoyarsk region with support by Krasnoyarsk Region Science and Technology Support Fund. The project "Development and reproduction of human capital – the basis for improving the quality of life of indigenous small peoples of the North and the Arctic of the Krasnoyarsk Territory in the context of traditional nature management" № 17-16-24004.

The reported study was funded by Krasnoyarsk Region Science and Technology Support Fund according to the research project: "Decorative and Applied Art of Indigenous Peoples of the Krasnoyarsk Territory: Current Status, Prospects for Development".

Introduction

Indigenous people of the North are undergoing a difficult period in their ethnic history. Their traditional economy and unique cultural heritage, applying specific ecological techniques in their life activity are experiencing the most severe crisis under the conditions of global transformations, the aggressive impact of mass culture, urbanization, and drastic territorial reduction for the indigenous people to freely exercise their rights on their ancestral territories, exploit the traditional nature, practice their own religion, diffuse their native language, and preserve their unique cultural heritage. The secondary industrialization processes that started 15 to 20 years ago on the Northern territories of the Russian Federation are causing a number of the most complex contradictions with the

indigenous peoples inhabiting the Northern and Arctic territories. Such contradictions include the one between the necessity to gain a secondary education (the right to free schooling is guaranteed by the Russian Constitution) and deadaptation of the school students from the indigenous peoples' children since the latter are separated from their families for the period of education, obtain modern cultural values, and lose the household skills required to survive under the severe climatic and landscape conditions in the Arctic Region and mastered by their parents and remote ancestors. In addition, each person has the right to improve their standard of living. The children of the indigenous peoples inhabiting Arctic Region have the right to freely choose their future life. The modern secondary education system shall provide the specific option for the



indigenous peoples' children living in the Extreme North conditions. The choice of their future career, future life path, and direction for future professional education seems extremely complicated among the children of the Arctic indigenous peoples. This is a choice between the traditions of their parents and ancestors and modern life, between the ecological methods of their traditional economy and all the modern possibilities that a young person has access to along with a modern city, information technology, and resources.

This survey has been completed to probe the methodology of career guidance for senior school students who belong to ethnic and cultural groups of the Arctic indigenous peoples inhabiting the Republic of Sakha (Yakutia) territories. The purpose of the survey is to analyze the possibilities of a specific methodology allowing providing a means for recording the impact produced on a senior school student by parents, teachers, as well as the student's own personal opinion formed up to the present time when a student of a senior school must consciously decide on their future life course.

Materials and Methods

The theoretical grounds for resolving the challenge of career choice and career guidance for the senior students are different concepts. The latter can be divided into several trends.

The differential and diagnostic trend was founded by F. Parsons¹, who developed the three-part formulation for choosing a vocation: 1) each individual optimally fits into one single profession on the basis of an individual's personal traits and professionally important aptitudes; 2) professional success and satisfaction with the degree of the personal traits' compliance with the

job requirements; 3) career choice is a responsible and rational process when either the person himself or a career counselor defines their individual disposition of psychological or physical qualities and matches them with already existing dispositions of various jobs requirements.

Over the course of time, psychological test theories feature changes in line with their methodological approaches. H. Münsterberg² proposed defining personal traits as the sum total of elementary performance operations. The methodological principles were aimed at the specific characteristics of muscle work, tiredness, activities coordination, accuracy, reaction time, attention, etc.

Leipzig psychological school's critical assessments caused a sufficient review of the psychological grounds for career choice. In exceptional cases only, an individual has one single quality discovered relative to a specific professional activity, thus, it is required to study complexes of individual traits correlated to the whole group of professions. Alongside aptitudes, personal traits and interests, in particular, play an important role in career success.

The basic assumption peculiar for the concept under consideration remains unchanged: the problem of career choice is resolved through "matching" the personality structure and job requirements structure. The career counselor's objective is to forecast the profession that will bring maximum satisfaction and success to a specific individual. Such a forecast is based on the test results.

This approach is limited due to the fact that the existing methods produce little accuracy in the forecast since both personal structures and professional requirements are continuously

¹ Parsons F. 1909. *Choosing a vocation*. Houghton Mifflin, 1909.

² Munsterberg H. *Psychology and industrial efficiency*. A&C Black, 1998



modifying in line with technologies and economic dynamics.

The second trend, which is the opposite of the first one to a certain degree, can be referred to as the psycho dynamic trend. The basic assumption of the psycho dynamic trend declares that the central role in deciding on a career and profession is played by various forms of demands starting with vital instincts through to the complex psycho dynamic mechanisms and structural elements of a personality. Thus, S. Freud³ considered professional activity as a form of satisfying the early infant appetites by way of channeling the latter into one or another professional area of libido energy. S. Freud understands career choice as a sublimation process.

These provisions are outlined in the framework of the operotropism theory developed by U. Moser⁴. Career choice is regarded as an attempt to find a solution for a specific topic of a conflict in one's professional life. In the case that such a solution is of a protective nature, the drive is not satisfied. Alternatively, self-esteem is changed resulting in a perceived escape from the situation or identification of a threat. In the case of an Ego-destructive operotropism, the behavior regresses to a more primitive form. The third form of operotropism is sublimation, where the drive is controlled by the Ego and even when the protective mechanism is not sufficient, the adaptation factor augments, and frustration aggressiveness is redirected toward searching and

reconstructing the object of the professional activity. The forth form is a union of the three above forms, called integral operotropism, to reflect the variety of all levels in solving the specific topic of the conflict for a specific individual⁵.

Moser and his followers' concept yields grounds to criticisms since the main notions of this theory (sublimation, Ego, identification, and others) lack sufficient operationalization, which limits the scope of their application. Applying methods of psycho dynamical theories does not guarantee the absence of arbitrary interpretations. Empiric results can be interpreted with no psychoanalytical concepts applied.

The theory developed by A. Roe⁶ is close with regard to this trend. A. Roe identifies eight groups of professions characterized by a specific type of relationship between children and their parents. However, a multitude of empiric research revealed no sufficiently close relationship between the type of such childhood relations and success in the specific professional area⁷.

