

# The Assessment of Professional Competencies Level of Future Masters in the Field of Teaching Persons with Disabilities

Valentina Ivanovna Spirina, Marija Leonidovna Spirina, Tatiana Ivanovna Oleshko, Valentina Ivanovna Lahmotkina, Olga Nikolaevna Spirina, Larisa Aleksandrovna Jastrebova

Armavir State Pedagogical University,  
352901, Russia, Krasnodar region, Armavir, Rosy Luxemburg Street, 159

Elena Vladimirovna Baboshina

Dagestan State University (Branch in Kizlyar),  
368800, Russia, The Republic of Dagestan, Kizlyar, S.Stal'skogo, 1 e

## Abstract

The article considers the problem of forming professional competencies of future masters in the field of "Special (defectology) Education". The authors reveal the content of the competency approach to organizing educational process. The content characteristic of professional competence of a master in the sphere of educating persons with disabilities and the content characteristic of correction rehabilitation processes are suggested. The organizational pedagogical conditions of professional competencies forming are defined. The diagnostic toolkit and the results of the conducted experimental research basing on the assessment of professional competencies level of future masters in the field of "Special (defectology) Education" are presented.

**Keywords:** competency, competence, professional competencies, cognitive, activity-oriented and person-oriented components of professional competencies, professional significant abilities, person-oriented approach to education, "Special (defectology) Education".

## 1. INTRODUCTION

Modern Russian educational policy is aimed not only at providing high-quality competitive staff capacity but also at solving a number of specific tasks, such as forming general cultural, general professional and professional competencies, that contribute to achieving maximal positive results of activity and effective solution of professional tasks. In the process of masters' professional training special attention is paid to the formation of professional competencies in the fields of activity that are determined by the Federal State Educational Standards of Higher Education (hereinafter the Standard) in the sphere of "Special (defectology) Education" including such activities as correctional-pedagogical, diagnostic-consultative, prophylactic, scientific-research, teaching, organizational-managing and cultural-educational.

In the Russian Federation education is acknowledged as an element of social state politics that determines its hierarchical significance. The introduction of united educational standards and the implementation of general requirements for the formation of graduates' competencies are the main objectives of Russia's participation in the Bologna process which greatly contributes to increasing the competitiveness of graduates in the world labour market.

The requirements for the structure of educational programmes defined by the Standard include the implementation of the competency approach in the process of professional training of masters. This implies the existence of a strictly regulated structure of an educational programme (basic and elective parts) in particular and the provision of personnel, financial, material and technical conditions, the achievement of certain results of mastering a programme that are measured by the level of formation of a number of competencies.

## 2. THE PROBLEM OF FORMING PROFESSIONAL COMPETENCIES

It is well-known that the competency approach found its application in educational practice in 1960-70's (V A. Bolotov, I.A. Zimnyaya, V.V. Kraevskiy, Yu.G. Tatur, A.V. Khutorskoy and others) [1-8]. The indicated period can be defined as the initial stage of formation of the competency approach in educational space. The term "competency" was introduced into scientific usage by an American scientist N. Chomsky. Alongside

this term in 1970-90's the concept of "competence" was widely interpreted in the theory and practice of education. This period can be considered the second stage in the formation of the competency approach.

In Russia the process of transition from the evaluation of study results to defining the level of the formation of competencies proper occurred due to the introduction of educational standards in the late XX and early XXI centuries. Scientists and practitioners began to actively discuss the basic concepts and content characteristics of the competency approach, its importance in the process of developing and implementing the educational programme. L.N. Khutorskaya and A.V. Khutorskoy believe that the concept of "competency" along with certain qualities of an individual includes knowledge, skills and methods of activity that are appropriate and necessary for its effective implementation. According to some scientists, "competence is the quintessence of target, content, meaning, creative, emotional and value characteristics of a person" [8].

According to of I.A. Zimnyaya, "competence" is a set of knowledge and skills based on the intellect and life experience of a person, and "competency" is unrealized potential, hidden reserve [3]. A.V. Barannikov understands competence as a special ability based on knowledge acquired as a result of educational and cognitive activity of students [9]. V.V. Serikov defines competence as "...a way of existence of knowledge, skills and education level contributing to personal self-realization and finding a place in the world by a pupil" [10].

