Development of Constructive Features of Intelligence in the Process of Professional Training

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Abstract

The paper considers the professional training of students in the course of personal imagination development. The results of fulfill program focused on the formation of cognitive motivation, investigating creative activity, possibility of achievement of original solutions and forecasting of transferable skills are given. Founded in the process of study technology allows to receive operative information about the level and dynamics of the development of constructive intelligence’s features. It can be the tools for teachers, organizing the educational process, with due regard to individual abilities and aptitudes of students; It results in the improvement of the efficiency of cooperation between teachers and students.

Keywords: creation, intelligence, professional training, constructive features

1. Introduction

University training is the most important level in the professional formation of future teacher personality. The student acquires certain knowledge; skills in the process of training at the university, his professional and personal qualities are formed and developed. Typically, the period of professional training coincides with the period of adolescence. At that moment the process of person's formation is intensively developed during the imagination is realized. The development of intelligence's constructive features is a topical question at the present time. Firstly, the society is interested in the social order for creative person in all spheres of production. Secondly, the concept of

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ontogeny and phylogenies are undeveloped in psychology and pedagogy (Ananiev, 1968; Leontiev, 1965; Matyushkin & Sisk, 1988). Thirdly, the theory and practice of creativity are not in the process of symbiosis of various scientific fields. Studying of creativity into various forms is the priority area of pedagogical psychology and new sphere – creative psycho pedagogy and psychology of creative training (Bogouavlinskykaya, 2002; Zakirova & Shulaeva, 2013; Teplov, 2000). The practical significance of this paper consists of its research and practice orientation connected to the possibility of using theoretical positions and conclusions in the practice of pedagogical education. The study has brought new opportunities of using the special course developed by us in the process of professional training (Bueva, 1968; Leites, 1988; Smirnov, 1995). Founded in the process of study technology allows to receive operative information about the level and dynamics of the development of constructive intelligence’s features, can be the tools for teachers, organizing the educational process, with due regard to individual abilities and aptitudes of students; improve the efficiency of cooperation between teachers and students (Kon, 1978; Massin & etc., 1987; Guilford, 1967). The results can be used by heads of educational institutions, teachers, psychologists, as well as in the process of retraining and further training of teachers.

2. Methods

The determination and approbation of the package of psychodiagnostic methods of study the dynamics of the components of creative intellectual activity in the process of future teacher’s training was held in Yelabuga State Pedagogical Institute. The survey encompassed of 140 students: 40 of them students of technological and the economic faculty, 40 students of biological faculty and 60 trainees of course «Applied Psychology». Each group was surveyed during the 5 years of study. We used a complex of interrelated and complementary research methods to solve the problems. Empiric methods are based on immediate experience; observatory by questioning, testing, and study of the results of activity. These methods of empiric investigation were supplemented by general methods of this level: generalization of pedagogical experience and experiment. During the experiment the key psychological and pedagogical conditions that enable the development of creative features of intelligence were identified. Among these are intellectual and personal complexes in the structure of human being (Eysenck, 1971; Popov & etc., 2008; Kon, 1979). Studying the creative features of intelligence we’ve traced the dynamics of cognitive motivation, the ability to detect new ideas, solving the problems, forecasting of transferable skills in the process of education at the university. The personal complex also has a strong influence on the behavior of the subject.

