

# Professional Teachers' Competence as a Condition of Forming High School Students' Academic Mobility

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This article justifies the necessity of forming a new educational result for general secondary education graduates. It includes academic mobility and its structural components are profile competencies. Academic mobility is regarded as the condition of integration and globalisation of education, a constituent of integration processes and international cooperation, and a person's quality. The condition of the successful forming of the educational result is the professional teacher's competence while forming academic mobility. There is a work of a series of seminars during a year and a half as the means of development the professional teachers' competence in the field of forming the high school students' academic mobility. It includes the teacher's training for forming the high school students' academic mobility and a support of the teacher practising in the secondary school. The performance indicator of the professional teachers' competence as the condition of the high school student's academic mobility is the level of the high school student's profile competence formation. The results of experimental research justifying the influence of professional teachers' competence level upon forming the high school student's academic mobility are described here. There is a conclusion about the effectiveness of forming the high school student's academic mobility under the condition of professional teachers' competence.

**Key words:** *The high school student's academic mobility, Profile competence, Professional teachers' competence.*



## Introduction

Integration processes in the global community in all the spheres of human activity have affected education. The aim of the Bologna process is the creation of a unified pan-European educational space within the framework of the humanistic paradigm, with the orientation to the competence model. Besides, in the heart of the Bologna process there is academic mobility.

The joining of the Russian Federation to the Bologna declaration, as well as the tendencies of the development of the modern Russian community defined the basic factor of socio-economic human capital development. This caused some system changes of continual education. The pedagogical aim transformed from the knowledge system to the set of competence. Thanks to them, it is possible to study during the whole life, to choose and to update the professional way of competencies and personal qualities, and to move in multiple educational space. These educational aims as educational results are consolidated in the concept of long-term socio-economic development of the Russian Federation for the period to 2020 and in federal state educational standards.

Secondary general education should provide the graduate with the competencies allowing building and implementing an educational path in the conditions of multivariable education (to be academically mobile). In the modern stage the present educational result, in the conditions of high school being formed, the low level of formation tells about this spontaneous process, while there is an urgent need in purposeful activity of general education subjects. They provide conditions for forming present educational results for secondary school students.

**Problem Statement:** Thus, in the theory and practice of secondary education there is a **problem** connected with the determination of the conditions of the high school student's academic mobility formation.

**The Purpose of the Study:** theoretical justification and the pilot test effectiveness of the influence of professional teachers' competence on forming the high school student's academic mobility.

**The Hypothesis** of the study consists of the assumption that the professional teachers' competence in the way of forming the high school student's academic mobility will provide the conditions of shaping the present educational result.

**The Objectives** of the study were defined according to its purpose:

1. To make a review of domestic and foreign pedagogical literature devoted to the problem of forming the high school student's academic mobility.
2. To define the contents of professional teachers' competence in the way of forming the high school student's academic mobility.
3. To provide the pilot test effectiveness of the influence of professional teachers' competence on forming the high school student's academic mobility.

**Research Methods:** A set of methods that are used in the research consisted of theoretical methods (analysis, synthesis, comparison, generalisation and classification); empirical methods (pedagogical experiment,); method of mathematical statistics (calculation of the statistical chi-square test( $\chi^2$ ) and the Spearman correlation coefficient (P)).

**The Discussion of the Study Results:** The problem of forming the academic mobility in the conditions of continuous education has been studied deeply in the scientific literature.

R. Bedix, P. Burdye, M. Veber, E. Giddens, S.M. Lipset, T. Parsons, P.A. Sorokin, M.F. Chernysch studied the criteria of mobility in their explorations. In their works there were developed the theories of social stratification which determine the position of the human being in the society and determine the activity. The authors have also defined the basic kinds of social mobility (Kozhabergenova et al, 2018).

The domestic pedagogical science mobility was regarded within the frame of education for a long time. The social-professional mobility is understood as a focus of people activity on the satisfaction of rising material and spiritual needs (E.A. Morylyova and N.N. Surtaev) as a two-side activity: the change of positions made by external circumstances and as inner personal self-improvement. (L.N. Lesohina, 1998).

In the modern pedagogical science academic mobility was regarded in many ways:

-a condition for integration, globalisation of education including the right to move, to live, to get education in the native country and abroad. The research of academic mobility as an aspect of globalisation of education was studied by B. Cantwell (2011); Cutuli, J. J., Desjardins, C. D., Herbers, J. E., Long, J. D., Heistad, D., Chan, C.-K., Hinz, E., & Masten, A. S. (2013), N. Kemp (2011); J. Codina (2013) and others (Parchin & Davaribina, 2019).