The third trend is decision theories focused on studying the process of a vocation choice. According to the theories, vocation choice is considered in a more common context, as a guidance system in numerous vocational alternatives and final decision making⁸.

The fourth trend involves development theories mainly related to the educational process, which predetermines its synthetic nature. In the 1920-ies, E. Spranger⁹, Ch. Bühler¹⁰, and other

³Freud S. *Introductory lectures on psychoanalysis*. WW Norton & Company, 1977.

⁴Moser U. *Psychologie der Arbeitsstörungen*. Huber, 1953.

⁵ Moser U. Zur psychoanalytischen Theorie der Berufswahl: Sublimierung, Identifizierung und berufliche Identität, *Psychologie. Schweizerische Zeitschrift für Psychologie*. 1963. Vol. 1. P. 1–18.

⁶Roe A. *The psychology of occupations*. New York, NY, John Wiley & Sons, 1956.

⁷Siefert K. H. Theorien der Berufswahl und der beruflichen Entwicklung. K.H. Seifert, H.H. Eckhardt, W. Jaide. *Handbuch der Berufspsychologie*. Göttingen, 1977, pp. 173–279.

⁸Tiedeman D. V., O'Hara R. P. *Career Development: choice and adjustment*. Princeton, College Entrance Examination Board, 1963.

⁹ Spranger E. *Psychologie des Jugendalters*. Quelle & Meyer, Leipzig, 1924.

¹⁰ Bühler C. *Das Seeleben des Jugendlichen*. G. Fischer, 1929.



researchers proved that one of the main characteristics of adolescence is career choice. E. Ginzberg [9] defined vocational choice as a long-term process continuing over ten years and including a number of interrelated solutions. This is an irreversible process since the earliest solutions limit further possibilities and it ends up with a compromise between external (range, prestige) and internal factors.

A special place in professional development theories is given to the typological theory by J. Holland [12] based on analysis of a person's environmental fit. The process of professional development is limited by the following: 1) individuals defining themselves as the personality type they refer to; 2) searching for an occupational sphere corresponding to this type; 3) selecting one out of four qualification levels from this occupational sphere, which is defined by the development of intellect and self-esteem. The main focus is on describing the personality types that characterized as drive, intellectual, social, adaptation, aesthetic, and striving for power.

Many criticisms of typological theory are related to its most sensitive aspect that is the principle based on which a priori the construction of this or that type is made. An actual individual often does not fit any of the personality types related to specific occupational spheres.

The modern classification of career choice theories is related to the division of all theories into three large-scale groups:

1) theories focusing on objective factors (material benefit, salary, social prestige, opportunities for career growth, etc);

2) theories focusing on subjective factors (reputation, status, etc.);

3) critical contact theories where the main factor is direct contact between people and organizations to make decisions on choosing the place of work or education.

Various vocational choice theories form the grounds for narrower research trends a huge part of which is for studying the process of vocational choice by school students, including senior students of secondary schools.

M. Borchert¹¹ completed the research based on the questionnaire poll covering about 200 senior school students. He concluded that career guidance should start from the first years of school education and that students must understand the complicated and contradictory nature of their vocational choice. M Borchert underlines the huge influence produced on school students' vocational choice by their parents and believes this process should be specially organized.

The fact that organizing the students' responsible career choice requires special effort on the part of the community of students, teachers, parents, federal, and local authorities is obvious for the majority of modern cities inhabitants. Global transformations are bringing new forms and new content into this process [15]. Indigenous peoples of the North inhabiting the territory of the Russian Federation live under specific climatic and landscape conditions and they lead a traditional lifestyle with a traditional economy¹² [16–17] et other. Children residing in the Arctic Region need institutional support for their rights to modern quality schooling¹³, ¹⁴ [1; 3]. Vocational choice for children belonging to the

¹¹ Borchert M. *Career choice factors of high school students* (Doctoral dissertation, University of Wisconsin-Stout), 2002

¹² Koptseva N. P., Kirko V. I. Specificity of ethnogeny indigenous peoples by Central Siberia in the transition from the traditional type of society to modern society. *Life Sciences Journal*, 2014, vol. 11, no. 7, pp. 409–413.

¹³ Peary M. J. D., Peary M. A. *Children of the Arctic*. FA Stokes Company, 1903.

¹⁴ Brant C. S., Hobart C. W. *Sociocultural conditions and consequences of Native education in the Arctic: A cross-national comparison*. Indian-Eskimo Association of Canada, 1970.



indigenous peoples and having health problems caused by the severe climatic and landscape conditions of their traditional life is to be supported by professional medical consultations¹⁵. Vocational choice can be presumed to be limited by routine experience endured by indigenous peoples' children. Thus, it is unlikely they may have the idea of modern scientists similar to that which is formed with children residing in other territories and aware of the basis of scientific activity. There exists a specific relation between the "scientist's image" and choosing scientific activity as a career [18].

The range of factors impacting career choice is fairly wide. For all modern school leavers, the vocation choice is a complicated social and organizational process¹⁶: [4; 7; 10; 20] et other. The complexity of the choice causes the complex nature of methodologies assisting the research of this choice [8].

Some career choice factors are common for all the school students including the indigenous peoples' children residing in the Arctic Region. The parents' opinion clearly has a huge impact on vocation choice [11]. Vocation choice is definitely influenced by the idea of an income gained by the graduates of specific colleges [2]. There exist gender differences in career choice, including among medical doctors, engineers, and teachers [5; 11; 21]. Teachers greatly influence vocation choice [6].

In a real situation it is a common case when opinions on career choice expressed by the school students, their parents, and teachers do not coincide, which has an adverse impact on vocation choice and success. Teachers, parents, and a kid's own ideas of "success" are probably the main forces forming the final decision on career choice. Specific institutions must be

established that could mitigate the risks and adverse factors and enhance their positive impact.

