

EXPANSION OF PROFESSIONAL PEDAGOGICAL THINKING OF MASTER'S STUDENTS IN CONDITIONS OF PRACTICE

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The relevance of the problem is conditioned by widening of the range of master's programs, which include a variety of practice types, and by the fact that the target-semantic component of the practices is considered in the narrow sense as performance of ascertaining and forming researches on the master's thesis topics, and implementation in practice of competences formed in the process of training. The objective of the study is to define theoretical and methodological background for expansion of professional-pedagogical thinking of Master's students in conditions of practice, and to define the target semantic references for practice of Master's students in a wide sense. Major approaches to the study were the approach of human conformable education and cultural creativity of a professional, which allowed considering Master's practice from the perspective of personal significant activity. Characteristics of professional pedagogical thinking formed during specially arranged practice of Master's students were specified herein. Target semantic key points of Master's practice, as well as anthropic technologies for expansion of Master's students' thinking in the process of practice were defined. The research materials may be useful for arrangement of Master's students' practice in Pedagogy, Psychology and Pedagogy, Physical education and Pedagogical training programs, and for solution of a wide range of education problems. The research results may be useful for High School teachers for development of professional creativity of Master's students and expansion of their professional pedagogical thinking.

Keywords: Professional pedagogical thinking, meta-subject competence, investigating training, anthropic educational technologies.

INTRODUCTION

The relevance of the problem stated in the article is conditioned by the fact that target semantic, content-related and technological basics of practical training of Master's Students as an independent form of professional education have not been sufficiently investigated and are not highly used for expansion of professional pedagogical thinking (PPT) of Master's Students. Broad contextual thinking of a professional is important for individualization of professional training in the Master's degree program and may be useful for enhancement of competitiveness of graduates with the Master's degree (Dmitriev *et al.*, 2014; Burkhanova, 2015).

As a rule, practical training of Master's students is a logical continuation of the two components of their practice: First, practice within the Bachelor's degree program; second, professional activity itself, carried out at the primary place of

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employment (Dmitriev Bystritskaya & Voronin, 2014). However the targets and content of the Master's practice reveal continuity of mainly Bachelor's pre-graduate practical training, where as part of ascertaining investigation and formative experiment determination of the research problem status in practice is arranged.

Such an approach doesn't allow taking into account to the required extent the professional experience and individuality in the structure of Master's students' PPT, which is mostly formed and implemented in the process of Master's student professional activity. Development of Master's practice program, which would take into account and develop the individual professional pedagogical experience of trainees is the critical task for the contemporary High School (Dmitriev, 2011a; Burkhanova & Dmitriev, 2016; Bystritskaya, 2016).

Inclusion of components of self-investigation, self-actualization and self-identification into the Master's practice program is based on the opinion of V.Y. Yadov (1998) and G.P. Shhedrovitsky (1997), who considered professional pedagogical process from the perspective of a unity of activity's subject and object, and stated that the object changes the subject to the same extent as the subject changes the object.

PPT is a component of teacher's professional consciousness, which is formed in the process of practical activity and is reflected in the structure of meta-subject competence of a Master's student as "competence for expansion of competences" (Zinchenko, 1995; Bystritskaya & Burkhanova, 2015). This particular competence helps a professional not simply perform his/her work in the effective way, but be the unique and the only subject of such an activity (Dmitriev, 2011b; Drandrov & Drandrov, 2016; Dmitriev, Bystritskaya & Neverkovich, 2013).

As the researches show, launch of self-development processes takes place to a greater extent during investigation-oriented activity (Povshednaya & Lebedeva, 2014; Markova, 2013; Khutorskoy, 2014). That's why the study will consider technologies of PPT expansion during practice of Master's students with investigation content by means of anthropic educational technologies.

METHODOLOGICAL FRAMEWORK

Glossary

Professional pedagogical thinking – higher cognitive search process, detection and solution of problems in the process of professional activity, characterized by the ability to move beyond the initial level of activity function, focused on the change of the education subject and in the teaching subject, and leading to changes in the object and subject-matter of the activity.

