

EEIA-2018
**2018 International Conference "Education Environment for
the Information Age"**

**EDUCATIONAL EXPANSE AND VALUE ORIENTATIONS OF
UNIVERSITY STUDENTS' EDUCATIONAL ACTIVITY**

Boris E. Fishman (a)*, Bogdana S. Kuzmina (b), Olga A. Fokina (c), Nataliy G. Bogachenko
(d), Olesya V. Pavlova (e), Valentina Yu. Vashkyavichus (f)

*Corresponding author

- (a) Grand PhD in Pedagogics, Professor of the Department of Pedagogics, Sholom-Aleichem Priamursky State University, Shirokaya St., 70a Birobidzhan, Russia, e-mail: bef942@mail.ru*
- (b) PhD in Technics, Associate Professor of the Department of Information Systems, Mathematics and Teaching Methods, Sholom-Aleichem Priamursky State University, Shirokaya St., 70a, Birobidzhan, Russia e-mail: kubos_84@mail.ru
- (c) PhD in Pedagogics, Senior Lecturer of the Department of European and Oriental Languages, Sholom-Aleichem Priamursky State University, Shirokaya St., 70a, Birobidzhan, Russia, e-mail: olya_true2003@mail.ru
- (d) PhD in Philology, Associate Professor, Dean of the Faculty of Philology, History and Journalism, Sholom-Aleichem Priamursky State University, Shirokaya St., 70a, Birobidzhan, Russia, e-mail: nataliya-bogachenko@yandex.ru
- (e) PhD in Philology, Associate Professor of the Department of the Chinese Language, Moscow City University, Institute of Foreign Languages, 2nd Selskokhosaistveny Lane, 4-1, Moscow, Russia, e-mail: wodeyoujian@mail.ru
- (f) PhD in Philology, Associate Professor of the Department of the Chinese Language, 2nd Selskokhosaistveny Lane, 4-1, Moscow, Russia, e-mail: v.vashkyavichus@gmail.com

Abstract

The article deals with the problem that the educational expanse of a university from the perspective of subject description has not been sufficiently examined. In this description the educational expanse is viewed as an object of people's subject activity, participating in educational activity. Students are full participants of the educational expanse, and their subject activity can become a resource for its development. The realization of this possibility depends on the students' awareness of their subject role in this process and the ability to be the author and master of their life path. We justify an objective necessity to define the hierarchy of students' value orientations, reflecting the personal significance of various activities for students. Following this hierarchy, students determine the goals and directions of their activity. A specially developed technique aimed at identifying the types of activities in which university students can participate is described. We perform procedures that provide the identification of the hierarchy of students' value orientations reflecting the personal significance of the activities for students. The diagnostic tools are described; they make it possible to form the considered hierarchy. The results of processing and analysing a mass of data obtained from 138 respondents are presented. It is shown that the gender factor affects neither the process of a pairwise comparison of various types of students' activities, nor the process of forming their strict hierarchy. Clusters of students are determined by the degree of proximity of distributions that characterize the frequency of choosing the types of activity.

© 2018 Published by Future Academy www.FutureAcademy.org.UK

Keywords: Educational expanse, students' value orientations hierarchy.



1. Introduction

The educational expanse is known to be a systemic concept that can be represented in an object and subject aspects.

Within the scope of the first aspect, the educational expanse means the collection of all objects connected with education. They form and fill the educational expanse. Their functioning ensures the implementation of all educational processes.

As for the second aspect, it characterizes the educational expanse as an object of people's subject activity, participating in educational activity. These people perceive the educational expanse, act in it, influence and develop it (Ivanova, 2015).

Thus, the object and subject aspects are different conceptual projections of the educational expanse. These aspects are inseparably linked, but not identical and not reducible to each other. An integrally whole educational expanse is not reduced to any of them.

