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TEACHER PROFESSIONAL GROWTH RESOURCES IN THE AGE OF EDUCATION INFORMATIZATION

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Abstract

The article discusses new requirements to the teacher's professionalism in the modern information-educational environment, changes in the content of education in which activity-based, personal and creative components are becoming increasingly important; changes in the psychology of the modern child whose socialization takes place in the context of the global information world. Certain risks are seen both for teachers and learners in various aspects of their collaboration in the learning process. The article presents the results of theoretical modeling and empirical study of effective professional activities of the school teacher. The main skills of the modern teacher incorporated in a comprehensive system of his/her professional activities are described and trends and resources in the training of a modern teacher are identified. The authors also suggest a scale of levels of how students master their pedagogical activities and observe the resources for this activity. The researchers also establish links between the professional mastery and aesthetic resources of teaching; teacher's subjective position.

1. Introduction

The teacher and the information environment. The teacher's profession today is experiencing metamorphoses so complicated as to warrant talk about the professional crisis of the people working in education. Changes of the information space, technologies and communication methods, a mixing of cultures and ethnic groups, changes of political orientations and ideologies of individuals and nations, the content and technologies of education, the criteria of an educated person, the psychology of the students who come to school are occurring so rapidly that the problem of ensuring and maintaining teacher professionalism at the proper level calls for new approaches and solutions.

What makes a professional teacher? Does a teacher-training university deliver the required professional standard of the teacher?

We drew on two sources to determine the criteria of professional competence of teachers: 1) Russian and foreign studies of the problem and 2) expert opinions of teachers and heads of educational establishments who have attended qualification upgrading centers. Of the Russian authors we used the works of Artomonova, Bondarevskaya, Borytko, Vilensky, Vinogrdova. Isayev, Kolesnikova, Logvinova, Mitina, Pisareva, Savina, Sakharchuk, Slastenin, Sokolova, Slobodchikov, and Tryapitsina. The authorities outside Russia were Adorno, Aron, Castelier, Masuda, Hayashi, Yuu, Rose, Singh, Fourastie, Heilbronner, Horkmeier, and others. Expert opinions of practical teachers were gleaned from the reports of upgrading centers, interviews with the heads of educational establishments and teachers who attended upgrading courses at the Russian Academy of Education Institute of the Development of Education Strategy (Moscow), Post-Graduate Education Academy (Volgograd), Qualification Upgrading Department at Volgograd State Socio-Pedagogical University (Volgograd), the Upgrading Department at Voronezh State Pedagogical University (Voronezh) and students at Moscow State University's Pedagogical Education Department (Moscow), etc.

2. Research Questions

The first question that arises when considering this situation is whether our ideas of the range of the teacher's functions and competences meet the challenges of the education reality in which the process of socialization of modern children unfolds. The question can be formulated thus: what new tasks face teachers in the era of information expansion? What new activities will they be called upon to engage in?

The second question is, what use is the teacher to modern-day children who can through their gadgets gain free and near-instant access to practically any geographical, historical and socio-cultural field, and for whom there are no mysteries that could surprise them? Modern children are not only saturated with all manner of information, but in a number of types of experience (computer skills and the relevant information discourse, the use of social networks and modern communication forms, the formation of virtual communities, search for information, etc.) are way ahead of grown-ups, including teachers. We see a reversal of the vector of culture translation: the teacher has a lot to learn from the students.

The third question is whether the teacher is equipped to master the new types of education content. The "pictures of the world" and technologies – methods of activity based on scientific achievements in modern society – are changing so rapidly that the content of education is coming to be dominated by

experimental ideas and theories that have not been properly tested and require a dialogue, an individual position and expert scrutiny. That, too, is a novel situation for the teacher because at all times the opinion of the author of the text-book and the teacher used to be sacrosanct.

Many metamorphoses in teacher activities stem from the dramatic change in the content of education as it relies increasingly on types of cultural experience that are not given before the class in the shape of manual texts, rules, algorithms, but are created and tried out by the teacher and the students "on the spot." These include, for example, creative and personal (emotional and value-related) experiences. Science has only a very general idea of how students actualize these types of experience. Thus, it has been established that to gain creative experience the student must be involved in solving problem situations, coming up with and validating hypotheses, etc. Experience in manifesting one's individuality can only be gained in situations and events in which the student can express his/her attitude, take a stand, display strong will, renounce certain behavior models and adopt new values.