A component of integration processes and international cooperation in the field of higher education, a complicated and multifaceted process of intellectual promotion, an exchange of scientific and cultural capacity, resources, education technologies (Rose, 2016); Regina G. Sakhieva, Liudmila V. Semenova, Isita V. Muskhanova, Amina Kh. Yakhyaeva, Rezeda R.



Iskhakova, Elena V. Makarova & Liliya Sh. Shafigullina (2013); Yegorychev A. M., Choroshylova S. P., Sklemina O.A., Minakova E.S., Kostina E. A. (2016);

-a person's quality expressed in the capacity to move in the multiple educational space by means of forming and realizing an individual educational learning path. Thus, L.V. Znovenko (2008) regards academic mobility as a new personal competence, which is the result of performance of a subject in the educational process. A student is supposed to plan and realise an individual educational learning path taking into consideration the specificity of the chosen profession, tendencies of job market development, working experience and tendencies of international and national educational systems' development.

N. K. Dmitrieva (2013) regards academic mobility of educational process subjects as a holistic personal quality formed in the process of education and performing a dynamic state of the components compiling it. It is characterised by the capacity and readiness to adapt, change and transform themselves and the environment.

I.A. Odenbakh (2011) takes an intermediate position between two basic approaches of the phenomenon study. The author regards academic mobility as a framework of the Russian education integration into pan-European educational space as an aspect of socialisation of a student's personality.

All the above viewpoints suppose forming of academic mobility in the system of professional education. High school graduates, having no experience in the choice of school subjects, courses and educational institutions in accordance with their aptitudes, ambitions, experience of independent study of the chosen subject, keeping an investigation in the selected area can hardly adapt to the system of professional education. A university-entering student is in a case of failure. So he gets a negative attitude to the education instead of forming the value of continuing education.

The analysis of scientific literature identifies the high school students' academic mobility as a universal result of education, and the capacity to carry out in practice some complicated mental and practical actions. They are necessary to form and realise an individual educational learning path in conditions of multi-level, dynamic, ready to transform for demands from society, and a system of continuing education by means of professional competencies.

Literature analysis allows making a conclusion that academic mobility forming in the educational condition can occur both spontaneously and in specially organised conditions. One of these conditions is the professional teachers' competence.

Despite a broad represented term “professional teacher’s competence” in the scientific literature (Hakim, 2015; Jacobson Barineka Nbina, 2012; Kuldarkhan O. Orazbayeva, 2016; Kunter Mareike; Klusmann Uta; Baumert Jürgen; Richter Dirk; Voss Thamar; Hachfeld Axinja, 2013; Maria Liakopoulou, 2011; A. V.Hutorskaya, 2011; V. D.Shadrikov, 2011 and others), there is no unambiguous definition and understanding of the structure of this phenomenon.

Based on the analysis of the scientific literature the definition of professional teacher’s competence is formulated by us. It is a combination of knowledge, skills and methods of activity which provide to carry out activities to form student’s educational results and awareness of the activity’s necessity. We defined the following components as structural elements. They are: motivational and axiological component (awareness of social and personal significance to form the high school students’ academic mobility); understanding of the necessity to review education content, to integrate a double subject component, awareness of the necessity of individual educational learning path, and comprehension of the necessity to master some technologies to form the high school students’ academic mobility; cognitive component (understanding the definition: “continuing education”, “academic mobility”, “profile competences”, “meta-knowledge”, “content module”, “individual educational learning path”); profile competencies classification, their structure, and the conditions of profile competencies forming; requirements of state educational standards with regard to the list of formed profile competences; modern status of the subject of science taught, and methodology of the subject of science taught, ICT-technologies and the technology of action-related study, criteria-oriented technologies, and accumulative educational results.

A series of seminars was developed and conducted to enable professional teachers’ competencies to form the high school students’ academic mobility. The seminars were organised during a year and a half: the first year-teachers’ training to form the high school students’ academic mobility. Half of the year was dedicated to support teachers working in tenth grade. A series of seminars dedicated to teachers’ competence had to be duplicated sometimes, because the teachers’ syllabus in high school had been changing.

