# Rhizome-Modular Teaching of Students as a Basis of their Professional Creative Self-Consciousness Formation

Elena V. Bystritskaya
*Nizhny Novgorod State Pedagogical University named after K. Minin, RUSSIA*
Irina Y. Burkhanova
*Nizhny Novgorod State Pedagogical University named after K. Minin, RUSSIA*
Denis I. Voronin
*Nizhny Novgorod State Pedagogical University named after K. Minin, RUSSIA*
Svetlana S. Ivanova
*Nizhny Novgorod State Pedagogical University named after K. Minin, RUSSIA*
Elena L. Grigoryeva
*Nizhny Novgorod State Pedagogical University named after K. Minin, RUSSIA*

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The relevance of the study is determined by a necessity to ensure contents unity of two professional education degrees: Bachelor's and Master's. The necessity to update higher professional education originates from the crisis of educational system state which is confirmed in theory and in practice. The purpose of the study is in definition of theoretical and methodological background for formation of professional creative self-consciousness of students in conditions of rhizome-modular teaching. Requirements are indicated for design of a rhizome teaching module in view of human-oriented education for the purposes of professional creative self-consciousness formation of students. Compliance with these requirements allows for formation and update of student's self-consciousness in professional creative activities. The materials can be used to solve a wide range of educational problems. The study results can be used by High school teachers for the purposes of development of students' professional creativity and formation of their professional self-consciousness.

*Keywords*: professional self-consciousness, professional creativity, rhizome-modular approach to education, teaching rhizome module.

## INTRODUCTION

The topic is relevant from the practical point of view since the process of professional education is currently reaching the bifurcation point when the former

Correspondence: Elena V. Bystritskaya,
Nizhny Novgorod State Pedagogical University named after K. Minin, 603005
Nizhny Novgorod, RUSSIA
E-mail: oldlady@mail.ru
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system of professional knowledge and competence is no longer in compliance with the requirements of the day after tomorrow, i.e.: in a higher educational institution an expert is trained in accordance with the requirements of new educational standards and today's reality based on the analysis of yesterday's experience. His professional activity in relation to students will be performed in tomorrow's society, which will prepare them for living and creating in the day-after-tomorrow's society. In this sense only creativity can be considered as contemporary, its products are ahead of the time because they "ripe from the future" (Khutorskoy, 2014).

The current structure of the teacher training has a view of a "tree", consisting of the main trunk – the learning process mainstream, which is science-based, technologically balanced and criteria ensured, all new informative units and modules are structured in the same logics and are related to this "trunk" knowledge as built-in structures or its complimentary. Such logical structures, cogitation schemes have a significant number of assumptions allowing to see the education process only in general, without consideration or development of neither teacher's nor student's individuality (Dmitriev, 2011). A standard-thinking teacher has no success in his practice, since in a dialogue with a student teacher's special characteristic features appear foremost, which make a teacher and his practice unique.

It's no longer possible in contemporary school for a teacher to have "expert's power" over a student, who is in the integrated information space with the teacher and in many cases knows better the ways to search for it and process it.

The study problem is relevant also from the view of a fundamental research because many scientists (Asmolov, 2001; Yasvin, 2001; Khutorskoy, 2014) nowadays come to a conclusion that the epoch of teachers-repeaters is coming to an end. The authors connect it to the fact that as the time passes by a wealth of science knowledge information units appears in every sphere of human activities and it is principally not possible to cover them in an integrated learning space and thoroughly study it. This is becoming a privilege of certain experts and scientists.

Qualitative changes of a social request for professional education prescribe during the process of professional training formation of not a trained expert, but of a trainable professional. The most important in this case is not the knowledge a person receives, but the way this person is himself and the way he uses his knowledge in practice for personal and social purposes (Khutorskoy, 2014). Self-education and self-consciousness of a professional play an important role in formation of professional creative self-consciousness.

Professional creative self-consciousness is the evolution-arranged process and the result of a concept "creation of the world in oneself and for oneself", it is focused on creation of constructive models of cognoscible objects and enables a professional to plan and implement creative activities (Dmitriev, Neverkovitch, Bystritskaya & Voronin, 2014).