The changes in social and economic processes occurring in Russia predetermine the need for the corresponding development of the educational expanse. Various studies have made it possible to identify the factors that affect this development and establish the conditions necessary for it.

The educational expanse and its phenomena studied by scientists – see, for example (Kwiecinska & Rybska-Klapa, 2014; Ivanova, 2015; Kasatkin, 2017), were mainly considered in terms of an object aspect. Thus, the processes of the educational expanse are not sufficiently investigated from the perspective of the subject aspect. Furthermore, the focus of such research is shifted towards educators. The overwhelming majority of studies aimed at examining the following problems – how the teacher (the lecturer) should act in the classroom, what factors he should take into consideration, how the activity of pupils (students) should be organized, etc.

Many researchers underline the fact that pupils (students) are full participants (subjects) of the educational expanse. However, their subjectivity is examined within the boundaries of educational and extracurricular activities. Meanwhile, the educational expanse of school (university) is considered to be a resource for the development of pupils (students). The opposite side, when pupils (students) are a strategic resource for the development of the educational expanse, as a rule, is not considered. And the need for such an examination is not realized by teachers, parents, or pupils (students).

The concept of life strategy is often used to analyse the vital activity of people including pupils or students. This strategy characterizes a system of values and goals, which allows a person to make his life most effective if he can achieve them (Vasilieva, 2001). It is the conceptual and value components of the above-mentioned strategy that make a human integral. They are real factors to motivate activity.

Values are known to be regulators of individuals' behaviour, irrespective of whether they are reflected in consciousness or not. Values are regarded as objective grounds for aspirations of different people. They provide integrative activity both for society, for each social group, and for a single individual (Leontiev, 1996).

At the same time, each person has his own attitude to any particular values and forms individual value orientations. Contemporary researchers consider value orientations as the dominant attitude to objects of the real world on the basis of their personal significance (Yarina, 2014).

Accumulating the experience of participation in various activities, a person develops a selective attitude to each of them. He considers some activities to be more important than others. The hierarchy of students' value orientations, reflecting the personal significance of various types of possible activities, forms the core of the student's personality consciousness. It allows a student to determine the goals and directions of his development, to regulate and display the peculiarities of his behaviour (Yarina, 2014; Clements & Kamau, 2017).

2. Problem Statement

In our opinion, it is impossible to promote the optimal development of the educational expanse at a university without students' initiative and responsible personal participation. Such participation means that students are aware of their personal roles in this process, and capable of being the author and master of their life path (Bairaktarova & Woodcock, 2017; Clark, Gill, Prowse & Rush, 2017). However, it is not yet known to what extent the value orientations of university students, reflecting personal significance for various types of permissible activity, correspond to this concept.

3. Research Questions

The analysis of questions which must be answered allowed us to formulate the following significant tasks.

- A. Identify the types of activity which university students can participate and participate in.
- B. Specify a method that allows us to identify the hierarchy of students' value orientations, reflecting a personal significance of this activity.
- C. Create necessary tools and organize a diagnostic study of such value orientations.
- D. Analyse and interpret the results.

4. Purpose of the Study

The purpose of this study is to reveal the hierarchy of value orientations that reflect a personal significance of various activities of university students. It will allow us to determine how students' subject activity can become a resource for the development of the educational expanse of a university.

5. Research Methods

Relevant methods were used to carry out each task of this research.

5.1. Task A.

In November, 2017, students of different years of study (bachelor's level) were given the task to write a short essay My student life. In total, five aspects were offered; students could choose three or more:

- 1) What activities do you participate in being a student?
- 2) What are you pleased to do?
- 3) What are you forced to do, but if you could, you did not?
- 4) How do you spend your free time?

5) What new activities would you offer to students?

163 essays were written by students, namely 46 by freshmen, 42 by sophomores, 37 by third-year students, and 38 by fourth-year students. The content analysis of the texts allowed identifying 466 original statements. The experts' analysis (five professors lecturing in pedagogical and psychological subjects) and elimination of semantic duplication reduced 466 statements to 104 statements of specific types of activity.