Various factors defining career choice can have a different force and content in different regions, in different types of settlements, and in different cultural areas. Thus, analytical conclusions derived on the basis of the analytical data of specific countries, societies, settlements, colleges, and schools cannot be applied to other countries, societies, settlements, colleges, and schools. Today, not many surveys have been completed for such a complicated region as Arctic territories. In 2016, a group of scientists representing Victor Astafyev Krasnoyarsk State Pedagogical University completed field surveys in the Arctic Region, the Republic of Sakha (Yakutia). The surveys were of a complex nature to include an analysis of the conditions under which the indigenous peoples' children residing in the Arctic Region gain a quality secondary education. Pedagogical research has been added via ethnological, cultural, and sociological surveys. The completed complex surveys provided grounds to conclude based on what processes and subjects presupposing the vocational choice of indigenous peoples' children residing in the Arctic Region and based on what ideas a successful future has been formed with these children up to date.

The proposed method of defining the occupational preferences, leadership qualities, and socialization level of the senior school students allows a prediction of the difficulties to arise with psychological, adaptation, and motivation problems in relation to vocational choice since before the critical point of selecting the disciplines to pass the Unified State Exam the students will be able to assess their aptitudes and drives in choosing a college, university, or

¹⁵ Roe A. *The psychology of occupations*. New York, NY, John Wiley & Sons, 1956.

¹⁶ Crain R. L. *The Effectiveness of New York City's Career Magnet Schools*. An Evaluation of Ninth Grade Performance Using an Experimental Design, New York, 1992.



educational discipline. In addition, this methodology provides a means to reveal how close the match is between students' choice and their parents' and teacher's opinions.

The methodology for defining occupational guidance for senior school students includes four stages.

1. Polling activities: polling senior school students on the basis of the developed questionnaire to define their socialization level, leadership qualities, and choice of discipline for the future vocational activity.

2. Processing the results of the first part of the questionnaire: defining socialization level and leadership qualities based on the four blocks data.

3. Processing the results of the second part of the questionnaire: building integral individual diagrams. The integral formula contains three digits: the first factor is the average value of the student's own choice; the second and third being the value of their parents and teachers, correspondingly. The sum total is the vector trend factor in choosing a specific occupational group.

4. Analysis of the results of the second part of the questionnaire based on integral individual diagrams: in the case that there is no correlation between the trend choices made by the students, parents, and teachers detected, preference is given to the maximum individual factor in the second part of the questionnaire of the senior student himself.

The questionnaire includes two parts: the first is related to defining the degree of influence produced by social interaction on the development of the most important factors in our opinion of teen-agers and young people's socialization (based on the methodology by Professor Maria Shilova¹⁷). The second part focuses on defining their subjective occupational preferences. The questionnaire is adapted for the three groups of respondents: students, their parents, and teachers.

The first part of the questionnaire is identical in content and the formulation of questions for all the three categories (Table 1). The questionnaire for identifying the level of socialization and leadership qualities includes four blocks: **Communication** for defining the ability to deal with surrounding people, to cooperate on a team, the level of sociability, etc.; **Psychological** related to identifying the adequacy level of a self-assessment, critical thinking, self-sufficiency, etc.; **Means (tools)**, related to defining universal individual and teaching actions; and **Social** revealing the availability of any life plans, knowledge of one's own rights, and liabilities and overall universal knowledge for living in the modern social environment. The socialization level factor includes knowledge and skills helping school students to orient themselves under the modern life conditions, to choose their own discipline of education in the university, and to choose their occupation.

¹⁷ Shilova M. I. *Socialization and education of the school-boy in the pedagogical process: handbook*. Krasnoyarsk, 2007, 218 p. (In Russian).



Table 1

Questionnaire for identifying one's level of socialization and leadership qualities

Communication block	Ability to deal with surroundings	1	2	3	4	5
	Nature of relations with teachers	1	2	3	4	5
	Nature of relations with parents	1	2	3	4	5
	Confidence in communication with the opposite sex	1	2	3	4	5
	Confidence in emotional communication	1	2	3	4	5
	Ability to cooperate within the group	1	2	3	4	5
	Confidence in business communication	1	2	3	4	5
	Ability to perceive other people	1	2	3	4	5
	Ability to perceive the situation	1	2	3	4	5
	Sociability	1	2	3	4	5
Psychological block	Responsible attitude to oneself	1	2	3	4	5
	Communicativeness	1	2	3	4	5
	Adequacy in self-assessment	1	2	3	4	5
	Creativity, creative approach	1	2	3	4	5
	Sustainable interest	1	2	3	4	5
	Reflexivity	1	2	3	4	5
	Critical thinking	1	2	3	4	5
	Self-confidence	1	2	3	4	5
	Self-sufficiency	1	2	3	4	5
	Self-respect	1	2	3	4	5
Means (tool) block	Performance of any house work	1	2	3	4	5
	Ability to rationally spend money	1	2	3	4	5
	Concept about budget	1	2	3	4	5
	Knowledge of ways to earn for a living	1	2	3	4	5
	Practical skills	1	2	3	4	5
	Knowledge of sources	1	2	3	4	5
	Computer skills	1	2	3	4	5
	Fluent reading skills	1	2	3	4	5
	First aid skills	1	2	3	4	5
	Aspiration to be in good shape	1	2	3	4	5
Social block	Practical mind	1	2	3	4	5
	Ability to say "No"	1	2	3	4	5
	Ability to compromise	1	2	3	4	5
	Tolerance	1	2	3	4	5
	Knowledge of market phenomena	1	2	3	4	5
	Idea of methods and ways to resolve economic problems	1	2	3	4	5
	Life plans	1	2	3	4	5
	Knowledge of own rights and liabilities	1	2	3	4	5
	Extra curriculum knowledge	1	2	3	4	5
	Possession of knowledge	1	2	3	4	5

The second part of the questionnaire is adapted as a set of occupational skills or preferences for the senior students and a list of

majors for parents and teachers (Tables 2, 3). It is focused on identifying senior students' preferences in the future trend of schooling. The



questions are split into five blocks based on differentiations between the subject-subject and subject-object occupational relations. The first group of occupations is related to the subject's (worker's) cooperation with various objects of technical maintenance, e.g. engineer, mechanical engineer, test operator, etc. The second group, meanwhile, is defined by subject-subject occupational relations, e.g. It includes such spheres of activity as education, medicine, and trade. The third group mainly characterizes the individual approach to establishing one's own activity and remoteness from team cooperation,

e.g. accountant, mathematician, and geodetic surveyor. The fourth group considers the future occupational activity from the perspective of the subject's relations with nature and includes such majors as geologist, veterinary physician, environmentalist, etc. The fifth and last group of majors reveals the subject's commitment to the art and shows the level of students' aspiration toward self-expression; such occupations may include stylist, actor, musician, etc. The last question is about the student's own ideas on the subjective assessment of his leadership qualities.

