Rhizome Model of Formation of The Need for the Self-Realization of a Future Physical Education Teacher

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ABSTRACT
This article deals with the problem of shaping the need for self-realization of a future physical education teacher, which is particularly acute in modern society, where social requirements for the teacher are becoming more and more rigid and categorical, and the conditions for the manifestation of pedagogical creativity are significantly reduced due to the introduction of a multilateral regulatory framework teacher's work. Under these conditions, it is difficult for a teacher to choose a vector and methods for realizing their own potential in their professional activities. This problem is discussed in the article on the example of future physical education teachers. The aim is to determine the qualitative characteristics of the need for self-realization of the future teacher, reveal the stages and mechanisms of its formation in the structure of higher education and present the rhizome model “Formation of the need for self-realization of a future physical education teacher” developed by the authors. The article presents the results of the author's study of the procedural and effective characteristics of the process of forming the need for self-realization of future physical education teachers. The stages and mechanisms of this process are described and the rhizome model “Formation of the need for self-realization of a future physical education teacher” is proposed and scientifically substantiated. The materials can be used to organize events for the formation and development of the need for self-realization of subjects of secondary vocational, higher and additional vocational...
education.

**Introduction**

Attracting the attention of the general scientific community to the procedural characteristics of the formation and development of a professional is dictated by modern regulatory and legal regulation of education and professional activity through hyperbolization of the effective components of its activity using specified monitoring and evaluation procedures. In this sense, less attention is paid to the purposeful characterization of the professional’s activities, the truth of his professional orientation, the personal growth of a specialist in the process of acquiring a professional individuality, as well as the procedural characteristics of his education and activities.

In the competence model, an attempt was made to consider the procedural characteristic within these competencies, which in the decomposition is expressed through skills. But competences are a reflection of his personal structure to a greater extent than the reflection of his professional skills (Ivanova, 2016). For example, a person aimed at obtaining a decent result with his pupil will definitely find the means and methods to achieve the desired result. And, on the contrary, a person with a sufficient pedagogical arsenal, in order to save his strength, can use them as a “miserly knight”. And the maximum result for the student is not achieved, since the teacher, using standard skills, is in his comfort zone. Therefore, the absence of the need for self-realization of the teacher brings a negative result in relation to his pupil (Grigorieva & Belousova, 2018).

Careful attention to the subjects of pedagogical activity is extremely important, since the presence or deficiency of the need for self-realization is either developing for the teacher and for the pupil, or traumatic, inhibiting for both.

Thus, the contradiction between the social and personal demand for creative self-realization of a teacher and the lack of sufficient attention and conditions for organizing this process in the structure of educational and professional activities becomes apparent. The purpose of this study to determine the qualitative characteristics of the need for self-realization of the future teacher, identify the stages and mechanisms of its formation in the structure of higher education and develop the rhizome model “Formation of the need for self-realization of a future physical education teacher”.

**Methodological Framework**

The study showed that the need for self-realization of personality has the following level characteristics:

Three level characteristics of the need for teacher self-realization:

1) the need for self-realization for oneself is an individual-status self-realization: when control and assessment procedures lose their significance and are not a measure of values, a person begins to listen to his personal feelings and then a real, not regulated, need for self-realization begins to arise, and a person begins to develop for yourself, for your own self-esteem;

2) the need for self-realization for the effectiveness of its activity - a person must be successful in his activity, must love his activity and enrich it (“methodological box”);

3) the need for human self-realization - we plan not the activity of a person, but its target sphere. In determining the task for a person, the first thing to focus on is his ability and inclination. If the student performs the task without leaving the comfort zone (that is, being in the zone of actual development), then you cannot get a certain interest, an incentive to further activities, to self-development (Bystritskaya, 2015).