## METHODOLOGICAL FRAMEWORK

### Glossary

Term «rhizome» in social-cultural theory of training and education is considered as a semiotic branch, as a "semantic information tuber" with pressed, braided various types of cognitive activities. Thus, methodology of rhizome newsworthiness in the education system allows for seeing nonlinear development of social-cultural phenomena and identifying the features of intellectual creativity.

Rhizome module is a target functional node developed under the rhizome principle and combines: a learning content and a technology of its acquisition in a high-level integrity system.

Rhizome-modular teaching shall be considered as the cooperation process of education subjects aimed at satisfaction of needs, intentions, target attractors, meanings, interpretations on the base of educational texts, semiotic systems, anthropic educational technologies and criteria basis implemented on the base of inceptiveness, i.e. initiated by a student himself on the basis of self-attribution and self-actualization for the purposes of self-realization of his creative self-consciousness.

Educational research – a complex of professional-pedagogic functions of higher education and professional and personal positions, dispositions, oppositions formed in a student.

Researching education as form of teaching-professional activities includes integration of research methods of teaching-professional activities.

## Bibliographic survey on the problem of formation of students' professional self-consciousness

There is a significant number of research papers devoted to formation of future professional's self-consciousness, which cover several aspects of this problem.

It was Rubinstein S. L. (2000) who first started to study issues of professional's self-consciousness formation, which was then continued by his followers. Problems of personal responsibility formation, moral choices in life and in a profession were studied in different times by Kon I. S. (2003), and other scientists. Formation of self-consciousness during learning activities was studied by Davydov V. V. (2008), Khutorskoy A. V. (2014) and others.

At the present the most important is the social-cultural aspect of professional's self-consciousness formation. In our study we focus on the social-cultural theory of students' self-consciousness formation as a professional and a personality developed by Dmitriev S.V. (2011) and Neverkovich, S. D., Dmitriev, S. V, & Bystritskaya, E. V. (2012).

In this aspect most significance is gained by nonlinear and unbranched formation of professional self-consciousness in students' learning activities regulated by the teacher, but also postneoclassical nomad approach to self-consciousness formation, or rhizome, as Deleuze G. (1998) proposed to call it.

### The problem of professional training arrangement for the purpose of teacher's creative self-realization

In the context of the aforesaid, theoretical and practical suppositions were identified for introduction of rhizome-modular education into the process of professional training of future teachers for the purposes of their learning, preparation for professional creative activities and development of their professional pedagogic self-consciousness.

Suppositions of rhizome-modular education introduction:

1. Insufficiency of stratagem in the perspective teacher training;
2. Objectification and algorithmization of a professional activity subject;
3. Content wideness of training at insufficiency of educational matrix context wideness;
4. Hierarchy of training at dominating heterarchy of professional activity;
5. One-direction formation of professional's self-consciousness: from exact to abstract (traditional approach), or from abstract to exact (developing approach), at demand in activity of frequent reflective shifts from practice to theory and from theory to practice.

Thus, the study problem was determined by a necessity to arrange such professional training which would contribute to formation of professional self-consciousness as a base of creative activity of a future teacher.

As study hypothesis an assumption was taken that tree-type (centered) education and tree-type, hierarchy structured self-consciousness of a student is the basis for his algorithmized, strictly regulated professional activity, and rhizome-modular teaching forms creative self-consciousness as a basis for professional creative self-consciousness of a future teacher, that's why their joined realization in the structure of professional education is required.

## RESULTS

### Justification of rhizome module's place in the structure of educational research and research education

Rhizome-modular education is focused on a wide-context professional activity and forms creative personalized professional self-consciousness. It is designed and implemented on the basis of human-oriented education with reference to individual characteristics: needs, abilities, values and senses of a personality and a professional teacher's activity constituting his individuality.