The analysis of scientific and methodological literature on the content characteristics of the concepts "competency" and "competence" showed the following:

- in the modern scientific community there is a broad theoretical basis for formulating, forming and evaluating the level of competencies of students which makes the basis of the competency approach;

- competence is defined as motivational and personal preparedness to manifest one's own abilities in the sphere of professional activity;

- competency is the ability of an individual to apply the accumulated potential and formed personal qualities in relevant types of professional activity;

- the results of professional training are the competencies that a graduate demonstrates in the course of work.

We understand the professional competence of a master in the field of "Special (defectology) Education" as a complicated personal characteristic including a spectrum of knowledge, skills and experience in correctional-pedagogical, diagnostic-consultative, prophylactic, scientific-research, teaching, organizational-managing and cultural-educational activities, as well as personal qualities necessary for their successful implementation.

The level of the formation of the professional competencies of a master predetermines the effectiveness of solving urgent and priority tasks in the future professional activity. It is well-known that the requirements for the results of mastering an educational programme are aimed at achieving the highest possible threshold of mastering professional competencies. The determining factors of the effectiveness of the educational process and, consequently, its results in the form of mastering these competencies are the demands of employers, the personnel conditions (qualification of academic teaching staff), material-technical and methodological support.

The content of the master's training within the academic programme "Modern technologies of special and inclusive education" in the sphere of "Special (defectology) Education" contains disciplines that have a practical focus, such as "Rehabilitation and social adaptation of persons with disabilities", "Psychological and pedagogical support of persons with disabilities and their families", "Assistive technologies in special and inclusive education" and others. Particular attention in the process of studying the above-mentioned disciplines is paid to the formation of professional competencies of master's degree students by means of organizing their scientific-research work and in the course of work professional experience and practice which undoubtedly contributes to the formation of a number of competencies necessary for solving problems of inclusive education and the application of innovative psychological-pedagogical technologies, social adaptation and the integration of individuals with disabilities [11].

In our opinion, the efficiency of forming professional competence of masters in the field of "Special (defectology) Education" is provided by means of introducing the systematic approach into educational process. The key point of this approach is close interaction between its all structural elements (subsystems). Basing on the fact that the properties of a system itself do not reduce to the properties of separately selected elements constituting its structure we suggest the project method as actual and effective means of training master's degree students. The application of this method in the educational process enables to manifest and support the students' reflection. A high level of reflection provides the awareness and an adequate interpretation of the primary professional tasks, as well as the results of research activities of future masters.

Organizing and carrying out work professional experience and practice of master's degree students provides collection, analysis and systematization of materials for master's thesis. In the course of writing a thesis students prepare and present scientific projects, publish articles, participate in conferences, round-table discussions and seminars. Work on the master's thesis begins at the first stage of higher education, namely in the process of mastering bachelor's programmes. Studies conducted on the topics of term papers and scientific projects provide master's degree students with their own empirical experience.

In our opinion, the problem area in the process of forming professional competencies of masters is the analysis and assessment of the level of formed competencies taking into account the requirements of employers. The works by A.N.

Mayorov, Yu.M. Neyman and E.V. Semenova are devoted to the development and implementation of a complex of multilevel tasks [12-14]. They include situational tasks in the form of tests that enable not only to assess the level of the formed professional competencies but also contribute to increasing students' cognitive motivation to improve the level of their own professional competencies formation. Such methods as questionnaires, project method, business game and case method allow future masters to create a portfolio that can facilitate their successful employment. Alongside the listed methods in the educational process, a rating system for evaluating learning activities results is used as well.

### 3. METHODOLOGICAL APPROACHES TO FORMING PROFESSIONAL COMPETENCIES

The formation and assessment of the level of formation of professional competencies of masters in the field of "Special (defectology) Education" is currently insufficiently covered in the scientific literature and require further study and theoretical justification. As the analysis of the educational programme shows, the curriculum includes, basically, the disciplines of theoretical rather than of applied nature which causes certain difficulties in the assessment of study results.

