

## Diagnosis of the Initial State of Formation of Research Competence of a Future Social Pedagogue

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### ABSTRACT

The article presents the results of the first series of practical research within the scope of an adopted program of pilot testing on “The Technology of Formation of Exploratory Competence in Future Social Teachers within the System of University Education”. A set of questionnaires offered to students made it possible to identify the initial condition of formedness of exploratory competence of future social teachers, which helps to choose correctly the most efficient methods and techniques for its proper formation. It was found out that the students interviewed lack cognitive and professional motives, and do not have a clear idea about scientific activities and their place in a social teacher occupation. However, a considerable amount of respondents have positive attitude to exploratory activity, which means a material opportunity for fostering exploratory competence in future social teachers within the system of university education.

### KEYWORDS

exploratory activity, motive, exploratory competence, education system

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## Introduction

In the process of development of politically and economically independent Republic of Kazakhstan a very important role belongs to science and education. These are the factors of breakthrough and competitive ability of the country at the global social, political and economic stage. Higher professional education should be aimed at formation of a competitive expert with internationally acceptable level of knowledge and an ability to create ground-breaking innovative technologies and national products. Exploratory activity of future social teachers is regarded as a condition of their professional evolvement. Motives of future experts serve as the impelling force for activity. This article presents the data of the questionnaire, revealing the motivation of students to exploratory activity, their attitude to exploratory activity and the level of exploratory skills. The aggregate of this data lets us identify the initial condition of formedness of exploratory competence in future social teachers. Diagnostics and monitoring of the initial condition of exploratory competence together with the use of pedagogic tests allow – at the stage

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of formation – to correctly choose the methods and forms of development and stages of formation of exploratory competence in future social teachers.

## Literature Review

Exploratory activity is a way of cognition of reality by a human. Its special feature as a form of cognition lies in the fact that obtained knowledge is reasonable, objective, argumentative, reproducible, accurate (Zimnyaya, 2000).

It is worth to be noted that a future social teacher should have certain abilities in order to perform scientific research. These abilities in the aggregate define his or her readiness to this kind of activity. At this one of the most important condition of a student's readiness to the exploratory activity is a positive motivation.

Motive (from Lat. *movere* — to put into motion, to push) — is a subjective reason (conscious or non-conscious) of some behaviour or action. This is a psychic phenomenon directly inducing a person to choose a certain way of activity and to implement it (Kodzapirova, 2000).

Motivation is a crucial factor of activity of a person, an inducement to any kind of activity. In particular, an efficient cooperation of subjects within the education system is impossible without consideration of peculiarities of their motivation, as the same actions may be based upon different incentives depending on different internal and external factors.

Exploratory competence is efficiency of practical application of learnt exploratory skills (Vvedensky, 2003). Exploratory competence manifests in theoretical expertise, mastery of methods of psychological and pedagogical research, skill of statistical processing of empiric data, ability to draw conclusions and present results of the research (Voronova, 2000). Exploratory competence is a pedagogical value. It assumes that a social teacher has a value-conscious attitude to exploratory activity and him- or herself as its subject. It also assumes that a social teacher has not only an ability to study the reality in its substantial connections and relations, but also to get new knowledge and to carry out exploratory activity.

## Methods

Within the practical research of an adopted program of pilot testing on the topic of “The Technology of Formation of Exploratory Competence in Future Social Teachers within the System of University Education” we have developed pedagogic techniques of testing. The research took place from April 20 till May 15, 2015 in Almaty at Al-Farabi Kazakh National University.

Pedagogic technique of diagnostics includes (1) preparatory stage, (2) stage of direct diagnosis, (3) data-processing stage. Several methods were selected in the process of development of the diagnostics. This research included determination of students' attitude to exploratory activity, students' motivation to exploratory activity and level of exploratory skills in students. This data lets us identify the initial condition of formedness of exploratory competence in future social teachers.

Diagnostics of abovementioned parameters was performed through following test methods: a questionnaire “The attitude to exploratory activity”, a questionnaire “Mastery of exploratory skills”, a method “Assessment of motivation to the exploratory activity” in future social teachers. Students of the Almaty Al-Farabi Kazakh National University (from specialities “5B012300-Social Pedagogics

and Self-Knowledge” and “5M012300-Social Pedagogics and Self-Knowledge”) took part in the research. Number of students participating in the questionnaire —103 persons: 77 are students and 26 are master's students. Average age of respondents — 19.5 years.

## Results

### 1. Results of the questionnaire on the attitude to exploratory activity.

The questionnaire “The attitude to exploratory activity” let us define the attitude of students to the exploratory activity. We single out four basic types of attitude: positive, contradictory, indifferent, negative.