Table 2

Senior students' occupational skills or preferences

To operate machines	0	1	2	3	4	5
To maintain equipment	0	1	2	3	4	5
To assemble and adjust equipment	0	1	2	3	4	5
To process various materials and make things and objects out of them	0	1	2	3	4	5
To do construction	0	1	2	3	4	5
To deliver services to people	0	1	2	3	4	5
To cure people	0	1	2	3	4	5
To educate and assist in studying	0	1	2	3	4	5
To defend one's own and other people's rights	0	1	2	3	4	5
To manage people	0	1	2	3	4	5
To edit texts and tables	0	1	2	3	4	5
To make calculations and computations	0	1	2	3	4	5
TO process information	0	1	2	3	4	5
To work with drawings, maps, and diagrams	0	1	2	3	4	5
To account, control, and maintain order	0	1	2	3	4	5
To care and monitor animals	0	1	2	3	4	5
To preserve food products	0	1	2	3	4	5
To work outdoors	0	1	2	3	4	5
To grow flowers, vegetables, or fruit	0	1	2	3	4	5
To monitor nature and its changes	0	1	2	3	4	5
To do decorative design	0	1	2	3	4	5
To draw and make photographs	0	1	2	3	4	5
To perform on the stage	0	1	2	3	4	5
To play musical instruments	0	1	2	3	4	5
To sing and dance	0	1	2	3	4	5
To be a leader	0	1	2	3	4	5



Table 3

List of occupations for parents and teachers

Engineer	0	1	2	3	4	5
Mechanical engineer	0	1	2	3	4	5
Process expert	0	1	2	3	4	5
Test operator	0	1	2	3	4	5
Single-skilled expert (metallurgy, optics, radioelectronics, construction, etc.)	0	1	2	3	4	5
Medical doctor, pharmacist, nurse practitioner, medical nurse, hospitalman	0	1	2	3	4	5
Teacher, tutor	0	1	2	3	4	5
Cook, confectioner, baker	0	1	2	3	4	5
Shop assistant, commodity expert	0	1	2	3	4	5
Policeman, investigator, lawyer, etc.	0	1	2	3	4	5
Accountant	0	1	2	3	4	5
Economist	0	1	2	3	4	5
Mathematician	0	1	2	3	4	5
Topographical surveyor, geodetic surveyor, mining surveyor	0	1	2	3	4	5
Archive expert, warehouse keeper	0	1	2	3	4	5
Geologist, geographer, geological environmentalist	0	1	2	3	4	5
Chemist	0	1	2	3	4	5
Veterinary physician, livestock expert	0	1	2	3	4	5
Physicist	0	1	2	3	4	5
Zoologist, ornithologist, reindeer breeder, fisherman, etc.	0	1	2	3	4	5
Stylist, fashion designer	0	1	2	3	4	5
Architect, designer	0	1	2	3	4	5
Choreographer	0	1	2	3	4	5
Musician, actor	0	1	2	3	4	5
Photographer, artist	0	1	2	3	4	5

On the basis of the data presented by the students it is possible to define to what degree they are socialized and whether their occupational preferences depend on the level of socialization and discipline of the present education.

Results

The first stage of evaluating the methodology aimed at revealing the correlation of the senior students' decision on the future occupation and their parents' and teachers' opinions as well as methodology aimed at defining senior students' leadership qualities and

the level of their social and economic activity was completed in the Olenek and Kharyyalakh settlements, as well as in the reindeer breeders team of the "Oleneksky" Municipal Unitary Enterprise and the "Oleneksky Evenk National Agricultural Community" Municipal District in the Republic of Sakha (Yakutia). This Arctic zone is inhabited by the Evenk, an indigenous people of the North and Siberia.

The survey started with a hypothesis declaration that the Evenk children's preferences in their future occupations can radically differ from the opinions of their parents and teachers.

A school child's preferences are formed as a result of their cooperation with their family and external environment (school, friends, institutions of additional education, etc.) The parents' opinion on the child's occupation is formed on the basis of the social and economic state of the family, family traditions, level of success in schooling, and the child's aptitudes. Teachers' opinions are based on the child's success in schooling, aptitudes, and achievements at school.

The financial well-being of indigenous peoples' families engaged in traditional types of activity (hunting, fishing, reindeer breeding) largely depends on the number of additional workers. For instance, the Krasnoyarsk Krai and other regions of Eastern Siberia in the Russian Federation grant a quota for tax-free fish

capturing per family member. Moreover, additional hands allow breeding or catching a larger number of deer.

This paper contains polling results completed by the senior students of the Nikolaev General Education School located in the settlement of Olenek. The total number of students is 24 (12 girls and 12 boys) in the age range from 15 to 17.

As an example, this article presents an analysis of questionnaires filled out by two students (Expert 1 and Expert 2).

Figure 1 shows that both Experts mainly feature practical skills and knowledge for defining their future vocational discipline, however, Expert 2 strengthens their factors proving sustainable interest and life plans.