Organizational-pedagogical conditions providing high results of educational process and contributing to increasing the level of professional competencies are crucial in the process of their formation. The implementation of such conditions ensures the achieving goals of educational process, strengthens the interaction between a university teacher and a master's degree student and improves the effectiveness of study results. The most important of these conditions consists in the organization of the educational process aimed at determining the content, forms and methods of teaching that are relevant for its purposes. The theoretical foundation and the subsequent implementation of organizational-pedagogical conditions should ensure the effective training of a highly qualified graduate.

An educational programme developed according to the Standard and the requirements of employers is the main constituent of successful implementation of organizational-pedagogical conditions. The aim, content, tasks and ways to realize an educational programme as a system must be directed both to the formation of professional competencies of a master and to providing mechanisms of their assessment.

The cardinal component of the organizational-pedagogical conditions that ensure high effectiveness of the educational process and increase the level of the formation of professional competencies is the educational environment which includes:

- a university's prestige; the place that a university occupies in the rating of educational institutions of Russia and the world (an employer prefers a graduate candidates with diplomas of more famous universities);
- educational-methodological and material-technical support of mastering an educational programme (the availability of electronic library systems (electronic libraries), modern professional databases, classrooms equipped with multimedia complexes, computer classes with the ability to enter the global search engines, laboratories equipped in accordance with the training profile).

Each master's degree student is given an individual assignment according to the topic the research work by a scientific supervisor. A scientific supervisor implementing person-oriented approach in the process of conducting experimental study takes student's personal interests into account, plans, guides and controls his work. Depending on the obtained database students have an opportunity to confirm in practice the methods and techniques that have the status of approved and consistent with the published materials in the scientific and methodological literature.

In process of mastering certain knowledge, skills and experience of professional activity, master's degree students pass to a more complex level of their professional development. They master the skills of designing and implementing educational and corrective work using innovative psychological and pedagogical technologies, drawing up individual routes of development, education, social adaptation and integration of individuals with disabilities, the skills of approbation of author's psychological-pedagogical technologies, etc. This is an important reason for participation in conferences, preparation and publication of articles, writing a master's thesis.

The monitoring of student's attitude towards organizing the educational process and, consequently, improving academic programmes contributes to an increase in students' interest and self-organization due to their participation in scientific-research work.

The requirements to the results of mastering an educational master's degree programme consist in the description of a set of competencies and their structural clarification. Due to the fact that an employer is not able to assess advantages of a specific academic programme and to train a graduate taking into account such a wide range of competencies, the competencies are being reduced and structured in the process of developing an educational programme. It goes without saying that at the stage of formulating competencies and creating the list of disciplines to form them the justified demands of employers should be taken into account. The improvement of the content of educational programmes, on the condition that all the mentioned requirements are complied with, is provided with the introduction of new disciplines which content is aimed at forming professional competencies. The most important organizational-pedagogical condition for successful mastering an educational programme by students is the development of a teaching and learning pack of a discipline aimed at achieving the planned study results. To form the skills of self-study activity of master's degree students the disciplines of the curriculum should be presented in the media space: Moodle, electronic information education environment, etc. In accordance with the competency approach, the professional competencies that a graduate must master determine the content of the educational programme, the requirements for the educational process for each discipline of the curriculum, educational and methodological support and the level of qualification of the teaching staff.

The priority task is also the formation of masters' motivation for career growth. The competence of a graduate, undoubtedly, should be practical orientated and ensure a high level of subsequent professional activity [15].

#### 4. ASSESSMENT OF PROFESSIONAL COMPETENCIES LEVEL

The experimental research was carried out according to the set aim and developed plan. Master's degree students studying in the field of "Special (defectology) Education", (educational programme "Modern technologies of special and inclusive education") were the test subjects.