At the next stage, each of the experts independently performed a cluster semantic analysis of these statements. Then, the results of the analysis were discussed and reconciled. Nine enlarged groups of students' activities were received. However, the most part of statements were to be translated from the language of professors to the language of students.

For this purpose, two focus groups of students were organized by E.I. Kudryavtseva, Ph.D. in Psychology, Associate Professor at the Higher School of Economics in St. Petersburg. And at Sholom-Aleichem Priamursky State University B.E. Fishman, Grand Ph.D. in Pedagogics, Professor held a roundtable discussion with students. As a result, the statements of the following nine types of activity of university students were received, their meanings being interpreted.

Studies mean attending classes, preparing for seminars, visiting libraries, reading study materials and professional books recommended by professors, writing tests, essays, other individual written works and reports, doing on-line tests, preparing and defending term papers, graduate qualification works (bachelor's thesis), consulting with professors, practical training, working in project training teams.

Self-education and self-development mean individual reading, searching for necessary sources in libraries including electronic ones, watching and listening to news (TV, radio, Internet), attending further educational programmes, seminars and trainings (a foreign language, further professional fields of study, developing soft skills), visiting museums, theatres.

Science means conducting research, preparing a scientific article, preparing a report and performing it at a conference, participating in scientific Olympiads, working in a scientific laboratory.

Sport means going in for a particular sport regularly, participating in competitions, team games.

Creative activities mean producing author's works in all arts, visiting creative studios, concert performances, participating in art exhibitions.

Social role interaction means performing duties of a head of a training group, a team captain, an event organizer, a participant of volunteer projects, an employee of non-profit organizations, participating in the work of public organizations, developing and promoting public initiatives, moderating sites and groups in social networks, and writing personal blogs.

Healthy lifestyle means visiting regularly gymnasiums, fitness centres, swimming pools to keep fit, being involved in city sports such as bicycle, scooter, skateboarding, roller skates, mastering first aid skills and protection skills in case of accidents, catastrophes, and natural disasters.

Work means permanent / temporary employment, entrepreneurship, participation in a family business.

Leisure means meeting and walking with friends, visiting cinemas, watching TV programmes, films at home, social networking, viewing blogs, videos, replenishing collections, travelling.

5.2. Task B.

The authors considered two methods, which allow identifying a hierarchy of value orientations of the person.

The first of these methods is based on the ranking of proposed values by the respondent himself – M. Rokeach's technique (Rokeach, 1973). In this case, not only terminal and/or instrumental values can be considered, but also other objects which are important to the respondents. For example, they can be types of activity.

The second method presents a pairwise comparison between the activities under consideration (each with each). The criterion for comparison is the subjective significance of the compared objects for a person – N.B. Moskvina's method (Moskvina, 2016).

In our opinion, N.B. Moskvina's method, by means of which respondents perform only pairwise comparisons, favourably differs from M. Rokeach's method, according to which the respondents form a complete hierarchy.

Firstly, pairwise comparisons are those procedures which serve as a basis to create a complete hierarchy. However, additional operations are necessary to establish it, ensuring the adjustment and synthesis of the results of various pair comparisons. The picture of ranking can be often distorted if a clear subjective hierarchy is absent or when its structure is changing (Kuhnle, Sinclair, Hofer & Kilian, 2014).

Secondly, the results of pairwise comparisons give an opportunity to reveal the fuzziness of the subjective hierarchy of value orientations, if such fuzziness actually exists in it.

5.3. Task C.

To employ N.B. Moskvina's method, a special questionnaire was designed. All pairs of compared activities were presented in a form convenient for students. The respondent was asked to choose, in each pair, a type of activity that he considers more important.

Moreover, besides the questionnaire, respondents got a separate list of activities with detailed explanations (see above).