Meta – subject competence – is a *personal construct* which includes methods and ways of performing familiar activity types, mastering new activity types, reflexive evaluation of the activity itself and oneself in the activity, and is formed on the basis of individual personal characteristics, abilities to fulfill the mission

laid in the human's worldview and human's values. Analysis of essential characteristics and functional characteristics of meta-subject competence gives the basis for considering it as an instrumental basis of a personal culture.

Investigating training is a form of educational professional activity including integration of cognitive, research and creative methods of educational professional activity.

Anthropic educational technologies are focused on development of a personality and its individuality as social and spiritual essence of a human according to the "lifelong education" principle – learning and development throughout the whole life. The basis of anthropic technologies lies in the two main functions of educational development of a human: 1) transformation of human's individual consciousness, expressing self-consciousness, and worldview, spiritual and creative potential of a human; 2) broader reproduction of culture in activity.

Bibliographic survey on the problem of expanding professional pedagogical thinking of Master's Students in the structure of practice

A significant number of research papers of teachers and psychologists are devoted to the problem of professional thinking formation of teachers, which point out the elements of such thinking, defining its character – contextual and non-contextual (Kashapov & Bashkin, 2010; Masalimova & Chibakov, 2016; Masalimova & Ivanov, 2016; Gabdrakhmanova, Kalimullina & Ignatovich, 2016; Kalimullin & Dobrotvorskaya, 2016; Kalimullin, Vlasova & Sakhieva, 2016). Psychologists consider teacher's professional thinking as personal abilities together with realization of such abilities in the activity (Poddyakov, 2012). According to another approach the main index of teacher's professional worth is the culture of thinking (Bibler, 1991). Foreign scientists mostly considered problems in the process of culture formation of teacher's professional thinking (Piaget, 1995).

Many scientists share the opinion that teacher's PPT is the basis of the pedagogical mastery (Lerner, 1974; Gabai, 2010). In research papers of scientists PPT is considered as a certain result or target basis of teacher's self-improvement, and the process characteristics of such activity has not been fully studied.

The article considers namely the process part of teacher's PPT and arrangement of activity to expand it

The potential of Master's training program, Master's practice in particular, for implementation of the indicated task is also revealed in the papers of a number of scientists, but without any focus on the process absoluteness principle and the result relativity, and without taking into account social-cultural situation of a professional activity (Taubaeva & Bulatbaeva, 2009). In our study we focus on social-cultural theory of student's self-consciousness formation as a professional and a personality developed by S.V. Dmitriev & E.V. Bystritskaya (2012) and S.D. Neverkovich, S.V. Dmitriev & E.V. Bystritskaya (2011).

In this aspect most significance is gained by the investigation component of the Master's practice, combining cognition, creation and change in the subject and the society, subject-matter and object on the basis of the problem approach.

The problem of modeling professional activity of Master's students in conditions of practice for the purposes of expanding their professional pedagogical thinking

Preconditions for the study became the following theoretical-methodological and practical contradictions.

1. Between the high level of need in teachers with a broad contextual thinking, easy adapting to rapidly changing conditions of the modern world, and in this relation being able to create and implement innovative educational technologies, intended to solve the contemporary challenges faced by the education, on the one hand, and the low level of fulfilling this need by professional training, on the other hand.
2. Between the need of the society in unique competitive teachers having strong individual personality, thinking and activity, on the one hand, and utilitarian, head-on approach to training a teacher on the base of a uniform content-related constructs of education, on the other hand.
3. Between the special objectives indicated in the Federal State Educational Standards and education results of Master's students training program as opposed to Bachelor's students, and absence of content-related and technological differentiation between Bachelor's and Master's training due to a low degree of theoretical and methodological development of such differentiation.
4. Between the availability of personality-developing potential of the investigating training, on the one hand, and its fragmentary contextual implementation in the technologies of arranging Master's students' practice, on the other hand.

Thus, *the problem of the study* was a necessity to arrange such a system of Master's students' practice, which would contribute to expansion of their PPT and increase of competitiveness.

As study *hypothesis* an assumption was taken that Master's student's PPT expansion in conditions of practice is possible on the basis of professional activity modeling with usage of anthropic educational technologies of the investigating training.