The tasks of the experimental study:

- to develop a diagnostic toolkit for the assessment of the professional competencies level of future masters in the field of "Special (defectology) Education";
- to study the formation of professional competencies of future masters who study within the educational programme "Modern technologies of special and inclusive education";
- to determine the levels of the formation of professionally significant abilities of the participants of the experiment in accordance with the developed assessment criteria.

According to the tasks set, the experimental study was carried out in the following directions.

1. Studying the work experience in forming

professional competencies determined by the Standard in the field of "Special (defectology) Education".

2. Implementing a diagnostic stage of the research (developing criteria of assessment and defining the level of professional competencies formation, transmitting quality indicators to quantity equivalents).

In order to implement the first direction the analysis of the educational programme "Modern technologies of special and inclusive education" in the field of "Special (defectology) Education" (educational programme), curriculum and teaching and learning packs of disciplines were conducted. These normative documents are developed in accordance with the requirements of the Federal State Educational Standard of Higher Education.

To implement the second direction of the research a diagnostic tool was used to facilitate an objective assessment of the formation of the professional competencies of students which was developed in accordance with a number of requirements for reliability of measurement, namely its validity, reliability and stability.

The analysis of the obtained results was carried out with the use of the following algorithm: quality assessment of actual data; comparison of quantity indicators due to which the ratio of a number of students to mastering the professional competencies formed in the course of study and corresponding to a certain level was determined. The assessment of the level of professional competencies formation of future masters was based on the following quality indicators (levels): low – average – high.

The justification of the use of the developed diagnostic toolkit to assess the level of professional competencies formation of future masters in the field of "Special (defectology) Education" was provided with the determining quality-quantity criteria of assessment of obtained data in accordance with a philosophical category of measuring that consists in the fact that a certain quantity always complies with a certain quality.

The diagnostic toolkit that allows assessing professionally significant abilities of future pedagogues-defectologists and the level of their mastering is represented in the dissertation by L.A. Yastrebova [16].

The adequacy of using the diagnostic toolkit and the reliability of obtained results were ensured through a set of the analyzed components of professional competencies: cognitive, activity-oriented and person-oriented.

The study of the cognitive component of professional competencies was carried out by means of a survey as well as by means analyzing educational activity of students in the academic process. The assessment of the results of the given types of activity was conducted with the use of expert evaluation methods and reflexive analysis.

In order to achieve an objective assessment of the cognitive component of the professional competencies of the test subjects a control map was developed and introduced to monitor the learning activity of the students; this map registered the results of the studied indicators and the final ranking was carried out by summing up the scores. Thus, at the first stage of the experiment we defined the initial level of the formation of the cognitive component of the professional competencies of future masters.

Five disciplines of the curriculum were the indicators of the formation of the cognitive component of professional competencies: "History and philosophy of special pedagogy and psychology", "Foundations of didactics of special education", "Methodology of psychological and pedagogical research in special and inclusive education", "Legal foundations for special and inclusive education", "Psychological and pedagogical support of persons with disabilities and their families". The results are presented in Table 1.

**Table 1. Indicators of the formation of the cognitive component of professional competencies of students (%)**

No.	Discipline	Levels		
		High	Average	Low
1.	History and philosophy of special pedagogy and psychology	50.0	40.9	9.1
2.	Foundations of didactics of special education	22.8	59.0	18.2
3.	Methodology of psychological and pedagogical research in special and inclusive education	22.8	54.5	22.7
4.	Legal foundations for special and inclusive education	36.4	54.5	9.1
5.	Psychological and pedagogical support of persons with disabilities and their families	54.5	36.4	9.1
Average value < % >		37.3	49.1	13.6

As seen from the table, the cognitive component of professional competencies has a wide range of the level of their formation: low level is between 9.1% and 22.7%, high level is between 22.8% and 54.5%. The quality analysis of the results of the cognitive component assessment demonstrated that the majority of master's degree students have an average level of the formation of the cognitive component of professional competencies (<49.1%>). The obtained results prove the insufficient level of knowledge formation in the selected disciplines. The lowest indicators of the formation of the cognitive component of professional competencies corresponding to a high level are registered among students in such disciplines as "Foundations of didactics of special education" and "Methodology of psychological and pedagogical research in special and inclusive education", thus, highlighting the need to intensify the teaching process of these disciplines.