Professional self-consciousness of a field expert acting on the principle of the main unit has a tree-type centered structure. His activity is structured in accordance with a predetermined logic scheme and depends on its implementation stages. For these reasons during training of such an expert excessive, "unnecessary" competences are formed, which are not included into the subject and structure of his activity. At the same time, those which are necessary and constituting the main unit of the tree-type structure of the activity, are formed in the same weight factors as the secondary ones. Thus a wide-range frontal training doesn't fully comply with the requirements for formation of such an expert.

In educational research having a tree-type structure, a teacher forms the only right activity line, which is covered with knowledges like with tree branches and leaves. For students in such an educational system it's very important to be linked to a line, since students are not able to fulfill an independent research on a certain topic due to their personal immaturity (Dmitriev, 2011). Professional activity requires creative subject realization not as led but as a leading one, that's' why the maturity level of professional creativity and creative thinking of a student can be defined on the basis of a possibility to fulfill their independent research in the structure of research education.

A need in professional self-consciousness formation requires a necessity to develop and implement rhizome-modular education based on the principles of human-orientation, nature-orientation and culture-orientation of education.

Based on the above stated, requirements to the rhizome module are defined.

### Rhizome module requirements

As follows from the analysis of theory and methodology of creative self-consciousness forms of a teacher and monitoring of experiences in implementing a rhizome-modular approach into professional education the following requirements to rhizome educational module were determined, and their fulfillment will make it possible to structure the process of teacher's creative self-consciousness formation which is focused on the future.

Rhizome module requirements:

1. Inertialessness. In order to initiate designing and arrangement of a rhizome education module, both a student and a high school teacher shall take their minds off the knowledges they have, interpretations, meanings and positions, to be able to consider quite familiar processes and events in a free from thinking and a complex way. Inertialessness is also related to education technologies. In this case it is not disapproved but encouraged to jump from one topic to another, to express unexpected ideas and illogical explanations.
2. Inceptiveness. As it was mentioned above, work on mastering a rhizome module shall be initiated by a student himself, not only as a fact but also as a cognitive path.
3. Objectiveness. It's possible and necessary to study the object not from its surface and expressive symbols, but from its network essential characteristics. However essential nature for every researcher and for every scientific aspect will look differently. According to the water drop theory reflecting the whole world, a researcher will find white spots in any familiar object, and when he studies them he'll have a possibility to fully actualize creating a potential and to form professional creative self-consciousness of students.
4. Synergies. Initiation by students of a process for mastering a rhizome module contributes to self-arrangement of a cognitive process, when students revise a lot of times what they have studied before, then shift to the future result, then to the main system-forming relation, then to expressive symbols of the knowledge system basing on individual educational needs, realizing them in a better way. Such a creative cognitive process is characterized by multiple shifts from theory to practice and from practice to theory.
5. Prescriptiveness. As a rule, during logic tree-type training a teacher knows what next he is going to teach his students, and in what manner a student shall master it. Based on the retrospective reflexion (result reflexion) and prospective (analysis of result designing and programming process). In rhizome approach to education the result of educational activity is the result of student's creativity, and he possesses "expert's power" himself of his future result, and analyzes his cognitive process and creativity process from the position of closeness to the desired result. Thus, prescriptive reflexion of study subject, object, creativity process and self-consciousness formation is made.

## DISCUSSIONS

### Pedagogic conditions of ensuring effectiveness of rhizome-modular education

All the above mentioned requirements, as the result of our research, were used for designing and implementation of education technologies implementing rhizome-modular approach in the system of professional education.

At the present time the epoch of educational repeaters "give me back, what I gave to you" is coming to an end. In conditions of open information and social-cultural space without integrity, new education and professional needs appear, which can be satisfied by a person himself in the position of education acceptor "I'll take what I need in my life and in the way I like", a person can navigate in the information space and can choose in the flow the information according to his needs, and which complies with intentions in a wide sense of his mission, and then learns it and structures it in his system of research and practice knowledge in a certain way, making a separate rhizome unit not connected with the others, which can stay the same (one-time possession), non-connected, or builds it into the tree-type structure defining a

connection with other knowledge masses of the knowledge system, dictates a change of professional education system.

