Development of professional competencies in students of pedagogical classes in the collaboration system "school – university”

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Abstract. The study describes the development of professional competencies in students of pedagogical classes in the collaboration system “school-university”. The significance of the issue is due to the lack of a program for the flexible entry into the teaching profession and the lack of a clear and variable system of professional orientation for students. The study used the research methods such as theoretical analysis, review of scientific literature and information from Internet resources, comparative analysis and interpretation. The study revealed a positive dynamics of indicators. The arithmetic mean value of the level of development of the EG competencies was 73.87 %, which was 29.47 % more than the results of the entrance test. And the average score of the same EG on the basis of control testing was 82 points. This result indicates the high efficiency of the methods and the format of interaction between the ChSPU and general educational organizations of the Chechen Republic. The study offered a program for the phased development of professional competencies in students in psychological and pedagogical classes, which can serve as the basis for developing a program for advanced training of secondary school teachers to organize specialized psychological and pedagogical classes in schools.

Keywords: student, teaching class, competence, collaboration, school, university, professional self-determination, event, value, meaning

1 Introduction

One of the urgent tasks of the national education system is the problem of improving teaching staff responsible for the formation of a specialist's personality, capable of developing students. The problem of entering the teaching profession and the lack of a clear and variable system of vocational guidance for students have become prominent. An effective way to solve this issue is the involvement of the most pedagogically oriented applicants in the program "Education and Pedagogical Sciences". In this regard, there is a need to develop the professional and personal self-determination in students before the completion of their studies. Pedagogical classes can be considered as an effective mechanism for the formation of a subjective position in choosing a personal professional trajectory focused on pedagogical activities. Issues of interaction in the "school-university" system are described by foreign and Russian scientists [1–5], who consider teaching classes as a socio-cultural and socio-economic phenomenon and a promising form of career guidance work with students.

2 Problem Statement

The issues of interaction in the "school-university" system are of scientific and practical interest. Pedagogical classes can arise interest in the teaching profession both among students and future teachers. Pedagogical classes are a mechanism for focusing on professional self-determination and improving the system of teacher training [6, 7]. In the context of digital reality, the analysis of features and experiences of collaboration of schools and universities is of great importance

3 Research Questions

The whole range of issues considered in the study can be differentiated in the following areas:

1. What deficits and difficulties do young teachers face at the beginning of their professional careers?

2. What challenges determine the strategy for the development of higher pedagogical education?

3. How is the “school-university” system organized by means of pedagogical classes?

4 Purpose of the Study

The study aims to analyze the development of professional competencies in students of pedagogical
classes in the context of the "school-university" system on the example of the Chechen State Pedagogical University’s interaction with pedagogical classes of general educational organizations of the Chechen Republic.

5 Research Methods

The study used research methods such as theoretical analysis, review of scientific literature and information from Internet resources, comparative analysis and interpretation.

6 Findings

We have analyzed the interaction of ChSPU with specialized psycho-pedagogical classes as a system of "school-university" interaction. The analysis was carried out in three stages:

1) assessment of the interaction between the university and general educational organizations in the "school-university" system;
2) involvement of students in the activities of the university in the "school-university" system
3) analysis of the effectiveness of interactions in the "school-university" system

At the first stage, it became clear that the ChSPU interacts with pedagogical classes by holding the annual competition "The Best Pedagogical Class of ChSPU" with the aim of:

- popularizing the teaching profession among the youth, developing teamwork skills in students, stimulating interest in volunteer and leader activities;
- ensuring the participation of high school students in practical work with children and adolescents in various children's associations;
- creating conditions for self-realization of students, development of healthy competition skills;
- encouraging general educational organizations of the Chechen Republic to perform the career guidance work in the pedagogical direction.

The competition included a number of active interactive events aimed at identifying and developing teaching competencies (training session, class projects, TED lectures).

In 2022, the project "Talk show “Professional Conversation”" was also held with the teaching classes of the ChSPU. The project involved 12 interactive talk shows "Professional Conversation" with students of the psychological and pedagogical classes of the Chechen State Pedagogical University and was aimed at shaping the image of a future teacher through the use of interactive group discussion formats.

At the second stage, the interaction in the "school-university" system (Fig. 3) was expanded and involved students of psychological and pedagogical classes in developing pedagogical competencies. In 2020, more than 103 students were involved in psychological and pedagogical classes, 7 events were held. The number of students enrolled in the ChSPU and other pedagogical universities was 17. In 2021, the dynamics was positive.