Table 1. Bachelor students

Positive	57	74%
Contradictory	4	5.3%
Indifferent	16	20.7%
Negative	0	0%

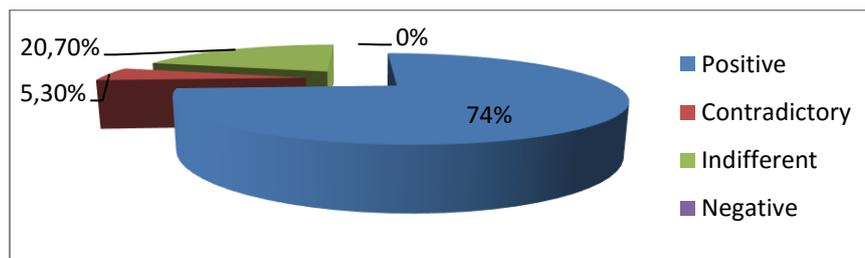


Figure 1. Bachelor students

Table 2. Master students

Positive	22	84.6 %
Contradictory	1	3.8 %
Indifferent	3	11.6 %
Negative	0	0

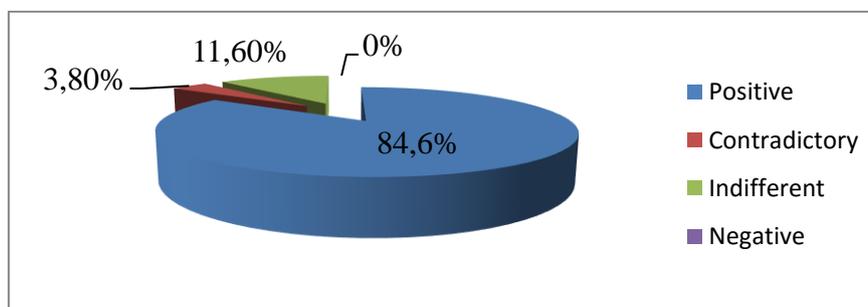




Figure 2. Master students

## 2. Results of the questionnaire “Mastery of exploratory skills”.

This questionnaire lets assess the level of mastery of exploratory skills. The respondent is given a list of exploratory skills, such as: to choose and justify exploratory topic, to pick corresponding literature needed for understanding of topic, to anticipate methods and tools of research, to define and justify an object, subject, supposition, objective, tasks, methods, stages of research, to find and apply corresponding research techniques etc. The respondent has a possibility to grade his or her level of exploratory skills by three degrees: “well”, “poorly”, “no skill”.

Table 3. Bachelor students

Well	55	71.4%
Poorly	18	23.4%
No skill	4	5.2%

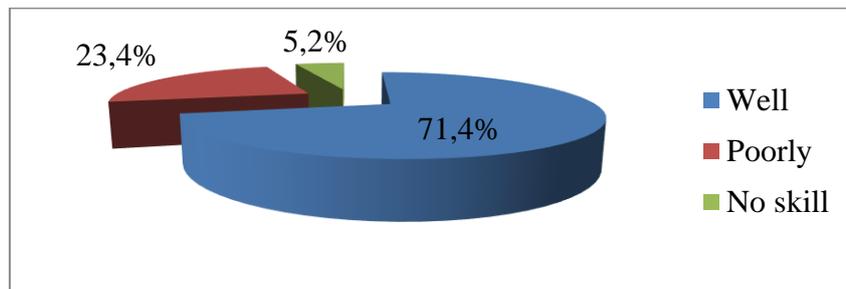


Figure 3. Bachelor students

Table 4. Master students

Well	16	61.6 %
Poorly	9	34.6%
No skill	1	3.8%

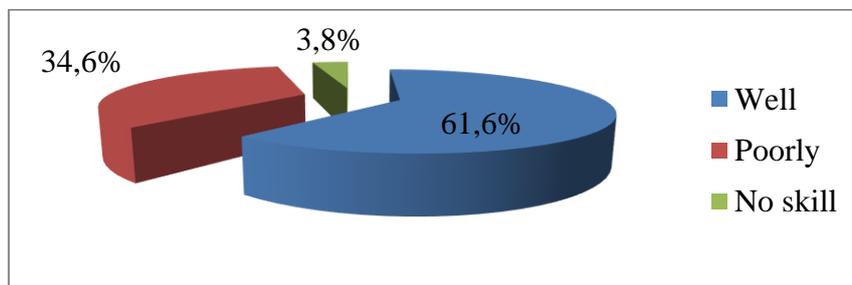


Figure 4. Master students

## 3. Results of the method “Assessment of motivation to the exploratory activity”.

With the help of questionnaire we have defined: main stimuli for exploratory activity; level of informedness of students about organisation of Student Scientific Research Project (SSRP) system at the university; understanding of potential of exploratory activity for quality professional pedagogic formation by students; subjectively perceived difficulties impeding exploratory activity etc.