Individual characteristics of profession-focused personality and professional activity, as a base of creative self-consciousness, are mostly expressed and formed in realization of practice-focused educational technologies, since practice is always meta-subject, just like educational-training rhizome.

As opposed to the common opinion on the control function of examination measuring materials as the only one, in anthropous educational technologies of holding reflexive-assessment procedures the following functions are included as the main ones: reflexive-analytical, individual-diagnostic, professional-personal self-attribution function, self-realization, self-actualization and "creativity measuring" function.

Let's take as an example a dialogue situation which can be commented, used for formation of a reflexive evaluation and self-evaluation of professional self-consciousness by candidates for a Master's degree in "Anthropous technologies of physical training education".

**Example**

«It's known that an individual doesn't master social culture as a whole – an individual learns only what is directly connected to his activity. Learning such experience is done in three main forms:

1. Identification – experiencing by an individual the identity in front of the other individual, understanding himself through the other one, for the other one and with the help of the other one. The inner man's world – different people in his life: he sees other people through himself, and himself through the others.

2. Individualization – human's striving for being different from the others, not similar to them and to reach authenticity, i.e. compliance of "Me" real and "Me" ideal he is trying to be. This is human's understanding of his social-unique features – of status, activity style, characteristic features, behaviors, communication, status, social roles, world view, targets and values.

3. Personalization – it's widening of his individuality by way of influencing other people, when an individual understands his representation in other people and feels his spiritual determination for the future. It's human individuality going out of its physical shell, founding his place in the world.

It's right to state that a person learns the object to the extent to which he transforms it, but it would also right to state that the subject is able to transform the object to the extent to which he reflects it, models and designs (see in Figure 1).

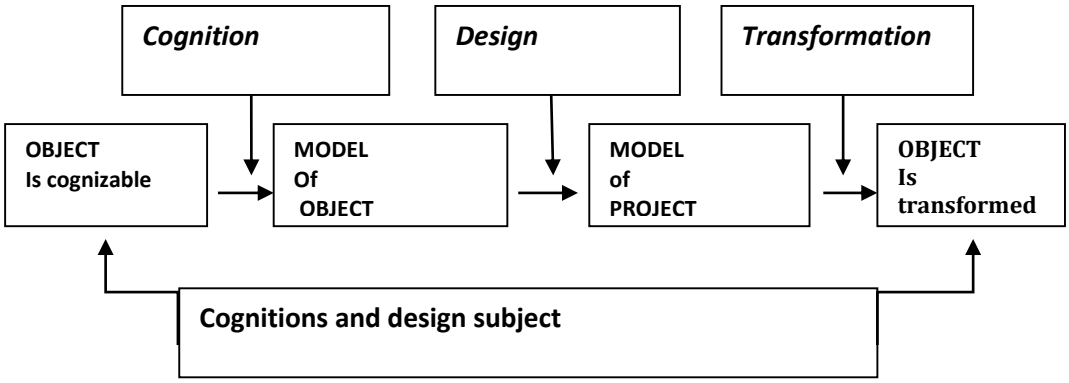



**Figure 1**. Interpretation of object by the subject

What questions would you like to ask the author? And what questions did he answer himself when setting forward his thoughts?

Going off the text, please try to answer the questions yourself fist – what am I in reality, in what way do I see and perceive myself; in what way do others see me; how do I look in their eyes in my opinion (image for others), what image do I want to create for others.

Please give examples of justification out of your portfolio – in what way do you see and how do you assess your achievements, what is the way your relatives, other sportsmen, your groupmates, the trainer and teachers see and assess your achievements.

Please answer the following question as well: What procedures would you like and can use for self-cognition? In what way the process of forming self-perception on your body, psyche and individuality has the meaning as means for further individuality development? »

## Methods of formation of student's rhizome self-consciousness and creativity

A rhizome module as a personified educational training programme of activity can be learned in different logical sequences. And every logical stage initiated by a student himself is in its way reflected in his professional self-consciousness and is implemented in creative activities in conditions of practice or while performing professional duties.