RESULTS

Characteristics of professional pedagogical thinking

In order to improve competitiveness teachers must constantly work at self-improvement and "discipline" all their professionally important personal qualities

and skills. For evaluation of self-improvement a teacher needs to have the criteria and indices of professional and personal growth. In relation to PPT such markers may be the PPT characteristics pointed out by the authors on the basis of the research papers of S.V. Dmitriev (2011a, 2011b). It should be noted that these criteria supplement the existing evaluation parameters of the mental activity results, known from the literature, such as IQ, QQ, mental profile etc. The distinction of the characteristics presented by the authors from the other ones, is in their process character, and they answer the question – “How to think?”

Such PPT characteristics are as follows:

- think systematically – means the ability to see things as a whole, prior to their elements. And the whole defines the location of the elements, which may be in the process of establishment and ranking;
- think problematically – means the effort of seeing the education process in its variety of professional positions and conditions. Thus, “when two conversation partners agree, one of them is not necessary”;
- think paradoxically (aporetically). For instance, aporetic question: “Is physical culture the education of physical in a person or education of a person via physical?” Such questions and target-paradoxes make a Master’s student search for nontrivial ways of solving the problem and consequently receive a “mental push” for self-improvement of thinking and activity;
- think axiologically. Axiology is a science of value-semantic systems of a personality and the society. Master’s students need in the process of their “understandable education” axiological self-analysis – reevaluation of values and senses from the perspective of their professional activity and professionally oriented personality;
- think probably. Consciousness as if intentionally maintains itself in the state of “yawing expectations”, of prestart readiness for cascade of bifurcation (polyfuration), like a boxer not standing still, but jumping to be ready for instant respond to blows. This sets the Master’s students to work with hypotheses, develops probable thinking.
- think reflexively. Reflection is expressed in the education process as the focus of consciousness on the thought itself (logics of thinking), on the process of solution development (guessing the trends, feeling the tendencies of development, passing the cognitive barriers), on the action itself (logics of action). The main functions of perceptive and cognitive reflection are “how-vision” and “what-vision”. It allows the Master’s students starting to create perceptive-intellectual cards (“schemes of thinking”, “schemes of actions”), training them to act within the body coordinates and in the coordinates of subject environment;

- think interactively. The subject content shall be structured in the way to enable a person creating individual educational routes. It's possible if the program block-module is presented not in the form of a "didactic tunnel" – "straight and forward", but in the form of iterative cycles – non-linear, spiral structure of the educational activity. And the subject content of education shall be formed by the research and education problems, but not the topics of academic classes;
- think in a model way, taking into account the body scheme, the mechanism. Spinoza said: "If you want to understand the essence of a thing, make it". Thus modeling, both mental and practical, creates conditions for conscious accumulation of the Master's student's methodological collection. Construction of corresponding educational training models is related to the "logics of discoveries" and intellectual cards: conceptual, image, body-physical;
- think structurally, taking into account the hierarchy of educational and technological models. This principle allows implementing the following actions in the training technologies:
 - Actions of object imagination, creating or developing the knowledge of an activity or an object of such an activity;
 - Actions related to the "knowledge engineering", mental activity schemes;
 - Actions of motion schemes formation, including mental-physical and psychomotor management, control and correction mechanisms;
 - Actions related to formation of a social-psychological image matrix of "Self-doer" by method of self-perception and reflexive self-description, reflection of other people, attribution of certain opinion about oneself to others and reaction to these opinions; activity with creation of education space, developing and developmental medium, where growing-in to the culture and growing out of the culture takes place;
 - think dialogically. In this regard Master's students shall imagine that the forms of educational dialogue are various. It can be a dialogue-search, a dialogue-discussion, a dialogue-confrontation and a dialogue-co-creation. They have a chance to take the side of somebody's point of view in order to clarify one's own.

The main educational directives communicated by a teacher in the process of a dialogue, include both effective and procedural characteristics, and may be easily "tried on oneself" by Master's students at any stage of the education process, during practice in particular.

Based on the abovementioned, the main anthropic educational technologies of the investigating training were defined for the purposes of expanding PPT on the basis of the specified characteristics.