The first stage of the diagnostic study was conducted in October-November, 2017. 149 students of St. Petersburg, Vladivostok, Khabarovsk and Birobidzhan universities took part in this study. After analysing the quality of the obtained results, 11 questionnaires were rejected. Thus, 138 students' questionnaires of four universities were examined.

5.4. Task D.

To analyse the results, there were investigated mathematical foundations for creating a hierarchy of objects based on the results of their pairwise comparison. It was assumed that the same criterion was used for both the pairwise comparison and creating the hierarchy and the same people make the pairwise comparison and creating the hierarchy.

It is proved that, firstly, if there is a clear hierarchy of n objects, then a regular integer sequence of frequencies for selecting these objects will always be obtained in the pairwise comparison: $0, 1, 2, \dots, (n - 1)$.

The opposite statement is also true, i.e. if there is the same regular sequence for selecting n objects in the pairwise comparison, then there is a clear hierarchy of these objects.

Secondly, if the hierarchy is fuzzy (two or more objects are evaluated as equally important), then in the pairwise comparison the frequencies of selecting two or more objects will coincide. And if, in a pairwise comparison, the frequencies of selecting two or more objects coincide, then the hierarchy of these objects is fuzzy.

Thus, the sequence of object selection frequencies, obtained by means of the pairwise comparison, is

an indicator of the clarity or fuzziness of the hierarchy;

a basis for establishing the desired hierarchy.

6. Findings

The mass of data obtained from all 138 respondents was processed and analysed in stages.

At the first stage, we determined the distribution of the summation frequencies of choosing each activity in all compared pairs. The results are shown in Fig. 1.

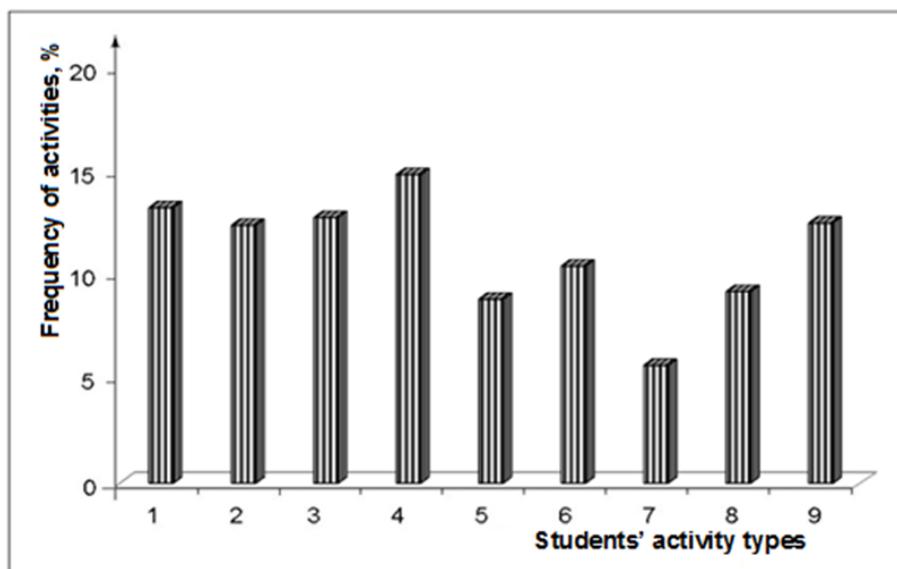


Figure 01. Distribution of the summation frequencies of choosing activity by 138 respondents: 1 – self-education and self-development; 2 – studies; 3 – work; 4 – leisure; 5 – sport; 6 – creative activities; 7 – science; 8 – social role interaction; 9 – healthy lifestyle.

While analysing this distribution, we considered the hypothesis H_0 which showed that the obtained distribution of the summation frequencies of choosing the types of activity is described by an equal distribution. Testing by means of the criterion χ^2 revealed that the hypothesis H_0 should be rejected. That indicates an unequal probability of choosing different activities by students (according to the criterion of subjectively perceived importance).