The next stage of the research was the implementation of the developed diagnostic toolkit to assess the level of formation of the activity-oriented component of professional competencies of students. We analyzed the content and character of future masters' activity in the course of work professional experience and practice as well as the results of their self-study and scientific-research activity in the process of training.

The level of formation of the activity-oriented component of professional competencies was assessed according to such criteria as:

- the ability to solve particular correctional-pedagogical tasks;
- the ability to use special (defectology) and pedagogical toolkit;
- the ability to demonstrate professional qualities in specific correctional-pedagogical conditions.

The analysis was carried out by means of the reflexive method used by future masters to assess different types of professional activity (Table 2).

**Table 2. Indicators of self-assessment of future masters' preparedness for professional activity (%)**

No.	Types of professional activity	Level of formation		
		High	Average	Low
1.	Correctional-pedagogical	31.8	54.5	13.7
2.	Diagnostic-consultative and prophylactic	36.7	50.0	13.3
3.	Scientific-research	13.6	68.2	18.2
4.	Teaching	13.6	77.3	9.1
5.	Organizational-managing	18.2	68.2	13.6
6.	Cultural-educational	27.3	63.6	9.1

The analysis of the obtained data demonstrated that the average level of the formation of the given types of activity prevails among the test subjects. The highest indicator is characteristic of such kind of activity as diagnostic-consultative (36.7%), whereas the lowest indicator is correlates with scientific-research and teaching types of activity (13.6%). The obtained results enabled to determine that the average level of the formation of the activity-oriented component of professional competencies prevails among the majority of the test subjects (54.5-77.2%).

The analysis of the content and productivity of the students' self-study activity showed that their motivational preparedness to solve professional tasks is supported by the already available theoretical and practical training received in the process of mastering bachelor's educational programmes which results in the already developed ability of master's degree students to independently acquire new knowledge, consolidate and apply existing skills in new and non-standard situations[17].

When studying the results of scientific-research activity of future masters some negative tendencies were also revealed: not all of the students take an active part in scientific and scientific-practical undertakings, they show insufficient activity in the implementation of their own scientific projects. The analysis of this phenomenon and the development of a strategy to overcome it will be considered in our further research.

However, a positive aspect is the test subjects' high motivation, initiative and desire to obtain practical experience in the course of work professional experience and practice. The Future masters demonstrated some positive personal characteristics, such as a concerned and attentive attitude towards persons with disabilities, a sense of empathy and the desire to provide counseling and guidance to parents raising children with special educational needs.

The assessment of the person-oriented component of professional competencies was carried out by means of the analysis of students' reflexive process and experts' data. The analysis of the results of the conducted experiment showed that the students either unreasonably overestimate or underestimate the level of forming general and specific, professionally significant abilities of future participants of correctional process. We consider general erudition and culture, world outlook and moral orientation as general professionally significant abilities. Proper professionally significant abilities on the level of knowledge include subject, pedagogical and psychological ones, whereas on the level of skills they are projective, constructive, organizational, research and diagnostic.

## 5. CONCLUSION

The results of the conducted research enabled to formulate the following conclusions.

1. The aim of the research was to assess the level of formation of professional competencies of future masters in the field of "Special (defectology) Education".
2. The assessment of the level of professional competencies formation of future masters was carried out through the use of the developed diagnostic toolkit.
3. The analysis dealt with such components of professional competencies of future masters in the field of "Special (defectology) Education" as cognitive, activity-oriented and person-oriented. While developing the criteria for assessing the level of professional competencies formation we were guided by the principles of objectivity, validity, credibility and reliability.
4. The assessment of the cognitive component of professional competencies was carried out by means of analyzing the results of educational activity and work professional experience and practice of the test subjects. Determining the

levels of the formation of the activity-oriented component of professional competencies was conducted through evaluating modes of behavior in various situations demonstrated by master's degree students in experimental and control groups. The personality-oriented component of professional competences was evaluated on the basis of reflective representations of future masters on the formation of their own professionally significant qualities. The person-oriented component of professional competencies was assessed basing on reflexive method used by future masters to assess their own professionally significant abilities.