The teacher must necessarily understand the mechanism of self-realization both for himself and for another (Bruner, 2013). You also need to take into account a number of procedural characteristics:

I. choice of activities.
An activity is selected based on the following sources:
1) the result of its activities;
2) the result of the student. Before deciding how this activity will be carried out, it is necessary to determine: for whom, why it is in this person, what changes must be expected as a result of this activity;
3) the social nature of the activity:
   – the relevance of this activity in society;
   – the importance of the activity (material, value indicators, etc.)
   – participation of social groups in the interaction. In this case, the essence of the person (for example, his temperament), as well as the nature of the person, the nature of the activity and the character of the people around him, will have a great influence.

   The principle of similarity (according to psycho, according to the hierarchy of values ...)

   The principle of difference (individualization): 2 aspects:
   – what can I get for my own self-realization?
   – what can I give (for which I will be respected, who will approve me and for what?).

II. Duration of activity.
A person wants to consolidate success for the longest period of time. Perhaps activity (and self-realization) in this project is not so important either for a person or for society, in order to work in this project for a long time.

III. Relations.
 – to someone, to something;
 – with people (necessarily taking into account their individual characteristics);
 – in which process (since the process can adjust the relationship).

   Thus, it can be assumed that the need for self-realization has a number of characteristics:
1) steady and temporary;
2) essential (they define not an action, but an activity in which there can be many erroneous actions) and situational (shear) actions.

   The need for self-realization, in contrast to the traditional opinion, is not a predetermined value, but the essence over which it is necessary to work (i.e., acquired).

IV. Social factors affecting the internal essence of the need:
 – objective: material wealth, social status, lifestyle, education, national and cultural characteristics;
 – subjective: internal qualities of a person.

   Based on the presented characteristics and selected procedures and criteria for their analysis and evaluation, it became necessary to develop a separate educational module aimed at shaping the need for self-realization of the student as a socially significant person and as a teacher in physical culture. Competence model allows you to carry out this process, but not as a basic, but as an accompanying subject training. In order for the activity on the formation of the need for self-realization of the future teacher to be more effective, it is necessary to apply a rhizom-modular approach.

   Under the rhizom-modular training should be understood the process of interaction of subjects of education, aimed at the realization of needs, intentions, target attractors, meanings, interpretations based on educational texts, sign systems, anthropic educational technologies and criteria-based basis, implemented on the basis of insecurity, that is, initiated by the student on the basis of self-attribution and self-actualization in order to self-realize his creative self-consciousness.
Rhizom-modular training is aimed at wide-context professional activities and forms a creative, personalized professional identity. It is projected and carried out on the basis of a human-like education, based on individual characteristics: the needs, abilities, values and meanings of the personality and the professional activity of the teacher, which constitute his individuality.

The tree-centered structure has a professional identity of a narrow specialist who acts according to the principle of the main link. Its activity is built in accordance with a predetermined logical scheme and is subject to the stages of its implementation. In this regard, in the preparation of such a specialist, redundant, competencies are formed that are not included in the subject matter and structure of its activities. At the same time, the necessary components of the main link of the tree structure of activity are formed in the same weighting factors as the secondary ones. Thus, broadband frontal training does not fully meet the requirements for the formation of such a specialist (Bystritskaya et al., 2016; Dmitriev, 2011a, 2011b; Ardakani et al, 2015).

Requirements for the rhizome module (Burkhanova & Dmitriev, 2016):
1) inertia-free;
2) insecurity;
3) objectivity;
4) synergy;
5) prescriptiveness.