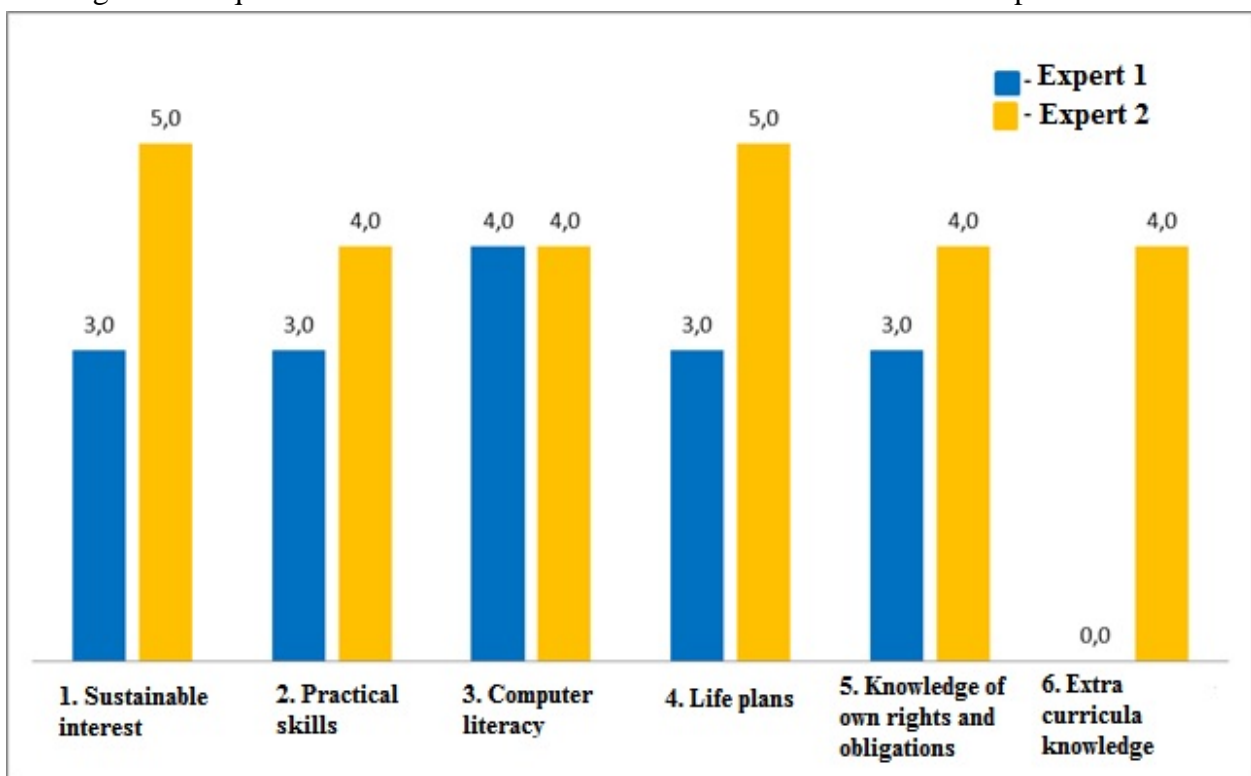


Fig. 1. Knowledge level

Figure 2 displays that Expert 2 is quite a communicative person, which in the future can

contribute to the Expert's successful choice of education discipline and career growth.

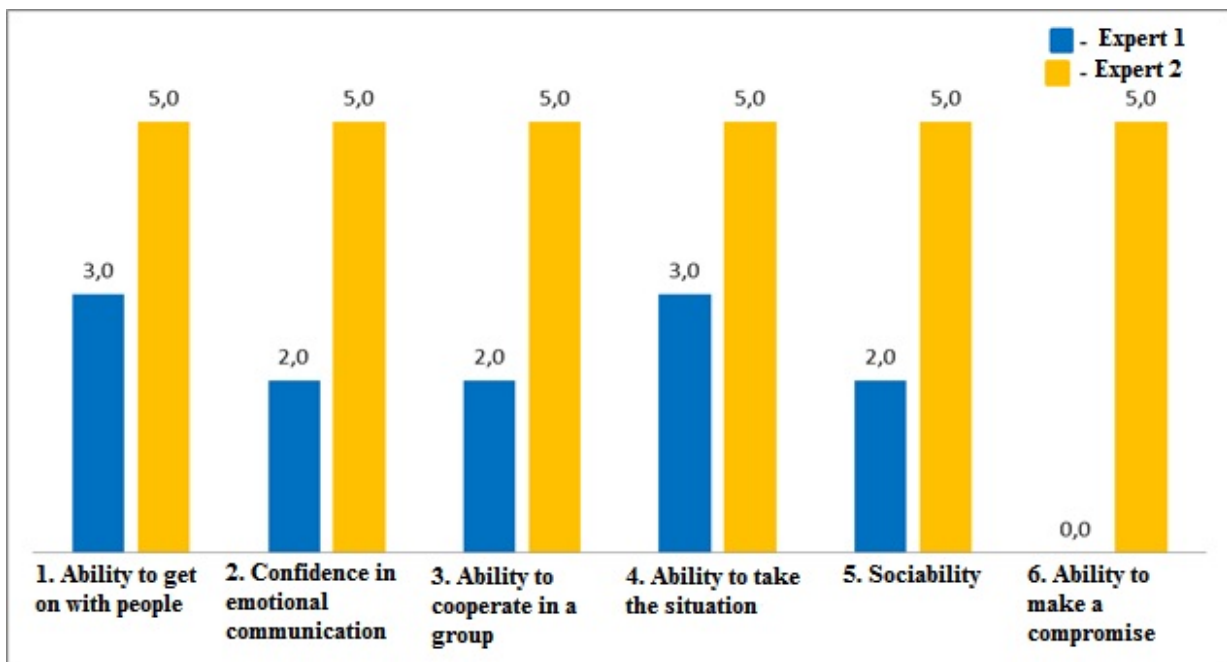


Fig. 2. Communicativeness development level

Whether children define themselves as leaders can be seen in Figure 3. Expert 2 may have doubts with respect to their leadership qualities since the data reflect the value between 4 and 5 points. However, Expert 1 has leadership

potential, but seems not to realize the necessity to reveal such. In the future, Expert 1 may be a perfect middle ranking worker while Expert 2 may reach the managers level.