Anthropic technologies of investigating training, focused on expansion of professional pedagogical thinking of Master's students

At arrangement of practice, at every stage of practice, depending on the stage tasks, various theoretical and experimental technologies of investigating training are used. They consist of the methods specified in table 1. The table also includes the elements of professional pedagogical activity (PPA) which may be modeled by means of such methods (see. Table 1).

TABLE 1: ANTHROPIC TECHNOLOGIES OF INVESTIGATING TRAINING

| <i>Anthropic educational technology</i> | <i>Investigating training result</i> | <i>PPA modeling result</i> | <i>Characteristics of thinking</i> |
|---|---|---|------------------------------------|
| Dialogue with the primary source | Systems, concepts, ideas in the base of the pedagogical process | Theoretical and methodological fundamentals, activity objectives | Think systematically |
| SWOT analysis | Problems, risks professional activity potentials | The process of getting out of a problematic situation in PPA | Think problematically |
| Aporetic methods | Standard thinking limits | Creative process of solving professionally significant tasks | Think paradoxically (aporetically) |
| Case-technology | Subject and characteristics of its activity in certain conditions of PPA | Probable situations of professional activity in specific pedagogical conditions | Think probably |
| Reflexive mirror | Subject's actions based on its world view | Professional "Self image" | Think reflexively |
| Organizational training games | Cooperation of educational process participants | Reflection of professional activity content in interactive education technologies | Think interactively |
| Sketch-draft | Training object, subject-matter of training and inter-subject space | Change of object and subject-matter of training | Think in a model way |
| Draft apologia | Repertoire of casual schemes | Professional thinking technologies | Think structurally |
| Dialogue training situations | Polypositional training process | Teacher's professional positions | Think dialogically |
| Portfolio | Mission of a Master's student as a personality, trainee and professional. | Teacher's professional culture, Routes of self-improvement, "acme" | Think axiologically |

Implementation of the presented technologies and methods of investigating training in the process of analysis and solution of a problem faced by Master's students, and being the shank of the education process in the Master's program, having a variable character, which allows creating individual education routes of training Master's students, taking into account their individual needs, opportunities,

values, aims and sense of activity. Apart from that, these technologies are adaptive and may be successfully built-in not only to the structure of practice of Master's students, but to the structure of their theoretical training.

DISCUSSIONS

Pedagogical conditions of expanding professional pedagogical thinking of Master's students in the system of practices

Expansion of PPT is possible only if Master's students make the following during practice at performance of ascertaining investigation and forming experiment:

- identify a problem by themselves, and realize its personal and social significance;
- when they consider the practice as an integral part of their professional activity, and professional activity as a component of the process image;
- when there is interpenetration of education process and processes in the professional activity, and Master's students realize not only the changes in the subject-matter of the research and in the training subject, but also in themselves as in subjects of the professional pedagogical process having a certain status and image;
- when a stable need sphere is formed, where the needs in professional self-development are included into the system of personal needs and senses.
- when “students’ mimicry” – the principle of being like others – gives place to professional personal self, “Be oneself”;
- when there is a dialogue of researchers, having a three-way character: a University Teacher – A Master's student – Master's student's scholars; the dialogue must have a reflexive character and reflect all the changes in the professional activity.

All the vectors of Master's student's PPT are formed, diagnosed, assessed and adjusted in the mode of an internal and external dialogue with the world and other subjects of the educational process. Correspondently, a pedagogical condition was formed out, which is a requirement and in most cases is sufficient for fulfillment of tasks of the investigating training on formation of broad contextual thinking of professionals.

Anthropic dialogue as the main pedagogic condition for effectiveness of Master's students' practice in relation to expansion of professional pedagogical thinking

It has been identified during the study that dialogue technologies of arranging investigating training turned out to be the most effective ones, both in relation to solving the investigation problem and in relation to improving professional skills of Master's students. Thus the researchers faced a task to define the main types and methods of arranging an educational dialogue on every stage of investigating training for implementation of Master's students practice (see. Table 2).