Clearly, such vague "instructions" call for a creative approach on the part of the teacher, an insight into the students' psyche, mastery of psychological techniques in setting up creative situations in class that develop the student's personality. The functions of the subject of the education process are to a large extent delegated to the student because the teacher is not in a position to present to the student as a "given" the content of the student's dialogue with himself that generates new meanings.

The fourth question is the criteria of an educated person, the idea of the results the student has to achieve under the teacher's guidance. Giving a "correct answer" or passing a test are no longer recognized as valid criteria. Modern education standards expect the teacher to assess the student's achievements based on the character of socio-cultural competences, universal learning activities, and results that have to do with the student's personality.

3. Purpose of the Study

The purpose of the study was to determine the main professional activities (skills) of the teacher in the framework of the modern educational standards

4. Research Methods

Observing of the work of successful teachers, interviews with school principals, questionnaires of teachers, students and parents.

5. Findings

Analysis of the results of observation and expert opinions identified the following teacher skills that may be seen as criteria of the modern teacher's professional competence. 1. Insight into students: their values and life plans, the role of school and learning in their lives, their abilities and spheres in which they assert themselves, the urge to succeed, responsibility, independence, self-control (Serikov, 2012). 2. The ability to set the goals of learning. A master teacher understands that the goal is not just the topic of the lesson. The goals must include knowledge the students will need in their lives. The modern education standard requires the development of school students' skills ("universal learning actions")

essential for mastering other subjects and spheres of culture ("meta-disciplinary skills"), and key competences (learning and research, information-related, logical and communicative). And of course the purpose of every class and every contact with the child is shaping its personal qualities and aptitudes, the experience of moral behavior, organization and self-discipline. 3. The ability to differentiate students on the basis of their attitude to learning; learning opportunities and learning ability. 4. The ability to foresee problems with mastering the material connected with: objective complexity of the material; shortcomings of the students – lack of concentration and organization; lack of learning skills; shortcomings of study programs and text-books, and not only to foresee these problems, but to be able to cope with them together with the students. The ability to structure the material of classroom work, to single out key concepts and the pivotal idea of the topic; to think what the student's consciousness should retain as a result of the lesson. 5. The ability to use various sources in preparing for the lesson, including additional literature and information networks; the results of their own creative quests; knowing what the children do in their after hours. 6. The ability to structure lessons as a system considering that each lesson has its own place and goal; the logic of the lesson may vary depending on the development level of the class. 7. The ability to translate the content into student activities, to design problem situations; to use interactive and contextual methods, to organize teaching in the form of dialog, play or solution of research tasks. 8. The ability to design and implement learning projects that form key competences, which manifests itself in the teacher's ability to present students not with "phenomena" but with a person's practical needs and life situations; to set tasks to which there is no "obvious" solution and which require the creation of a real product or its model. 9. The teacher's ability to maintain an atmosphere of success and achievement during the lesson, to detect, prevent and correct mistakes in a timely manner; to infuse every student with can-do spirit; to harness every kind of aptitude or hobby of the students to the task of enhancing their academic performance. 10. The ability to develop students' inborn abilities, and allow them to independently sort out a problem situation; to have a feeling of joy when overcoming difficulties. 11. The ability to organize the process of moral betterment: to make the children wish and strive to be better in relating to people, their studies and their duties; to stimulate students' wish to be better organized, to constantly "work on themselves," to renounce loafing and doing nothing; the ability to create an atmosphere of mutual support in a class, to form the habit of good deeds, and social and moral behavior of children. Finally, 12. The teacher has to be able to assess the effectiveness of his/her pedagogical system. The teacher is effective if he achieves constant improvement of the children's academic performance; the development of their interests, sense of responsibility, the wish to work with the teacher, and the teacher himself derives satisfaction from his/her work.