Results and Discussion

Based on the presented criteria and characteristics of the need for self-realization of future teachers in Physical Education, the author’s monitoring complex was formed, which allowed to determine the dynamics of the formation of the most significant characteristics of this need in the structure of higher education. The experimental base consisted of undergraduate and graduate students enrolled in the areas of training 44.03.05 “Teacher Education” profile “Physical Education and Life Safety” and 44.04.01 “Teacher Education” profile “Educational Technology in the field of Physical Education.” The experiment was conducted during two academic years (2016-2018). The dynamics of the level characteristics of the need for self-realization became possible to assess on the basis of an assessment of the pedagogical centers of future teachers of Physical Education. The results of the ascertaining study are shown in Figure 1.
As follows from the submitted data, the bachelors of physical education profiles of pedagogical areas are more focused on self-realization in the subject activity (Bystritskaya et al., 2018). This can be explained by the principle of novelty of subject preparation at the university, as compared with the school, as well as by the fact that many students are active athletes involved in sports activities from two sides: relevant from the performer of this activity and potentially from the creator.

During the period of the ascertaining study, the magistracy contingent was composed of professional teachers with a developed need for self-realization and who made a responsible decision to raise their level of education due to the presence and awareness of a personal and professional significant problem. This is also indicated by the given data, where, in aggregate, 79% of respondents are focused on forming the need for self-realization of themselves and their students. In this case, the subject activity is considered by them, most likely, as a means of realizing the individual in society (Dmitriev, Bystritskaya & Voronin, 2014).

To identify the procedural characteristics of the formation and development of the need for self-realization of future teachers in Physical Education, the following techniques were applied:

1) registration of types and methods of activity, as well as topics and educational contents, which constitute the educational activities at the university, analysis of the quality of their development (Kozlov & Uromova, 2017). For this purpose, three thematic sections were selected:
   – the section of interdisciplinary and metadisciplinary knowledge that is widely applicable in sports activities (for example, the theory and methods of Physical Education, the theory and practice of various sports);
   – choice of content to obtain knowledge applicable in educational activities (for example, psychological and pedagogical training unit);
   – The choice of types and methods of activity that contribute to the disclosure of the student’s own abilities and talents (creative tasks, project activities, individual participation in creative professional competitions, etc.).
When students were more focused on the first block, this meant their conscious choice of subject activity and the development of their subject abilities as main ones. When choosing the second type and successful mastering of this content, the focus on shaping the need for self-realization among students was clearer than in themselves. If students showed interest and actively participated in the activities of the third type, this meant not only striving, but also real work on forming the need for self-realization in a personal professional sense (Grigorieva & Stafeeva, 2018).

To assess the retention of activity, we used the monitoring of attendance by students of the electronic educational environment of the university, the resource “Pedagogical Map of the World” and other educational resources, as well as appeals to the library eLIBRARY.RU. The principle basis for such work was the postulate that the retention of activity leads to its expansion, coupled with curiosity and the desire to expand awareness of this activity (Kaznacheeva & Perova, 2017). To determine the relationship of undergraduate and graduate students to professional activities in its various aspects, a standardized questionnaire “Attitude to professional activity” was used, according to which relations to the process of work, to its results, to people with whom interacts in the work process, and to itself as a subject of professional activity.

Based on the proposed data, the stages and mechanisms of the formation of the need for self-realization were identified.

Stage 1: the acquisition of this need. The need for self-realization always arises as a result of something: resistance, similarity, deficiency, dreams, etc. That is, the motivation can be positive or negative. The mechanisms for acquiring the need for self-realization have features:

- negative motives: the mechanism of unexpected success works. We get not the success for which we worked and who will be claimed by someone else, but we get something more in ourselves, in our activity, in the process, in the product. Then a person may have the following mechanism - research: how does what I like, why did it turn out this way, and not otherwise, and how to do it next time, so that it will turn out differently (enjoying the process).

- positive motives: mechanism of satisfaction with the result. It is necessary to set a new task at the peak of enjoyment of the result.

Stage 2: inscribing the need for self-realization in the need-semantic sphere of the individual. Negative motive: increasing the level of need for self-realization in the hierarchy of human needs are: the desire to reduce the volume of independent activities and hence the desire to have a performing position without a high level of responsibility for their own and the overall result. The second negative motive is the desire of a person for maximum comfort with minimum labor costs. The third negative motive: the fear of discovering in oneself the inability to realize what was intended, which affects the decrease in the level of a person’s claims (this is the fear of not finding one’s talent in oneself). The fourth negative motive: fear of obstacles to the realization of revolutionary ideas.