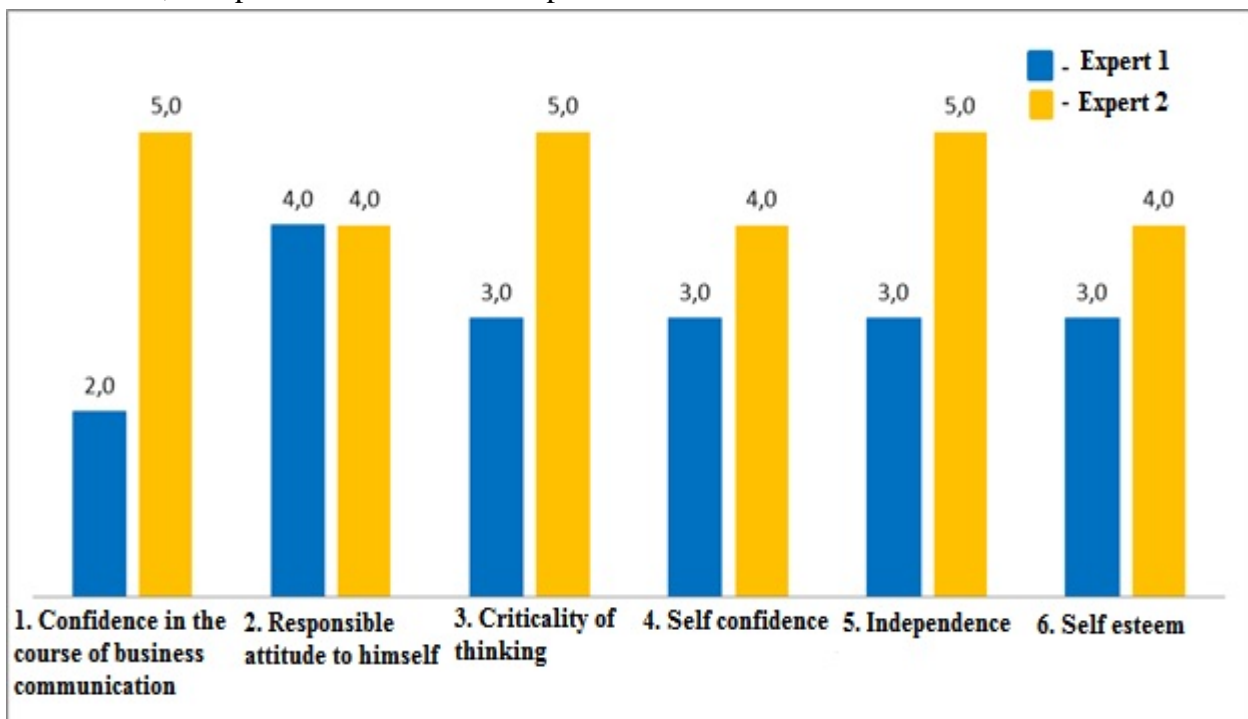


Fig. 3. Leadership qualities level

The polling resulted in building individual integral diagrams (Fig. 4, 5) reflecting the specifics of the students', their parent's, and teachers' deciding on the trend of future occupations, as well as in building a comparative bar graph showing development of the students' leadership qualities.

The agricultural economy is characteristic of the Olenek District and mainly includes reindeer breeding, cattle breeding, fur farming, market hunting of wild deer, and fur-producing animals. Therefore, often students choose the trends of their future occupational activity in compliance with the specifics of the District in relation to geographic labor differentiation.

Processing the results of evaluating the methodology aimed at revealing the trends of students' professional training allowed detecting two groups of results. *In the first case*, the students', parents' and teachers' responses matched with one or two directions, which gave

in total a maximum number of points. This proves that senior students with such results have no problems in the communicative, social, psychological, and tools spheres of their life activity, as well as that normally their academic progress is above average, which gives the teachers and parents an obvious picture of such students' future. *In the second case*, the students', parents' and teacher's choice of the future occupation practically does not coincide. According to the survey results, the communicative, social, psychological, and tools aspects are not fully developed in this case in order to be complemented by academic progress of an average or below average level. In such cases, in order to reveal specific factors of choice, it can be recommended to return to the third stage of the survey and judge by the student's choice of occupational trends to estimate their factors' integral values for each group of occupations.

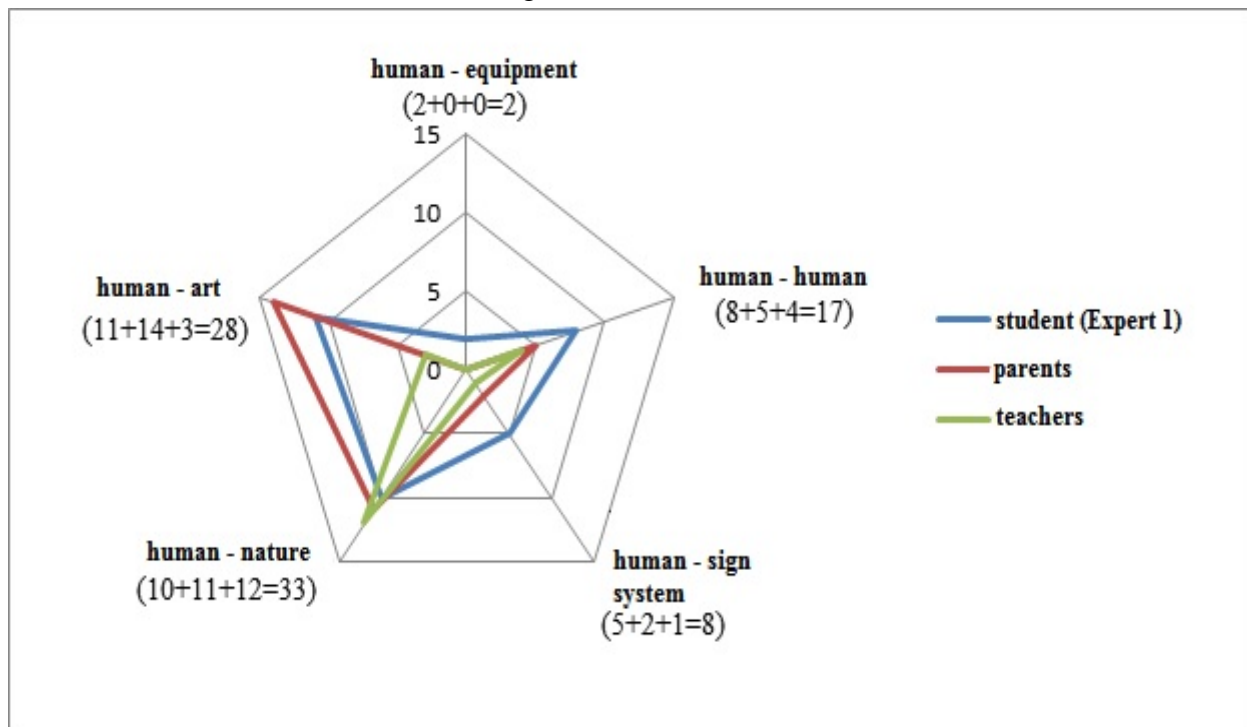


Fig. 4. Individual integral diagram of occupational discipline choice (based on the example of Expert 1)