The number of teaching classes increased to 24, the number of involved students was 217 people, 17 events were held and 26 teaching classes were enrolled in the ChSPU. The results for 2022 were as follows: 33 teaching classes, 264 students, 26 events. In order to implement the third stage, we conducted an empirical study through the input and output testing of students in psychological and pedagogical classes. The purpose was to assess the development of professional competencies in students of pedagogical classes in the "school-university" system. The study used the competencies offered by A.V. Khutorsky: 1) educational and auxiliary competences are ways of goal setting, planning, analysis, reflection, self-assessment; 2) information competences are competences in relation to information in academic subjects and educational areas and the surrounding world; knowledge of modern media and information technologies, search, analysis and selection of information, its transformation, preservation and transmission; 3) value-semantic competences are competences associated with student's value orientations, abilities to realize their roles and purposes, to choose target and semantic settings and make decisions; 4) communicative competences are knowledge of languages, ways of interacting with people, working in a group [8, 9]. The study was conducted from April to November 2022. In this period the ChSPU held all key events with pedagogical classes in the "school-university" system:

- Competition "The Best Pedagogical Class of ChSPU", involving a series of interactive events (a training session, a class project, a TED lecture);
- Talk show "Professional conversation" as a series of 12 interactive talk shows with students of psychological and pedagogical classes aimed to create a portrait of the teacher of the future.

The advanced innovative sites of the ChSPU were also involved:

- Technopark of universal pedagogical competencies "Teacher of the future generation of Russia";
- Pedagogical quantorium;
- Pedagogical workshops by A.M. Dinaev
- Center for Productive Education "Ecoversity".

Students of psychological and pedagogical classes were involved in all-Russian projects, such as the Cultural and Educational Project "Civil Event" and the All-Russian Pedagogical Intensive "Ecoversity of the "class" leader". An experimental group (EG) included students of pedagogical classes who took part in the above events. The experimental group consisted of 25 people (students of grades 10-11 of general educational organizations of the Chechen Republic, who were participants in pedagogical classes). To determine the initial level of competencies, they were tested using the questionnaire for assessing competencies included in the structure of design and research competences at the beginning of the period (April 2022). The questionnaire consisted of 37 questions that correspond to four key competencies from the classification by A.V. Khutorsky:

- educational and auxiliary competences;
- information competences;
• value-semantic competences;
• communicative competences.

Each question was scored from 1 to 3 points. 111 points corresponded to 100 %. The test results are presented in Table 1. The data show that the arithmetic mean value of the EG competencies development level is 44.4 %, the average score is 49.28 points.

**Table 1.** The results of the initial testing to assess the development of students’ competencies included in the structure of design and research competences