TABLE 2: ANTHROPIC DIALOGUE BETWEEN A TEACHER AND A MASTER'S STUDENT IN THE PROCESS OF META-EDUCATIONAL DESIGN

| <i>Stages of meta-educational project</i> | <i>Teacher's activity</i> | <i>Master's student's activity</i> | <i>Technologies and methods of a dialogue</i> |
|---|---|---|---|
| Problem-focused | Presents the object and the subject of investigation, and shows the object from the problematic side. | Explains the object, identifies the subject-matter and the problem together with characteristics. | <i>Dialogue types:</i> Subject-matter – focused, poly-positional dialogue. <i>Method:</i> SWOT-analysis. |
| Target-semantic | Exacerbates the problem to identify all its characteristics. | Comprehends the problem from the historical perspective, defines the targets, sets the research objectives. | <i>Dialogue type:</i> Problem-focused dialogue of a technological character. <i>Method:</i> design of ascertaining investigation. |
| Program-activity | Problematizes consciousness of a Master's student and expands the arsenal of the technologies used by him/her. | Designs a system of actions to change the state of the problem on the basis of analysis of theory and practice. | <i>Dialogue type:</i> reflexive. <i>Method:</i> modeling of investigating educational route and its implementation in the course of problem solution. |
| Iterational | Actualizes meta-subject competence of a Master's student, raises the research status of a Master's student in discussion of inter-subject thematic space. | Analyzes and performs self-analysis of achieving the aims; Defines the personal meaning in the performed project. | <i>Dialogue type:</i> dialogue-polylogue (with focus on extension of experience in problem solution, problem-focused dialogue of identifying activity barriers and methods to overcome or eliminate them). <i>Method:</i> understanding the results of problem solution, theoretical, qualitative and quantitative analysis and generalization. |
| Reflexive-interpretative | Shows examples of reflexive-evaluating activity, specifies the parameters and criteria of self-assessment of a teacher-researcher. | Explains the results, performs self-assessment and peer assessment; performs reflection of his/her activity and the activity of colleagues. | <i>Dialogue types:</i> technologically-technical, reflexive. <i>Methods:</i> self-actualization, self-diagnostics, self-assessment, POPS-formula, modeling of a "desired future". |

Based on the data shown in the table, it becomes obvious that in the system of practice a University teacher gives place of a leading subject to a Master's Student, which is justified by the Master's program tasks. Nevertheless the technology of arranging an educational dialogue is designed and implemented in the co-creation process of a University Teacher and a Master's student with the leading role of the first one.

CONCLUSION

The authors defined the characteristics of professional pedagogical thinking, where the main ones are the following vectors: think axiologically, think systematically, think problematically, think dialogically, think reflexively, and think aporetically. It is proposed to use anthropic technologies of investigating training focused on expansion of professional pedagogical thinking of Master's students, at arrangement of Master's students' practice. The presented anthropic educational technologies allow taking into account both the result of Master's students' activity in practice (investigating training), and the result of the modeling professional pedagogical activity for expansion of Master's students PPT.

Pedagogical conditions for effectiveness of Master's students practice have been presented in relation to expansion of professional pedagogical thinking, and it has been proved that the main condition is anthropic dialogue-polylogue. This particular dialogue with oneself and with other subjects of the pedagogical process allows forming meta-subject competence of Master's students as a base of their further self-education.

The main approaches of the study were the meta-subject approach and the approach of human-conformable education and culture-creation of a professional, making it possible to consider the practice of Master's students from the perspective of personality-significant activity.

RECOMMENDATIONS

Usage of anthropic educational technologies in professional training of Master's students, satisfying the structure of their self-consciousness, may be used for solution of a wide range of educational tasks. Anthropic dialogue in the base of practice is the basics and the main pedagogical condition for development of Master's students' personality in the process of professional education activity.

The research results may be useful for University teachers for the purposes of developing PPT of Master's students in Pedagogy, Psychology and Pedagogy, Physical education and Pedagogy training programs, and expanding their meta-subject competence. The results may be useful for post-graduate education and teacher's self-education in the context of professional self-realization. They can also enable school and University teachers to develop conditions for students of different education levels to fill-in the gaps in self-education. The anthropic dialogue

technology may be also useful for teachers of postgraduate courses, master-classes and vocational trainings.

The importance of the research is also high for development of cooperation between teachers and Master's students in terms of formation of new educational standards and the main educational programs and postgraduate education.

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