As shown in Fig. 4, the vector discipline in Expert 1's individual diagram complied with three occupation groups: "human-human", "human-nature", and "human-art", which displays the correlation between the choices made by the senior student, their parents, and their teachers. The maximum integral value is detected for vectors "human-nature" and "human-art" with 33 and 28 points, respectively. In this case, it is recommended to prefer majors or prepare for the trends of an artist or photographer.

The second case (Fig. 5) shows no correlation between the choices made by the students, parents, and teachers. In this case, it is worth giving preference to the choice of the student, i.e. "human-nature" vector judging by the integral factors with an individual value of five points. With a view of the environment of Expert 2, this vector includes such majors as veterinary physician, reindeer breeder, geologist, etc.

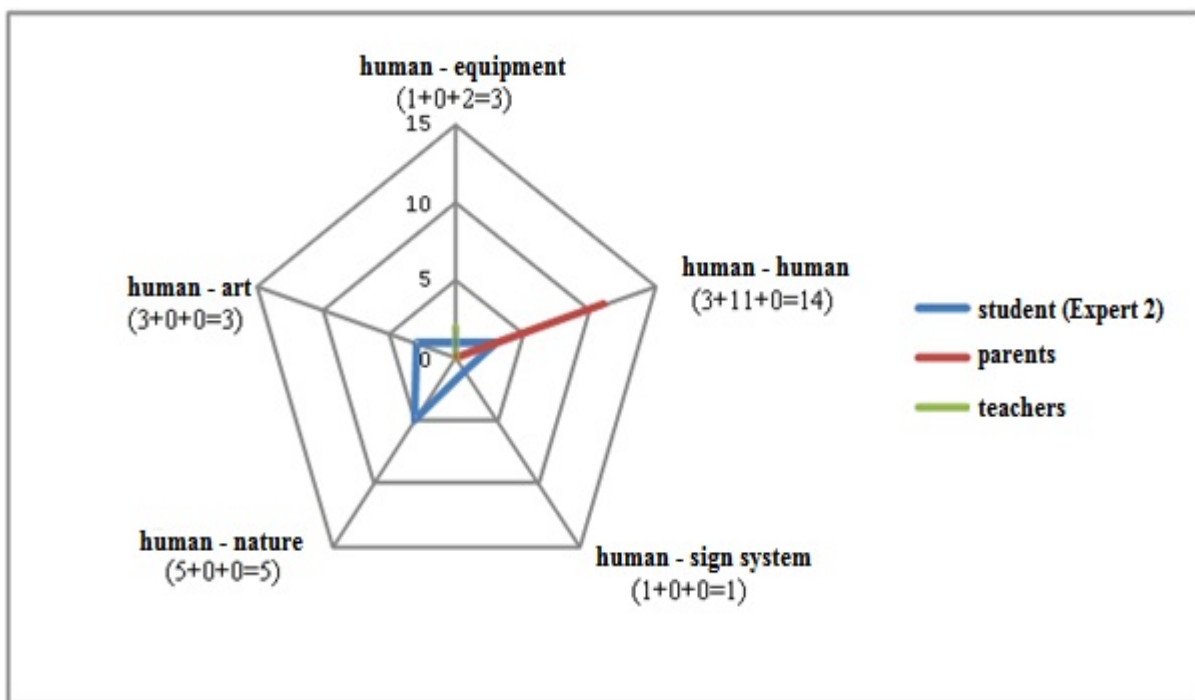


Fig. 5. Individual integral diagram of occupational trend choice (based on the example of Expert 2)

The analysis of the polling resulted in the following. Expert 1 needs to improve his competences in the field of art, culture, creativity, and society. To this end, Expert 1 can profoundly study history, pictorial art, the Russian language, literature, people's culture and crafts, social studies, and choose a university in this field. Expert 2 needs to improve competences in relations common to humans. Expert 2 can profoundly study social studies, biology,

geography, chemistry, and enter an agrarian or medical university.

Conclusions

This work presents the results of a developed and evaluated methodology to reveal correlations between the future career choices made by the senior school students and their parents' and teachers' opinions, as well as methodology for revealing senior school students'



leadership qualities and the level of their social and economic activity.

The proposed methodology allows forming a basis for continued building of the educational discipline for the senior school students' subject on top of their individual portfolio.

The methodology was first evaluated in the settlements located in the Arctic zones of the Republic of Sakha (Yakutia), where traditional economy built on the family resources presupposes a drastic mismatch between the student's preferences vector and the desire of parents' and teachers' opinion.

The preferences formed with school children from indigenous peoples inhabiting the Arctic Region in relation to their vocational choice in the extreme natural, social, and

economic conditions can drastically differ from the desire of parents' and teachers' opinions. The data have been obtained in relation to the socialization level of the career choice.

The social and economic changes ongoing in post-Soviet Russian society have resulted in differentiating between 'weak' and 'strong' youth groups in the model of vertical mobility and stratification in the field of education. Educational differentiation among the youth has sufficiently increased in post-Soviet Russia. Political management of the Arctic zone shall account for the educational inequality specific for the Arctic indigenous peoples' children and organize the institutional environment that would contribute to a maximum reduction of this inequality.