<table>
<thead>
<tr>
<th>Participants of the experimental group</th>
<th>Educational and auxiliary competences Max. – 36 points</th>
<th>Information competences Max. – 21 points</th>
<th>Value-semantic competences Max. – 24 points</th>
<th>Communicative competences Max. – 30 points</th>
<th>Number of points Max. – 111 points (100 %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant 1</td>
<td>7</td>
<td>10</td>
<td>8</td>
<td>15</td>
<td>40 (36.04 %)</td>
</tr>
<tr>
<td>Member 6</td>
<td>6</td>
<td>11</td>
<td>2</td>
<td>6</td>
<td>23 (22.52 %)</td>
</tr>
<tr>
<td>Member 3</td>
<td>12</td>
<td>13</td>
<td>16</td>
<td>17</td>
<td>58 (52.25 %)</td>
</tr>
<tr>
<td>Participant 4</td>
<td>14</td>
<td>15</td>
<td>21</td>
<td>14</td>
<td>64 (57.66 %)</td>
</tr>
<tr>
<td>Participant 5</td>
<td>11</td>
<td>14</td>
<td>6</td>
<td>7</td>
<td>31 (27.93 %)</td>
</tr>
<tr>
<td>Member 6</td>
<td>21</td>
<td>8</td>
<td>12</td>
<td>19</td>
<td>60 (54.05 %)</td>
</tr>
<tr>
<td>Member 7</td>
<td>6</td>
<td>11</td>
<td>14</td>
<td>15</td>
<td>46 (41.44 %)</td>
</tr>
<tr>
<td>Participant 8</td>
<td>5</td>
<td>7</td>
<td>6</td>
<td>17</td>
<td>35 (31.33 %)</td>
</tr>
<tr>
<td>Member 9</td>
<td>17</td>
<td>4</td>
<td>18</td>
<td>22</td>
<td>61 (54.95 %)</td>
</tr>
<tr>
<td>Participant 10</td>
<td>27</td>
<td>13</td>
<td>19</td>
<td>13</td>
<td>74 (66.67 %)</td>
</tr>
<tr>
<td>Participant 11</td>
<td>16</td>
<td>17</td>
<td>12</td>
<td>13</td>
<td>38 (32.25 %)</td>
</tr>
<tr>
<td>Participant 12</td>
<td>6</td>
<td>17</td>
<td>5</td>
<td>7</td>
<td>35 (31.53 %)</td>
</tr>
<tr>
<td>Participant 13</td>
<td>18</td>
<td>22</td>
<td>17</td>
<td>4</td>
<td>61 (54.95 %)</td>
</tr>
<tr>
<td>Member 14</td>
<td>19</td>
<td>13</td>
<td>17</td>
<td>15</td>
<td>64 (57.66 %)</td>
</tr>
<tr>
<td>Participant 15</td>
<td>10</td>
<td>8</td>
<td>21</td>
<td>8</td>
<td>47 (42.34 %)</td>
</tr>
<tr>
<td>Participant 16</td>
<td>11</td>
<td>2</td>
<td>6</td>
<td>11</td>
<td>thirty (27.03 %)</td>
</tr>
<tr>
<td>Member 17</td>
<td>13</td>
<td>16</td>
<td>5</td>
<td>7</td>
<td>41 (36.94 %)</td>
</tr>
<tr>
<td>Participant 18</td>
<td>14</td>
<td>15</td>
<td>17</td>
<td>4</td>
<td>50 (45.05 %)</td>
</tr>
<tr>
<td>Participant 19</td>
<td>6</td>
<td>17</td>
<td>15</td>
<td>17</td>
<td>55 (49.55 %)</td>
</tr>
<tr>
<td>Participant 20</td>
<td>18</td>
<td>17</td>
<td>13</td>
<td>17</td>
<td>65 (58.56 %)</td>
</tr>
<tr>
<td>Member 21</td>
<td>20</td>
<td>15</td>
<td>8</td>
<td>11</td>
<td>54 (48.65 %)</td>
</tr>
<tr>
<td>Member 22</td>
<td>21</td>
<td>8</td>
<td>2</td>
<td>6</td>
<td>37 (33.33 %)</td>
</tr>
<tr>
<td>Member 23</td>
<td>6</td>
<td>11</td>
<td>6</td>
<td>17</td>
<td>40 (36.04 %)</td>
</tr>
<tr>
<td>Member 24</td>
<td>6</td>
<td>11</td>
<td>18</td>
<td>22</td>
<td>57 (51.35 %)</td>
</tr>
<tr>
<td>Participant 25</td>
<td>5</td>
<td>7</td>
<td>19</td>
<td>13</td>
<td>44 (39.64 %)</td>
</tr>
<tr>
<td>Mean arithmetic value of competence development in the EG in %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>44.4 %</td>
</tr>
<tr>
<td>Average score of EG participants</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>44.28</td>
</tr>
</tbody>
</table>

In order to substantiate the effectiveness of the methodology and to achieve the goals, we re-tested the participants in the same experimental group at the end of the period (November 2022). The results are presented in Table 2.

The final results indicated a positive trend. The arithmetic means value of the level of development of the EG competencies was 73.87 %, which is 29.47 % more than the results of the entrance test. The average score of the same EG on the basis of control testing was 82 points. This indicates the high efficiency of the methods and format of interaction between the ChSPU and general educational organizations of the Chechen Republic.

**Table 2.** The results of the initial testing to assess the development of students’ competencies included in the structure of design and research competence