As the study shows, effectiveness of students' learning activity is increased in case the rhizome modules initiate search creative activity. Thus a logical compliance of rhizome module components, methods of professional self-consciousness formation and methods of students' creative activity was discovered. The methods of creative self-consciousness formation by means of rhizome modular education are shown in table 1.

**Table 1.** The methods of students' rhizome self-consciousness and creativity formation

| Logics of rhizome module learning | Methods of professional self-consciousness formation | Methods of realization in creative activities |
|---|---|---|
| Consciousness of individual thesaurus and scientific theory and technology thesaurus. | Methods of cognitive and individual self-attribution, self-actualization of needs in learning.<br>Retroflexion of internal and external action plans | Methods of subject-technological systems and personal intentions for joint activity.<br>Programme of causative and approximate schemes, social attributes and identifications |
| Learning or development of principles for selection of knowledge subject-content | Methods of organizing a subject content of information in accordance with individual person's characteristics | Taking a model off the object and object projection to the study subject<br>"Self-identity" is displayed and role images of individuality. |
| Inceptive methods of individual learning and concept-based organization and subject – sign referencing. | Methods of subject-technological attitude and personal intentions for joint activity | Correction of methods, subject-technological attitudes and personal intentions for joint activity, and also syntonic communication and rapport. |
| Search or recovery of cognitive and operational mediators for moderation and subject reflexion. | Methods of cognitive and personal self-regulation and self-reflection | Moderation of subject reflexion and implementation of cognitive and operational activity mediators |
| Prospective reflexion methods. | Retroflexive and conative components of internal actions. | Evaluation and reflexion of «Self-identity» and role images of individuality and professional positions |
| Creation of a system of representatives and conventional rules of object cognition interpretation | Methods of arranging subject content of information in accordance with conventional rules and attitudes of individual personal characteristics | Mental technological self-tasks orientated according to a subject or according to an object, and implementation of normative and didactic models in creativity. |

## CONCLUSION

In conditions of paradigm shifts which take place in the system of high school education new theoretic – methodologic problems are critically raised, as well as a necessity to implement "advanced innovations". The innovations shall be not only in programme products but first of all in technologies and control systems. Academic didactics requires approval of scientific-methodological and regulating principles connected to design of educational technologies both in Bachelor's and Master's degree course. This will allow for a shift from expert's subject competence to anthropous competence of a professional.

The problem of formation of student's professional creative self-consciousness is studied by specialists from various positions, however in the context of our study the most important is consideration of this problem from social-cultural positions since a future expert will be self-realizing as a creative personality in the society and professional activity.

During the study we defined the logics of students' professional self-consciousness formation in the structure of educating research and implementation of a rhizome module in the structure of professional education, which are as follows: inertialessness, inceptiveness, objectiveness, synergies and prescriptiveness.

Rhizome modules approbation in methods of inceptive teaching showed a regular dependence of effectiveness increase of professional and personal self-consciousness of future teachers on the level of their participation in professional creative activity.

A creative person always interprets information. In everything what he saw or heard he adds some of his subject or personal sense. Every action – is interpretation of the former, and the former – of the one which existed before. This creates an endless chain of senses fosucing the consciousness: sense-perception, sense-interpretation, sense-diversification, diffraction, interference, and connotation of senses, sense catharsis and many other phenomena of psycho-semantic regulation of a creative person and activity. But in any case learning a rhizome-type of thinking by a student with the use of rhizome modules built into the process of professional training will have a positive effect on the level of professional creative self-consciousness.

## RECOMMENDATIONS

Usage of rhizome modules in teaching, complying with the essence of human cognition itself and in the structure of self-consciousness can be used to solve a wide range of educational tasks. Rhizome modules can be implemented both in independent teaching activities of students and in arrangement of a teaching process by high school teachers. They can be useful for post-graduate education and teachers' self-education in the context of professional self-realization; can also enable school and high school teachers to develop conditions for students to fill in the gaps in self-education. Rhizome modules can also be useful for teachers of postgraduate courses at time-shortage for studying certain topics; can become a basis of creative workshops, master-classes and professional trainings. Rhizome-modular approach is also important for formation of new educational standards and the main educational programmes.

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