REFERENCES

1. Anyo G., Brunekreef B., De Meer G., Aarts F., Janssen N. A. H., Van Vliet P. Early, current and past pet ownership: associations with sensitization, bronchial responsiveness and allergic symptoms in school children. *Clinical & Experimental Allergy*, 2002, vol. 32, issue 3, pp. 361–366. DOI: <https://doi.org/10.1046/j.1365-2222.2002.01254.x>
2. Arcidiacono P. Ability sorting and the returns to college major. *Journal of Econometrics*, 2004, vol. 121, issue 1-2, pp. 343–375. DOI: <https://doi.org/10.1016/j.jeconom.2003.10.010>
3. Armitage D., Berkes F., Dale A., Kocho-Schellenberg E., Patton E. Co-management and the co-production of knowledge: Learning to adapt in Canada's Arctic. *Global Environmental Change*, 2011, vol. 21, issue 3, pp. 995–1004. DOI: <https://doi.org/10.1016/j.gloenvcha.2011.04.006>
4. Astin A. W. *What matters in college: Four critical years revisited*. San Francisco: Jossey-Bass, 1993. [Google Scholar](#)
5. Bernabe E., Icaza J. L., Delgado-Angulo E. K. Reasons for choosing dentistry as a career: a study involving male and female first-year students in Peru. *European Journal of Dental Education*, 2006, vol. 10, issue 4, pp. 236–241. DOI: <https://doi.org/10.1111/j.1600-0579.2006.00422.x>
6. Brown M. M. Caribbean first-year teachers' reasons for choosing teaching as a career. *Journal of Education for Teaching*, 1992, vol. 18, issue 2, pp. 185–195. DOI: <https://doi.org/10.1080/0260747920180207>
7. Cullen J. B., Jacob B. A., Levitt S. D. The impact of school choice on student outcomes: an analysis of the Chicago Public Schools. *Journal of Public Economics*, 2005, vol. 89, issue 5-6, pp. 729–760. DOI: <https://doi.org/10.1016/j.jpubeco.2004.05.001>
8. Galotti K. M., Ciner E., Altenbaumer H. E., Geerts H. J., Rupp A., Woulfe J. Decision-making styles in a real-life decision: Choosing a college major. *Personality and Individual Differences*, 2006, vol. 41, issue 4, pp. 629–639. DOI: <https://doi.org/10.1016/j.paid.2006.03.003>



9. Ginzberg E. Toward a theory of occupational choice: A restatement. *The Career Development Quarterly*, 1972, vol. 20, issue 3, pp. 2–9. DOI: <https://doi.org/10.1002/j.2164-585X.1972.tb02037.x>
10. Greene M. J. Gifted adrift? Career counseling of the gifted and talented. *Roepers Review*, 2003, vol. 25, issue 2, pp. 66–72. DOI: <https://doi.org/10.1080/02783190309554201>
11. Hays R. B. Choosing a career in general practice: the influence of medical schools. *Medical Education*, 1993, vol. 27, issue 3, pp. 254–258. DOI: <https://doi.org/10.1111/j.1365-2923.1993.tb00265.x>
12. Holland J. L. *Making vocational choices: A theory of vocational personalities and work environments*. Odessa: Psychological Assessment Resources Publ., 1997. [Google Scholar](#)
13. Jacobs J. A., Ahmad S., Sax L. J. Planning a Career in Engineering: Parental Effects on Sons and Daughters. *Social Sciences*, 2017, vol. 6, no. 1, pp. 2. DOI: <https://doi.org/10.3390/socsci6010002>
14. Karron R. A., Singleton R. J., Bulkow L., Parkinson A., Kruse D., DeSmet I., Indorf C., Petersen K.M., Leombruno D., Hurlburt D., Santosham M., Harrison L. Severe respiratory syncytial virus disease in Alaska Native children. *The Journal of Infectious Diseases*, 1999, vol. 180, issue 1, pp. 41–49. DOI: <https://doi.org/10.1086/314841>
15. Kirko V. I., Malakhova E. V., Pack N. I. Education for the Future: New Strategies of Distance Education for the Universities of Eastern Siberia. *Turkish Online Journal of Distance Education*. 2014. Vol. 15, № 4. P. 23–33. URL: <https://elibrary.ru/item.asp?id=23994510>
16. Koptseva N. P., Kirko V. I. The Impact of Global Transformations on the Processes of Regional and Ethnic Identity of Indigenous Peoples Siberian Arctic. *Mediterranean Journal of Social Sciences*, 2015, vol. 6, no. 3 S5, pp. 217–223. DOI: <https://doi.org/10.5901/mjss.2015.v6n3s5p217>
17. Koptseva N. P., Reznikova K. V. Refinement of the causes of ethnic migration North Selkups based on the historical memory of indigenous ethnic groups Turukhansk district of Krasnoyarsk Krai. *Bylye gody*, 2015, vol. 38, issue 4, pp. 1028–1038. URL: http://www.bg.sutr.ru/journals_n/1449044743.pdf
18. Lannes D., Flavoni L., De Meis L. The concept of science among children of different ages and cultures. *Biochemical Education*, 1998, vol. 26, issue 3, pp. 199–204. DOI: [https://doi.org/10.1016/S0307-4412\(98\)00083-1](https://doi.org/10.1016/S0307-4412(98)00083-1)
19. Montmarquette C., Cannings K., Mahseredjian S. How do young people choose college majors?. *Economics of Education Review*, 2002, vol. 21, issue 6, pp. 543–556. DOI: [https://doi.org/10.1016/S0272-7757\(01\)00054-1](https://doi.org/10.1016/S0272-7757(01)00054-1)
20. Stevens K. A., Walker E. A. Choosing a career: why not nursing for more high school seniors?. *Journal of Nursing Education*, 1993, vol. 32, no. 1, pp. 13–17. URL: <https://www.healio.com/nursing/journals/jne/1993-1-32-1/%7Bfeaae55b-5493-49d9-8b48-27707d91bd5a%7D/choosing-a-career-why-not-nursing-for-more-high-school-seniors>
21. Wendel T. M., Godellas C. V., Prinz R. A. Are there gender differences in choosing a surgical career?. *Surgery*, 2003, vol. 134, issue 4, pp. 591–596. DOI: [https://doi.org/10.1016/S0039-6060\(03\)00304-03](https://doi.org/10.1016/S0039-6060(03)00304-03)

Submitted: 01 August 2017 Accepted: 03 November 2017 Published: 30 December 2017



This is an open access article distributed under the Creative Commons Attribution License which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. (CC BY 4.0).