<table>
<thead>
<tr>
<th>Participants of the experimental group</th>
<th>Educational and auxiliary competences Max. – 36 points</th>
<th>Information competences Max. – 21 points</th>
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<th>Communicative competences Max. – 30 points</th>
<th>Number of points Max. – 111 points (100 %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant 1</td>
<td>27</td>
<td>15</td>
<td>16</td>
<td>23</td>
<td>81 (72.97 %)</td>
</tr>
<tr>
<td>Member 2</td>
<td>16</td>
<td>21</td>
<td>17</td>
<td>26</td>
<td>80 (70.07 %)</td>
</tr>
<tr>
<td>Member 3</td>
<td>21</td>
<td>18</td>
<td>16</td>
<td>22</td>
<td>77 (69.37 %)</td>
</tr>
<tr>
<td>Participant 4</td>
<td>31</td>
<td>20</td>
<td>18</td>
<td>26</td>
<td>95 (85.59 %)</td>
</tr>
<tr>
<td>Participant 5</td>
<td>27</td>
<td>16</td>
<td>19</td>
<td>28</td>
<td>90 (81.08 %)</td>
</tr>
<tr>
<td>Member 6</td>
<td>32</td>
<td>21</td>
<td>15</td>
<td>19</td>
<td>87 (78.38 %)</td>
</tr>
<tr>
<td>Member 7</td>
<td>18</td>
<td>16</td>
<td>16</td>
<td>24</td>
<td>84 (75.68 %)</td>
</tr>
<tr>
<td>Participant 8</td>
<td>20</td>
<td>18</td>
<td>16</td>
<td>27</td>
<td>81 (72.97 %)</td>
</tr>
<tr>
<td>Member 9</td>
<td>27</td>
<td>14</td>
<td>15</td>
<td>30</td>
<td>86 (74.48 %)</td>
</tr>
<tr>
<td>Member 10</td>
<td>30</td>
<td>20</td>
<td>19</td>
<td>25</td>
<td>94 (84.68 %)</td>
</tr>
<tr>
<td>Participant 11</td>
<td>26</td>
<td>17</td>
<td>24</td>
<td>23</td>
<td>90 (81.08 %)</td>
</tr>
<tr>
<td>Participant 12</td>
<td>25</td>
<td>15</td>
<td>22</td>
<td>25</td>
<td>87 (78.38 %)</td>
</tr>
<tr>
<td>Participant 13</td>
<td>28</td>
<td>20</td>
<td>15</td>
<td>16</td>
<td>79 (71.17 %)</td>
</tr>
</tbody>
</table>
The result revealed the effectiveness of the work of a higher educational institution and general educational organizations in the "school-university" system. The main qualitative result is the development of professional competencies.

7 Conclusion

The historiography of the phenomenon under consideration suggests that pedagogical classes as a form of career guidance work appeared in the first half of the 19th century. The first pedagogical classes were opened at Alexander School in 1848. In the second half of the 19th century, additional pedagogical classes began to appear in women's gymnasiums and boarding schools in order to train home teachers. The 1874 regulation says: "Pedagogical classes exist in women gymnasiums of the department of the Ministry of Public Education; eighth grade is for practical familiarization of students with pedagogical activity [10]. Researchers claim that pedagogical classes in Russia are a tool for the professional pedagogical orientation of schoolchildren required due to the lack of teaching staff. The great role in the creation of pedagogical classes in the 1970s belong to Moscow State Pedagogical Institute. In 1979, the Ministry of Education of the USSR issued the methodological letter "On strengthening the work of general education schools, public education bodies, institutes for the improvement of teachers in orienting students to teaching professions", which created conditions for the development of teaching classes.

Pedagogical classes were revived in 2018 w. A discussion on the revival of pedagogical classes was held at the conference "Education and Pedagogical Sciences". In 2021, Minister of Education of the Russian Federation S.S. Kravtsov announced that more than five thousand pedagogical classes would be opened throughout Russia. The "school-university" system is an organization of learning based on continuity, which allows us to consider the training system in dynamics [11]. Since 2020, the active development of psychological and pedagogical classes in the system of general education of the Chechen Republic began. On September 1, 2020, the Chechen State Pedagogical University and the Department of Education of Grozny City Hall signed an agreement on cooperation and development of educational technologies, scientific and technical, personnel, and retention of highly qualified personnel. One of the key areas within this agreement is to create a network of basic schools and pedagogical classes on the basis of the Chechen State Pedagogical University. The first 12 pedagogical classes of the ChSPU were opened. In 2022, the number of basic schools and specialized psychological and pedagogical classes increased to 33. The final results of the testing indicate a positive dynamics. The arithmetic mean value of the level of development of the EG competencies was 73.87 %, which is 29.47 % more than the results of the entrance test. And the average score of the same EG was 82. This indicates the high efficiency of the methods and format of interaction between the ChSPU and general educational organizations of the Chechen Republic and confirms the hypothesis. Pedagogical classes can be considered as a mechanism, a form and a way to enhance the prestige of the teaching profession.

Acknowledgments

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References

2. Rules for students of gymnasiums and pro-gymnasmus of the department of the Ministry of Public Education (Kazan, Univ. Print. House, 1874)
4. R. Ferguson et al., The influence of teaching. The achievement gap initiative at Harvard University project funded by Raikes Foundation (Cambridge, Massachusetts Harvard Univ., 2016)


7. N.V. Konoplina, Pedagogical classes: the problem of designing educational programs, Bull. of the Surgut State Pedag. Univ. 4 (73), 9–17 (2021)


11. V.D. Shadrikov, I.V. Kuznetsova, Professional competencies of pedagogical activity, Directory of the deputy director of the school 8, 58–69 (2012)