3. Results

Let’s consider the results of our research from intellectual and personal positions. The dynamics of the creative features of personal intelligence in the process of the professional training at the university are traced. Moreover, the most important changes in the quantitative composition of the average (increase) and below the average (fall) level of development of general abilities (error probability 0.01). Studying the complex of personal mentality of students allowed to reveal the degree of difficulty the purposes which people is striving for, and the achievement represented attractive and feasible for students. Students with a moderate level of claims put before themselves those purposes which can actually reach which correspond their abilities: on the first year students it was 47.67%; by the end of the fifth year students - 56.33%. Students with high but the realistic level of claims are constantly striving to improve their achievements, to excel, to solve more and more complex problems, to achieve difficult goals (the first-year students - 8%; the fifth year students - 19.67%). Actually personal complex, framing intelligent complex of the psyche plays an important role in the knowledge of a person of his behavior and the behavior of others, thereby giving individuality of processes of interaction. According to the results of the study the personal complex for most first-year students the experiences and feelings, interpersonal communication were identified as the leading type of activity; for the third year students - interpersonal communication and behavior; the fifth year students - interpersonal communication. The level of development of creative intellectual activity components was studied using P. Torrens' test of creativity. The results show that the indexes of severity «fluency» in general, in the students during the professional training have the dynamic changes at the level of significance of differences 0.05. The severity of «fluency» among boys increases from year to year and has a statistical accuracy t = 2,2 at p <0,05. As for girls the expression of «fluency» has the dynamic changes at the beginning of the study in the an upward t = 3,2 at p <0,01, and then reducing t = 2 at p <0,05.
As for the «originality» - the ability to produce unusual and unconventional ideas, we can also notice increasing of dynamic changes. Indicators of boys and girls change to upwards expressiveness of «originality»: $t = 2.7$ at $p < 0.01$ and $t = 6$ at $p < 0.001$ (training period) and $t = 3$ at $p < 0.01$, and $t = 3$ at $p < 0.01$ (training period from the 3rd year students to 5th year students), respectively. Expressiveness index of «originality» among boys (10.1) and girls (9.2) are significantly different from each other. This suggests that boys offer more original ideas than the girls. Expressiveness index of «elaboration» as the previous statistical data increases. Elaboration is characterized by the ability to create ideas, develop, supplement arising ideas, to expand their limits. There is a situation where at the beginning of study of the young men the dynamic indicators $t = 3.7$ at $p < 0.001$ expressiveness of elaboration are reduced, and then they increase $t = 4.8$ at $p < 0.001$. Among girls, on the contrary, at the beginning - increasing $t = 5.9$ at $p < 0.001$, and then - lowering $t = 5.3$ at $p < 0.001$. Usually, by the end of professional training young men try to finalize idea that originated in the work. Indicator of the level of significance of differences among boys and girls is 0.001. «Flexibility», as well as other indicators above, is characterized by increasing of dynamic values at the level of significance of differences between 0.001 and 0.01. Expressiveness index of «flexibility» among boys is increased $(t = 3.1$ at $p < 0.01)$, and girls at the beginning of the study is increased $(t = 3.1$ at $p < 2.63)$, and at the end is reduced $(t = 3.2$ at $p < 0.01)$. We studied the level of creativity using methods of Torrence (1962), we made the conclusion that structural components of intellectual activity can be developed in the process of professional training by various special courses and seminars. Experimental investigation of the development of creative the intellectual activity components carried out in line with the special course designed by us for pedagogical universities’ students.

4. Conclusions and discussion

Summarizing the results of the research, we made the following conclusions:

1) As a result of the training we identified components of intellectual activity: cognitive motivation; research creative activity, the ability to achieve innovative solutions, the ability to predict, and the ability to create an ideal standard, the ability to notice and to formulate alternatives, questioning the obvious, to avoid surface formulations, the ability to look into the problem and at the same time to break away from reality, things in perspective; renunciation of its orientation to the authorities, the ability to see a familiar object with an entirely new party, in the new context; willingness to depart from the usual life of balance and stability for uncertainty and search; ease of association, and the ability to value judgments and critical thinking, ability to curtail operations, compilation and discarding the non-essential, the ability to see the whole before the parts, and the ability to transfer the functions of one object to another.

2) The level of development of creative intellectual property components at listeners increased as a result of the special course of practical training sessions. Structured author program helped to generate interest to this problem and the development of creative of intellectual activity components at the students.

The teacher, affecting the students and using certain definite lines of stimulation can generate the creative components of the students significantly increase their working capacity and quality of educational tasks. Knowing well a typology of students he can efficiently apply different teaching methods at a higher level of difficulties which help to achieve better results and activate the creative work of students.

The investigations have confirmed the hypotheses. The research provides additional information about intellectual property, the specifics of its content and dynamics during the training students of pedagogical universities. Its results can be used to improve the training of students in universities.

References