Ranking activities by means of the summation frequency of their choice led to the following sequence: 1 – leisure; 2 – self-education and self-development; 3 – work; 4 – healthy lifestyle; 5 – studies; 6 – creative activities; 7 – social role interaction; 8 – sport; 9 – science.

It should be mentioned that in order of importance, students ‘put’ their studies in the fifth place. ‘Leisure’, ‘self-education and self-development’, ‘work’ and ‘healthy lifestyle’ are more important for them. It can be supposed that the decisive role in this evaluation result was performed by such characteristics of activity types as the possibility of making independent decisions, freedom to choose forms and methods of activity, external regulation, the formality of evaluation, and so on.

At the same time, teachers traditionally regard ‘studies’ as the main activity of students. This discrepancy between the axiological perception of ‘studies’ by students and the standard perceptions of teachers, in our opinion, is one of the factors that reduce the effectiveness of educational activity.

The use of the criterion χ^2 shows that the distributions of the summation frequencies of choosing activities, received from young men (girls) do not differ significantly from general distribution.

It was important to ask whether it is possible to assume that there is a clear hierarchy of activities in the minds of students. To answer this question, we used the hypothesis H_0 that the calculated distribution of the summation frequencies of choosing activities is described by a linearly decreasing distribution in which:

the sequence of activities corresponds to their ranking, obtained empirically;

the maximum value of the frequency of choosing is $8 \times N$, N is the number of respondents, and the minimum is equal to 0.

Testing by means of the criterion χ^2 revealed that the hypothesis H_0 should be rejected. In other words, we cannot assume that there is a clear hierarchy of activity types in the minds of students.

In the second stage, we selected respondents which results of a pairwise comparison help to create a clear hierarchy of activities according to the degree of their importance to the students.

Only 30 persons’ data contains the regular integer sequence of frequencies of choosing activities. Thus, a clear hierarchy is observed only in 21.7% of 138 students’ questionnaires.

When analysing the questionnaire separately, depending on the gender of the respondents, the following facts are revealed. 55 questionnaires were received from young men, but only 13 respondents (23.6%) showed the above-mentioned sequence of frequencies. 83 questionnaires were received from girls; only 17 people (20.5%) showed this sequence.

Differences between the specific gravity of clear hierarchies in the questionnaires of young men (23.6%), girls (20.5%) and all respondents (21.7%) are not statistically significant for a given sample size. Therefore, the gender factor does not affect both the pairwise comparison process, and the process of forming a strict hierarchy of students’ activities (according to the criterion of their importance).

At the third stage, we considered a question if there are such groups (clusters) of students that have similar frequency distributions of choosing activities. To answer it, the cluster analysis procedure was used. To estimate the degree of the proximity of the distributions, we used the value of the Pearson correlation coefficient $[r]_{(i,j)}$, calculated for each pair of the i - and j - respondents. Those students were included in the cluster, for whom $[r]_{(i,j)} \geq 0.7$ was fulfilled.

The specificity of each cluster is determined by those leading activities that correspond to it. They were identified in the following way.

According to the choice of each student entering the cluster, the ranks of all the activities were determined. The activities were arranged in accordance with the decrease in the frequency of their choosing by this student. The type of activity that the student has chosen most times was marked with rank 1, the next – rank 2, etc.

Then, taking into consideration the data from all the students of the cluster for the next type of activity, the values of the frequencies of its occurrence were marked with rank 1, rank 2 and rank 3. These values were used to identify a group of leading activities.

As an illustration, Fig. 2.a and 2.b show the distribution of the frequency of choosing activities for students included in cluster 'a' and cluster 'b', respectively.