One aspect of the teacher's skill in this technological age is his ability to prevent dehumanization of the child's development in a world filled with consumer goods and gadgets that may lead to an atrophy of the child's physical and creative abilities. Computerizaion of the environment carries a potential risk for the teacher as well: the teacher may forfeit his leadership in the process of socialization and enculturation as the computer information environment takes possession of the child (König et al., 2014; Swanson, O'Connor, Cooney, 1990). That, as experts note (Manakhova, Marinosyan, Miks,) leads to "IQ growth and decline of responsibility", to the child's loss of identity and a sense of being part of a culture. The child starts developing in accordance with the law of computer software updating, successive generations of gadgets assimilating computer geek slang, what George Orwell called "newspeak".

It follows from the above that in order to perform his functions successfully the teacher must not just have a set of "knowledge and skills" but a mastery of integrated and multi-faceted *pedagogical activity* (Brophy, Good, 1970; Connell, 1985; Clark, Lampert, 1986; De Raad, Schouwenburg, 1996; Brouwers, Tomic, 2000; Anderson, Krathwohl, 2001; Blömeke, Kaiser, Lehmann, 2010; Sabers, Cushing, Berliner, 1991; Alvarez, 2007; Coplan et al., 2011). Does the modern teacher-training system ensure such mastery? The question can be formulated more rigorously: if mastering pedagogical activity implies acceptance of an adequate *meaning* of this activity (its goals and values) assimilating its *orientation basis and experience* of performing this activity (Blömeke, Kaiser, Lehmann, 2010), the question is whether a would-be teacher can master this activity while being a student at a teacher-training university or college, ie before he/she starts working at school professionally? (Blömeke, Kaiser, Lehmann, 2010; Blömeke, Gustafsson, Shavelson, 2015; Cochran-Smith, Lytle, 1993; Evertson, Weinstein, 2009; Ermeling, 2010; Den Brok, Taconis, Fisher, 2010; Serikov, 2014; Fauth et al., 2014).

To be fit for real pedagogical practice he/she should pass through several stages: first, getting a theoretical idea of this activity, second, teaching at a quasi-professional level (as play or simulation) and third, performing the teacher's functions in a real school environment. Attempts to teach students to perform all the above pedagogical actions have shown that a budding teacher cannot master all the teacher's functions at once. During the course of experimental work we initially introduced this activity in a simplified form, as an elementary "cell" of this activity (Blömeke, Kaiser, Lehmann, 2010; Smith, Strahan, 2004; Stürmer, Könings, Seidel, 2012; Swanson, O'Connor, Cooney, 1990; Gold, Förster, Holodynski, 2013). We chose the *situation of setting and solving a pedagogical task* as a "unit" of pedagogical activity and the object of modeling in our study. An elementary pedagogical task from which pedagogical activity grows is bringing about a purposeful change in the student, his/her knowledge and skills, behavior and personal qualities. To solve a pedagogical task means to achieve a particular pedagogical goal, which implies awareness of the child's entire life situation, and the conditions under which positive change in the child can be achieved, it implies thinking about and trying out pedagogical methods with the help of which such conditions can be created, implementation of the plan and analysis of new features in the student's personality (Blömeke, Kaiser, Lehmann, 2010; Sergeev, Serikov, 2013; Tartwijk et al., 2016).

More often than not the pedagogical task is not presented ready-made. The professional teacher can present and actualize every situation of interaction with the student as a process of *setting and achieving a pedagogical goal (solving a pedagogical problem)*.

Observations of how students master pedagogical activities can be represented as a scale of levels of mastering this type of activity.

Day-to-day level: the teacher largely copies the experience of others. As a rule, he does not yet have his own system or model of pedagogical activity and indeed may never develop it.

Imaginative emotional level: the teacher reacts to a pedagogical situation emotionally and impulsively. Such a teacher may sympathize and empathize with the children, or he may be irritated by their mistakes, be cross with them and "try to respond in kind." Emotionalism is a necessary but not a sufficient prerequisite of the teacher's professional success.

Conceptual level of regulating pedagogical activity: the teacher tries to apply pedagogical theory to pedagogical reality, but does not always do it correctly in terms of methodology and sometimes

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misinterprets theoretical propositions. As a result the idea of pedagogical reality formed in his head is a mixture of theoretical and lay perceptions. Setbacks in applying pedagogical theory often lead to disenchantment with pedagogical science.