The positive motive is to increase the position in the hierarchy of the need for self-realization. This is a heuristic motive for the manifestation of creativity of creativity in their daily activities. Following him is the motive of self-respect from a successful creative act.

Stage 3: the inclusion of the need for self-realization in the socio-cultural space. At this stage, a person tries on the possible results of his self-realization to the social needs of them. So, for example, the composer, working on a musical text, imagines the picture of the applauding hall and imagines who exactly will take places in this hall, what is the cultural level of potential listeners, their age, social and family status, etc.
A positive motive is a manifestation of the need for self-realization in the conditions of socially significant activities. This is the motive for the success of self-realization and public recognition of their work result.

The motive of individualization and improvement of their social status due to the manifestation of rare abilities in the reference group and in society as a whole.

The motive of utility to society - “I had a noble determination to devote myself to serve my fatherland. What more is required of a teacher who wants to be useful in his small circle?” (Dobrolyubov, 1853).

Negative motives: fear of public non-recognition of the results of their labor. The fear of the unclaimedness of one’s talent manifests itself due to the presence of two coordinates in the subject’s self-consciousness: a sense of the untimely manifestation of talent and a sense of irrelevance of a particular activity in given sociocultural conditions. The opposite of his fear - the fear of increased demand for human activity by society and the fear of early professional and personal burnout.

The “educational father” syndrome is a fear that the followers of the subject in his socially significant activities, when the circumstances of life change, may be out of his field of vision and leadership, while losing the direction of activity, interest in it, independence in this activity and social demand. On the other hand, this fear similar to parents in a family with a hyper-trust looks like a fear of the failure of a common activity and a change in its route beyond the direct participation of the subject.

The need for self-realization, as a rule, is considered in the literature as a combination and opposition of needs: personal-social self-realization and professional-activity self-realization (Shaydullina & Ramazanov, 2011; Konkina & Egorova, 2017; Sorokin, Kozyrev & Marinich, 2014; Umpawan, 2018). In our methodology of human-like education, this need is one, and the distinction in terms of personality and professional activity is an internal conflict that has been well studied by researchers. That is why, speaking about the need for self-realization of a professional, it is necessary to consider it through the manifestation of the human essence in socio-cultural conditions (Saiko & Derkach, 2010; Issaliyeva et al, 2018).

Mechanisms of manifestation of the social essence of a person through his need for self-realization:

Stage 1: the mechanism of interiorization - the assignment of socially significant values, meanings, principles of self-organization of activity through the reflection of social experience. The result of the implementation of this mechanism is the methods and criteria of professional evaluation activities. Here, research abilities and research culture are manifested, which manifests itself in relation to itself and to others. The mechanism of actualization and comparison of rights and obligations, desire and proper, needs and abilities (all within the framework of the study) also manifests itself.

Stage 2: primary self-actualization. Formed on the basis of comparison of images of the ‘I’ of the real and the mirror. It is extremely rare at this stage that a comfortable combination of these “I” images takes place. With this option, a person does not feel the need for further self-development in correcting his familiar activities and in finding new ones. Otherwise, there is a subjective dissatisfaction with oneself and the second mechanism comes into effect - self-attribution, which consists in attributing the desired qualities and activities to a person. The result of this mechanism is the formation of a fan of goals for further self-development. The third mechanism is the mechanism of introspection, in which the subject chooses several priorities from the entire fan of the goals, possible and desirable, for implementation. As a rule, some of them are associated with personal-social status in reference groups, and others - with professional self-realization.