5. The data obtained in the course of the experimental research demonstrated that the average level of formation of professionally significant abilities (general – 59.1%, professional – 63.6%) prevails among future masters in the field of “Special (defectology) Education”. This fact highlights the need to develop and introduce a permanent and complex model of forming professional competencies of future masters into educational process.

#### Conflict of interest

The authors confirm that the data do not contain any conflict of interest.

#### Acknowledgments

The paper was prepared with the support of the Ministry of Education and Science of the Russian Federation within the framework of the basic part of the government task (Project "Development of Innovative Technologies of Inclusive Education" No. 27.9500.2017/8.9).

#### REFERENCES

- [1] Baydenko, V.I. (2005). The competency approach to designing state educational standards of higher professional education (methodology and methods issues). Moscow: Research Centre for Quality Training Issues, pp. 114.
- [2] Bolotov, V.A. and Serikov, V.V. (2003). Competency model: from idea to educational programme. *Pedagogy*, 10, 8-14.
- [3] Zimnyaya, I.A. (2006). Key competencies – a new paradigm of modern education results. *Internet Journal "Eidos"*. Date View February 20, 2018 <http://www.eidos.ru/journal/2006/0505.htm>
- [4] Kraevskiy, V.V. On cultural and competency approaches to forming study content. "Eidos" Centre, available at: <http://www.eidos.ru/conf/>
- [5] Prakhova, M.Yu., Kolovertnov, G.Yu. and Shalovnikov, E.A. (2012). On the role of testing as a means of assessing knowledge in a university. *Higher Education in Russia*, 7, 113-116.
- [6] Tatur, Yu.G. (2004). The competency approach in describing the results and in designing standards of higher professional education: Proceedings of the second meeting of methodical seminar. Moscow: Research Centre for Quality Training Issues, pp. 18.
- [7] Trigub, G.Ya. (2017). Testing as a method of training and controlling knowledge in a university. *Concept*, 3, 66-68.
- [8] Khutorskaya, L.N., Khutorskoy, A.V. (2015). Competence as a didactic notion: content, structure and models of design. *Bulletin of the Institute of Human Education*, 2, Date View February 20, 2018 <http://xn--h1am1a.xn--p1ai/journal/2015/200/Eidos-Vestnik2015-216-Khutorskaya-Khutorskoy.pdf>
- [9] Barannikov, A.V. (2002). The content of general education: Competency approach. Moscow: SU HES, pp. 51.
- [10] Serikov, V.V. (2012). Personality development in educational process: monograph. Moscow: Logos, pp. 448.
- [11] Ismailova, I.S., Dokhoyan, A.M., Kapieva, K.R. and Oleshko, T.I. (2017). The correlation between cognitive and speech development of children with disabilities compared to the norm. *Journal of Pharmaceutical Sciences and Research*, 9(7), 1101-1105.
- [12] Mayorov, A.N. (2011). The theory and practice of designing tests (How to choose, create and implement tests for educational purposes). Moscow: "Intellekt-Cent", pp. 296.
- [13] Neyman, Yu.M. and Khlebnikov, V.A. (2002). Pedagogical testing as measuring. Moscow: Testing Centre of ME RF, pp. 67.
- [14] Semenova, E.V. (2013). The methods of assessing the quality of competencies formation. *Bulletin of CSIC*, 13, 184-190.
- [15] Spirina, V.I., Spirina, M.L. and Romashina, E.V. (2015). Training of future bachelors of psychological-pedagogical education on prevention of child violence in the family. *Social Sciences (Pakistan)*, 10(7), 2071-2076.
- [16] L.A. (2010). The formation of professionally significant abilities of future pedagogues-defectologists: Monograph. Armavir: PC ASPA, pp. 144.
- [17] Safronova, E.V. and Loba, V.E. (2014) 'Dangerous condition of person' as criminal term. *Criminology Journal of Baikal National University of Economics and Law*, 3, 10-17.