Organisation of the seminar supposes understanding of the problem of how to form the high school students’ academic mobility and initialisation of the aim of professional competence promotion to form academic mobility. A creative group of teachers planning to work in the tenth form was formed. This group worked a year and a half. During the seminar’s work during the first year the teachers studied FSES (federal state educational standards), meta-subject content, classification and structure of profile competencies. Modern state of the subject of science taught, scientific methodologists and subject-teachers are consulted by university teachers for complete understanding of the profile level content. Teachers study the technologies of profile teaching and hold the level diagnostics of ninth grade students’

key technologies. Heads of profile chairs and psychologists visit lessons and extra-curricular activities, discuss the viewed lessons, content problems and technologies during the first half of the year.

As a result of the seminar the teachers' inadmissible and critical level of motivational and axiological component decreased from 45 % to 20%. Admissible and optimal level increased from 55 % to 80% from a common number of respondents. Unacceptable and critical level of cognitive component decreased from 64% to 21%. Admissible and optimal level increased from 52% to 79%. Unacceptable and critical level of procedural component decreased from 57% to 16%, admissible and optimal level increased from 43% to 84%. It shows that the teachers eliminated the lack of information (professional knowledge) and got some necessary professional skills to form academic mobility. Changes in meta- knowledge, methodology of exploration in the field of taught subjects, abilities to organise students' exploration works are very important.

The quality of educational process, the formed level of high school students profile competencies as a component of academic mobility is the effective index of a professional teachers' competence.

Experimental tests of effectiveness, showing how much professional teachers' competence influences the forming of the high school students' academic mobility, was held according to the third exploration objective. This experiment was held in BEI of the city Omsk "Lycei № 54", BEI "School № 135", BEI of the city Omsk "School № 11", "School № 33", "School № 144".

The forming experiment continued from September 2012 to May 2015. 409 students and 108 teachers took part in it. The experiment was held in educational institutions not at the same time: it was necessary to have two tenth grades in the parallel to take part in the forming experiment level.

The diagnostics in the methods of formed profile competence level was elaborated by S. N. Ryagin (2010). It showed the following results: after pedagogical experiment 68 % of 11-grade students the career and educational profile competence had an average level, 12%- a high level.

Organisational and educational profile competence allowing an appropriate job choice and educational learning path is formed in a critical (12%) and low (22%) level. 46% of students had an average level and 20%-high.

The level of formed meta-subject profile competence of high school students was: critical-8%, low-35%, average-41% and high-16%.

Research students competence of 11-grade students was critical (9%), low (39%) and average (40%), high-12%.

The most important changes have happened in the research profile competence. The entry research showed that the bigger part of high school students is not ready for exploration activity. There wasn't a high level. Test exploration showed a sharp reduction of graduates with a critical level of formed research profile competence and an increasing part of high school students with average level. Some graduates with high level appeared.

Command and organisational profile competence of high school students was formed in critical (4%) and low (38%) level. An average level-42% and high-16%.

The statistical criterion chi-square test( $\chi^2$ ) was used to summarise the received data. A zero hypothesis was a suggestion that the watched events have a random character.

A calculated quantity  $\chi^2$  was compared with its critical value (critical value  $\chi^2$  with the level of relevance  $p < 0,01$  is 11,345, with  $p < 0,05$  is 7,815). A zero hypothesis was denied at the level of relevance ( $p < 0,01$ ) for a number of degree of flexibility -3.

The relationship between teachers' professional competence and the level of formed profile competencies as a structural component of academic mobility, was defined in accordance with the Spearman correlation coefficient (P). The correlation coefficient (P) is 0.950. That defines the relationship between professional teachers' competence and the level of formed academic mobility as a straight line.

The strengths of the connection in Cheddok's scale is high at number of degrees of flexibility(f) 4. The critical relevance of the Spearman criteria at the number of degrees of flexibility is 0.94.  $P_{empir.} < P_{crit.}$  indication s' correlation is statistically important. ( $p > 0.05$ ).

## **Conclusion**

A series of seminars was developed and conducted to enable professional teachers' competencies to form the high school students' academic mobility. The seminars were organised during a year and a half: the first year-teachers' training to form the high school students' academic mobility. Half of the year was dedicated to support the teacher working in the secondary school.



The result of seminars dedicated to forming professional teachers' competencies is the decrease of the critical level of forming all the components and the increase of the optimal level. The admissible level of cognitive and procedural components hasn't changed much. The admissible level of motivational and value component has much decreased but the admissible and optimal levels of professional competence predominate on account of the optimal level increasing.

A correlation analysis implemented according to the results of pedagogical experiment forming stage has confirmed the dependence of forming the high school students' academic mobility on the level of professional teachers' competence formation.

Thus, the hypothesis of the exploration has confirmed: improving the professional teachers' competence level facilitates to form high school students' academic mobility.

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