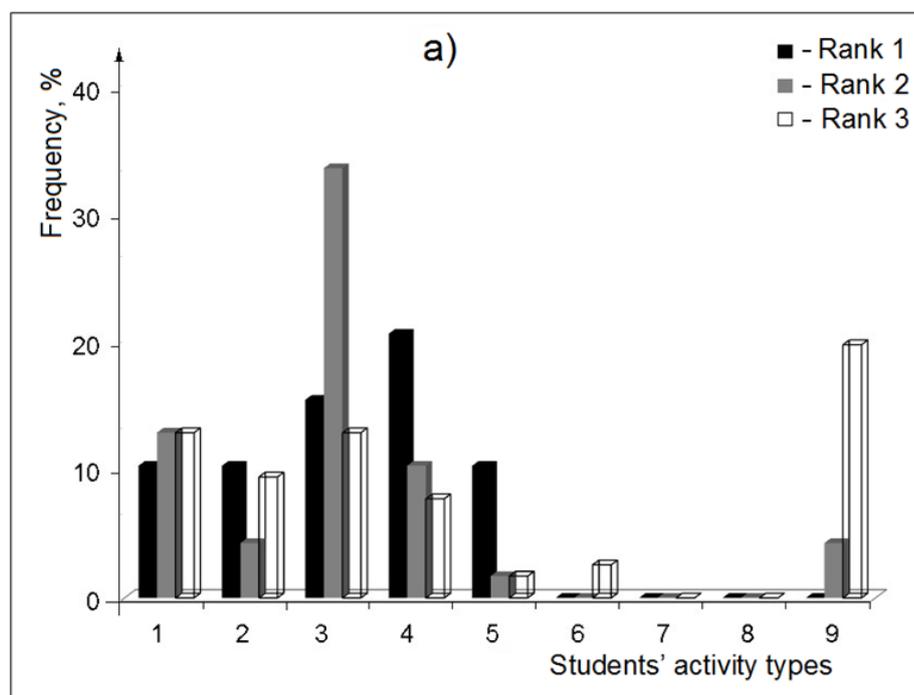


Figure 02.a. Distribution of frequencies of the appearance of ranks 1, 2 and 3 for the following activities: 1 – self-education and self-development; 2 – studies; 3 – work; 4 – leisure; 5 – sport; 6 – creative activities; 7 – science; 8 – social role interaction; 9 – healthy lifestyle (data of the respondents of cluster 'a').

Ranking activities by means of the summation frequency of their appearance with rank 1 and rank 2 while choosing by each cluster respondents makes it possible to identify the leading types of activity that are specific for the cluster 'a': 1 – work; 2 – leisure; 3 – self-education and self-development; 4 – studies; 5 – sport. And for cluster 'b' there is a different sequence: 1 – social role interaction; 2 – healthy lifestyle; 3 – self-education and self-development; 4 – sport; 5 – studies.