More effective teachers have achieved the *imaginative-conceptual* level when the teacher behaves as a researcher and analyst. He does not ascribe a priori characteristics drawn from theory to a pedagogical situation, but sees the pedagogical circumstances as they are.

Finally, the most effective teacher is one who attains the *creative level* of pedagogical activity. The teacher working at that level is in a constant state of creative quest, testing new approaches, and ends up creating and practicing his own pedagogical system.

6. Discussion

There is no denying that the key resource is socio-economic: higher pay, higher social prestige of the profession, improved working and leisure conditions. However, self-development, *the teacher's work on himself,* independent search for ways to improve the quality of his teaching is also important (Serikov, 2010). This can be described as finding resources of development. The first such resource is *the resource of planning one's work.* That means selecting the content of the lesson. What is the content of a modern lesson? In natural disciplines it is the discovery of a concept or law while solving a problem; structuring the lesson as a project when the student creates a "product," a model, an instrument, an algorithm for solving a problem, etc. (Blömeke, Kaiser, Lehmann, 2010); in human disciplines this is a discussion of a world-view-related or ethical situation, expression of an attitude to the event described in a text.

The second resource has to do with *methods of teaching* (Sherin, Jacobs, Philipp, 2011; Kaiser et al., 2015). The teacher has achieved mastery if he does not regurgitate the textbook, but uses *active teaching methods.* We describe as active the methods whereby the student, instead of boring and monotonous tasks "to learn," "to memorize," "to recapitulate," is invited to join an interesting and meaningful activity, to study a certain problem, develop a project, a role game, team work, theatricalization, mutual instruction, etc. The student continues to learn, but does so without being aware of it. Teaching activity is hidden in a different and more exciting activity. For example, two teams compete in online mode, carry out a micro-investigation, discuss things with a real or virtual opponent, etc. This is a kind of modeling of life situations (role game, team work, project, dramatization of situations).

The third resource of mastery is integration of a lesson with extramural, project and creative spheres of self actualization, the conduct of integrated lessons by several teachers, inviting experts in various fields of science and culture to class or communicating with them virtually (Internet, Skype).

The fourth resource of mastery is to make the students co-authors of the lesson: bringing them into the planning of class and home work, discussion of their effectiveness, joint search for the causes of success or failure, having students conduct parts of lessons, collective formulation of the criteria of assessing a lesson or teaching achievements.

The fifth resource of quality is personal growth. Let us cite the data from questionnaires filled by 83 deputy school principals who attended the Post-Graduate Education Academy in Volgograd in 2015-2016. The most frequently mentioned qualities of a good teacher in descending order: character

(decisiveness, restraint, perseverance, exacting attitude); a sense of responsibility for teaching and character-training; conviction and the ability to convey this conviction to the students; pedagogical tact (a sense of proportion in choosing pedagogical methods, dialog, acceptance of the other); pedagogical intuition, ability to foresee the consequences of one's actions; benevolence in communicating with each student, correct choice of the form and method of influencing the student; clear and succinct expression of one's thoughts through well-considered wording, intonation, pauses, speech volume; addressing speech to the students; correct timing of the work in class (meeting the deadlines and being able to tell how much time has passed even without looking at the watch); ability to *distribute attention among several types of activity* (Dawson, 2006; Serikov, 2014).

7.   Conclusion

Professionalism of the teacher is a complex, personality formation, integrating his/her knowledge, skills and individual personality qualities, realized in pedagogical activity. It has to be added that the teacher's mastery also shows in the ability to make the lesson beautiful, that is, to use the aesthetic resource of the teaching process: presenting the material in an emotional and vivid way, invoking works of art, tasteful use of language, the framing of the lesson, the ability to reach out to the students, the use of artistic methods (dramatization, actualization of exciting episodes and events, metaphors…) A beautiful lesson is always a manifestation of the teacher's subjective position, the promise of some mystery or denouement or leg-pulling. At the end of the day, a teacher's effectiveness is manifested in the students' wish to meet him again and again.

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