Analysis of the method revealed the most common answers for the questions:

- Would like to be engaged into exploratory activity — 82% of respondents.
- As to the reasons for lack of motivation to scientific and exploratory activity, the respondents answered: not enough support from the supervisor; lack of time; suggested topics are not interesting; no specifically set objectives; no facilities; no self-confidence; no support from the outside.
- Know about different forms of SSRP at the university and constantly take interest in changes of the system and its organisation — 38.5% (bachelor students 27.3%) of students; know about the forms of SSRP they participated in, but do not take regular interest — 54% (bachelor students 26%); do not know and never take interest — 7.5% (bachelor students 46.7%) of respondents.
- Regularly participated in exploratory activity at university — 69.3% (bachelor students 41.5%) of students; participated in exploratory activity, but rarely — 15.4% (bachelor students 46.7%); never participated in exploratory activity at university 15.3% (bachelor students 11.8%).
- Practice exploratory activity in order to perform graduation qualification work — 31% (bachelor students 33%) of respondents; 19% (bachelor students 26%) of students mention their interest to this kind of activity as the objective; 50% (bachelor students 41%) regard self-development and improvement of professional qualifications as the objective of activity;
- As to what incited the students to engage into scientific and exploratory activity, 31% (bachelor students 32.7%) of respondents answered it was the suggestion of their supervisor; 38.5% (bachelor students 44%) — a desire for knowledge and detailed study of a problem interesting for them; 30.5% (bachelor students 23.3%) — a desire of personal growth;
- In response to the question “In which way you think the motivation to the scientific research should be stimulated” we obtained following: internship abroad; funding of SSRP; use of the ‘carrot and stick’ approach; get students interested from the first year; meetings with doctoral students; to boost students’ self-confidence; accessible and interesting information distribution; rewards; a right to choose the supervisor and topic; establishment of student scientific and exploratory groups at the university.
- 97% of respondents think that scientific and exploratory activity is a very important part of work of a social teacher as it: promotes self-development and self-improvement — 7.5% (bachelor students 39%); makes knowledge deeper and better — 38.5% (bachelor students 28.5%); rises the level of professional qualification — 54% (bachelor students 32.5%);
- Students mention following obstacles for their exploratory activity: lack of time for scientific and exploratory activity — 50% (bachelor students 31.2%); high study load — 15.3% (bachelor students 33.8%); underdeveloped facilities and resources — 19.4% (bachelor students 11.7%); low funding of scientific and exploratory work of students and teachers’ supervision work — 15.3% (bachelor students 23.3%).



- In response to the question “Do you have any difficulties within scientific and exploratory work?”: no difficulties — 3.8% (bachelor students 9%) of students; some minor difficulties — 61.5% (bachelor students 50.5%); significant difficulties — 34.6% (bachelor students 40.5%) of respondents.

- Drafting of a report causes no difficulties for 45.4% (bachelor students 31%) of students; causes some minor difficulties for 50.8% (bachelor students 53%) of students; causes significant difficulties for 3.8% (bachelor students 16%) of respondents.

- Do not have difficulties with establishment of scholarly apparatus of the research — 19.2% (bachelor students 15.5%) of students; have some minor difficulties — 61.5% (bachelor students 57.2%) of participants; have significant difficulties with establishment of scholarly apparatus of the research — 19.5% (bachelor students 27.3%) of students.

## Discussions and Conclusions

The level of exploratory competence is characterised by deliberate and motivated participation in exploratory activity; by an ability to analyse the problem and search variants for its solution; by capacity for efficient work. Thus, in view of the above, we think that formation of exploratory competence in future social teachers within the system of university education should include: scientific and exploratory activity integrated into the learning process; scientific and exploratory activity complementing the learning process; scientific and exploratory activity parallel to the learning process. The process of development of exploratory competence within the system of university education is regarded as a kind of cultural collective work of teachers and students aimed at development of exploratory potential. It promotes development of proper worldview in students. This process is aimed at formation of readiness in a personality to exploratory activity.

The results of the questionnaire let us conclude that in exploratory activity students lack cognitive and professional motives. The majority of future social teachers do not feel personal desire for exploratory activity — they need an incitement from outside. External support is very important for them, as it promotes actualisation of motives for exploratory activity. Students experience difficulties with drafting of a report and establishment of scholarly apparatus of the research. They do not have a clear idea about scientific activity and its place in the work of a social teacher. Their idea is quite general and incomplete. However, about 80% of respondents have positive attitude to exploratory activity, and this gives us a great opportunity to form exploratory competence in future social teachers within the system of university education.

## Disclosure statement

No potential conflict of interest was reported by the authors.

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### References

- Kodzapirova, G. M. (2000) *Pedagogic dictionary: for students of high and secondary educational institutions*. Moscow: Academy, 176 p.
- Voronova, T. A. (2000) Revisiting criteria of efficiency of training of teachers-researchers within the system of university multilevel pedagogic education. In: V. A. Myasnikov (ed.), *M. N. Skatkin and modern education: Proceedings of the conference, 2* (75-89). Moscow.
- Vvedensky, V. N. (2003) Modelling of professional competence of a teacher. *Pedagogika Journal, 10*, 51-55.
- Zimnyaya, I. A. (2000) *Scientific and exploratory work: methodology, theory, experience of organisation and implementation: experimental original academic programme*. Moscow: Research Centre for Problems of Quality in Specialists, 28 p.