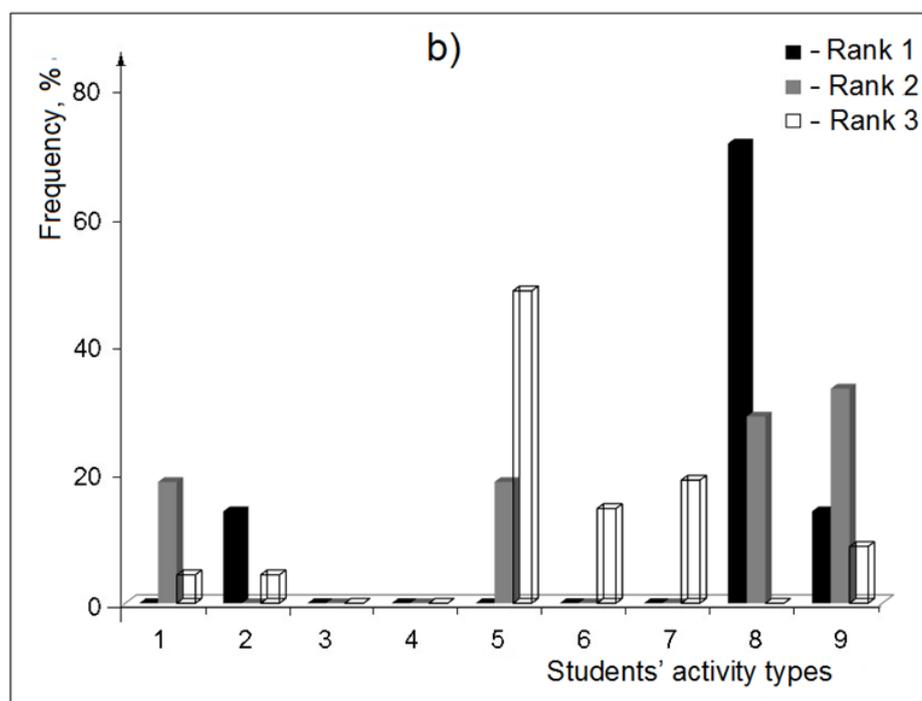


Figure 02b. Distribution of frequencies of the appearance of ranks 1, 2 and 3 for the following activities: 1 – self-education and self-development; 2 – studies; 3 – work; 4 – leisure; 5 – sport; 6 – creative activities; 7 – science; 8 – social role interaction; 9 – healthy lifestyle (data of the respondents of cluster ‘b’).

Students who have entered cluster ‘a’ have practical-oriented value orientations. For such students work, leisure activity, self-education and self-development are of the highest priority among the possible activities. It is highly likely that these value orientations can become the basis for forming such a strategy of long-term behaviour of modern Russian students, as a ‘strategy of professional success’ (Gadilia, & Mesnikovich, 2016).

At the same time, students of cluster ‘b’ characterize social value orientations. Social role interaction, healthy lifestyle, self-education and self-development are more important for them. Probably, these value orientations serve as a basis for the ‘socio-centric strategy’ of long-term student behaviour (Gadilia & Mesnikovich, 2016).

Besides, there are other clusters. In particular, there is a small cluster with the following sequence is characteristic: 1 – study; 2 – leisure; 3 – work; 4 – self-education and self-development; 5 – healthy lifestyle. Such value orientations reflect the ‘strategy of professional success’, oriented to the period of study at a university. We should mention that such strategy corresponds to the traditional assumptions of teachers about the ‘normal’ structure of students’ activities and the influence of education on their value orientations (Wigfield & Cambria, 2010; Jovkowska & Barakoska, 2014) etc.

7. Conclusion

The rather high rating of such students’ activities as work, self-education and self-development, leisure, confirms that students are a potential resource for the development of the educational expanse of a

university. An important task is to actualize this potential, to make it the moving force of the innovative development of each university.

At the same time, it should be mentioned that the results were obtained in the process of analysing a pilot sample of a small volume. It is necessary to continue carrying out this research. It will allow clarifying and detailing the system of value orientations of students' educational activity.

In addition, it will be possible to consider new research tasks, e.g. 'Individualization of a university educational process on the basis of students' value orientations'.

Acknowledgements

The article is done as a part of the State Assignment 27.5905.2017 / 8.9 'System-cognitive approach to recognition of individual academic strategies of university students on the basis of dynamics of their academic success and characteristics of emotional burnout' (2017 - 2019).

References

- Bairaktarova, D., Woodcock, A. (2017). Engineering Student's Ethical Awareness and Behavior: A New Motivational Model. *Science and Engineering Ethics*, V. 23 (4), pp. 1129–1157. Retrieved from: <https://dx.doi.org/10.1007%2Fs11948-016-9814-x>
- Clark, D., Gill, D., Prowse, V., Rush, M. (2017) *Using Goals to Motivate College Students: Theory and Evidence from Field Experiments*. NBER Working Papers 23638, National Bureau of Economic Research, Inc. Retrieved from: <http://www.nber.org/papers/w23638>
- Clements, A.J., Kamau, C. (2017) *Understanding students' motivation towards proactive career behaviours through goal-setting theory and the job demands–resources model*. *Studies in Higher Education*. Retrieved from: <https://doi.org/10.1080/03075079.2017.1326022>
- Gadilia, A.M., Mesnikovich, S.A. (2016) Zhiznennye tseli v strukture professionalnogo stanovleniia studentov. *Scientific Works of the Republican Institute of Higher Education*, 16-2, pp. 59-65 [in Rus.].
- Ivanova, S.V. (2015) Obrazovatelnoe prostranstvo i obrazovatelnaia sreda: v poiskakh otlichy. *Tsennosti i Smy Sly (Values and Meanings)*, 6 (40). Retrieved from <https://cyberleninka.ru/article/n/obrazovatelnoe-prostranstvo-i-brazovatelnaia-sreda-v-poiskah-otlichy> [in Rus.].
- Jovkovska, A., Barakoska, A. (2014) The Role of Education in the Formation of Values and Value Orientations among Adolescents. *International Journal of Cognitive Research in Science, Engineering and Education*, V. 2 (2), pp. 21-28.
- Kasatkin, P.I. (2017) Sovremennoe obrazovatelnoe prostranstvo: osobennosti i perspektivy. *Philosophy of Education*, 3, pp. 3-16. DOI: 10.15372/PHE20170301 [in Rus.].
- Kuhnle, C., Sinclair, M., Hofer M., Kilian, B. (2014) Students' Value Orientations, Intuitive Decision Making, and Motivational Interference, and Their Relations to Regret. *Journal of Experimental Education*, V. 82(3), pp. 375-390. Retrieved from: <https://doi.org/10.1080/00220973.2013.813363>.
- Kwiecinska, R., Rybska-Klapa, J. (2014) *Special needs student in the educational expanse of public school. In I. Surina, Dilemmas of the Modern Educational Discourse* (pp. 139-152). Zweigniederlassung Zurich: Verlag GmbH & Co. KG Wien.
- Leontiev, D.A. (1996) Tsennost kak mezhdistsiplinarnoe ponyatie: opyt mnogomernoy rekonstruktsii / *Voprosy Filosofii*, 4, pp. 15-26 [in Rus.].
- Moskvina, N.B. (2016) Smyslovoy konflikt v deiatelnosti prepodavatel'ia vuza (opyt empiricheskogo issledovaniia). *Vysshee obrazovanie v Rossii (Higher Education in Russia)*, 7 (203), pp. 95-102 [in Rus.].
- Rokeach, M. (1973) *The Nature of Human Values*. New York, Free Press, 438 p.

- Vasilieva, O.S. (2001) Izuchenie osnovnykh kharakteristik zhiznennoy strategii. *Voprosy Psichologii*, 2, pp. 74-85 [in Rus.].
- Wigfield, A., Cambria, J. (2010) Students' achievement values, goal orientations, and interest: Definitions, development, and relations to achievement outcomes. *Developmental Review*, 30, pp. 1–35.
- Yarina, E.V. (2014) Teoreticheskiy analiz ponyatiy 'tsennosti' i 'tsennostnyie oriyentatsii'. *Uchenyie zapiski (Bulletin) of Orel State University*, 5 (61), pp. 160-162 [in Rus.].
- Tekuchev, A.V. (1980). Metodika russkogo yazyka v srednej shkole: Textbook for undergraduate students in Pedagogy. Moscow, 414. [in Rus].
- The United Nations Literacy Decade (2003-2012). *The Literacy Decade: Getting Started*. (2004). UNESCO, printed in France.
- Vasilyevikh, I. P., Gosteva, Y.N. (2016). *To the problem of modelling tasks in the Russian language on the base of informational texts*. International Conference "Education Environment for the Information Age" (EEIA-2016) DOI. Retrieved from <https://doi.org/10.1051/shsconf/20162901076>