Stage 3: the well-known mechanisms of socialization of the individual manifest, they can manifest sequentially or intersect in time. The first mechanism is adaptation to the types of activities that society offers. Its result is the development of sociocultural norms and rules of behavior and activity. The second mechanism,
individualization, is the separation of oneself through an objectively new (creative) or subjective new activity among people of a similar social status. This is how an athlete stands out among other team members at the expense of subjectively new activities - updating his sports arsenal, and the coach at the expense of objectively new results: new gymnastic compositions with which the gymnast won the competition, new techniques of the sports game or work with the team, due to which the team raised their position in the standings, etc. 3 mechanism - integration into society due to the success of its socially approved activities. Indicators of the fact that this mechanism is effective can be many high-level managers who during their life have been successful in many completely unrelated areas of life. Its result is that a person is appropriate and timely included in new activities for themselves and develops them.

All these mechanisms can be implemented in the structure of the educational process at the university. Difficulties arise during the formation of the need for self-realization mainly among those future professionals who have to work in the group of the person-to-person profession and themselves are engaged in the implementation of these mechanisms in relation to others (Astemirova, 2011). For such students, the position on the absoluteness of the process and the relativity of the result is fully true. Let us explain: once and for all it is impossible to form a need for self-realization in oneself or in another, but it is possible and necessary to form an understanding of the process of disclosing and developing this need in a person.

Thus, educational modules aimed at the formation of mechanisms, methods and criteria for the development of the need for self-realization should have a rhizom-modular structure (Burkhanova, 2015).

Taking into account the presented stages and mechanisms, the rhizome model of the formation of the need for self-realization was developed, the reflection of which can be seen on the example of the rhizome module of practice.

Consider the practice at the Faculty of Physical Education and Sport as a rhizome module in the structure of a regional cluster, and only one direction of its work is the inclusion of schoolchildren in the sports infrastructure of the region.

Action 1 - the pupil falls into the hands of students and graduates of the faculty in his educational organization, where he receives information about the sports sections, clubs, sports and recreation complexes existing in his district and in other areas and is sent to the faculty to diagnose athletic abilities and aptitudes.

Action 2 - the student turns out to be in the laboratories of the scientific and educational center and under the guidance of students and undergraduates who are there in practice, undergoes a psychological and pedagogical examination in the laboratory, where he receives specific recommendations for inclusion in the sports infrastructure. As a result of consideration of some pedagogical conditions that allow successfully implement the rhizome model, several ways are presented to reveal the zone of proximal development:

- motivational. What a person achieves with difficulty, then causes the maximum emotional coloring, and gives the maximum motivation for further activities.
- cumulative. The main thing is to catch the moment when a person is ready to move to a new level, and to give a task of a problem or developmental type or a feasible difficulty (Zankov, 1996), so that he can realize what he can and plus something that will transfer it to the zone of proximal development. The first point: it is necessary to diagnose the moment when the child is ready to move from the level of actual development to the level of proximal development (Neverkovich, Dmitriev & Bystritskaya, 2012).

This requires a personal example. The teacher should remember and feel how this process took place in him, and what signs indicated the moments to come to perform more complex, more significant tasks. The teacher needs to be told how the result was achieved, what obstacles and barriers were overcome to achieve it, and what exactly helped to overcome these barriers (Stafeeva & Ivanova, 2015).
The second point: self-realization of a person is not a process of progressive. There are “tides” of human activity, but there are also “ebbs”. The teacher needs to retain it during the recession of self-realization, perhaps again by personal example, discussing his personal “falls” with the pupil.

The third point: to find the strength and ability to empathize with the pupil at the time of the "recession.”

The fourth point: the application of the principle of difference. It is necessary to understand that a student has other opportunities, abilities and inclinations and to apply his own scheme of influence for activating the mechanism of self-realization is not always possible (Panova et al., 2016). Therefore, a teacher may have a problem: on the one hand, he must be similar to his pupil, united in behavior, in activity, but at the same time it must be understood that they are completely different. And, understanding and accepting this confrontation, at certain moments it is necessary not to show their bright personality, but to give an opportunity to show their child (Neverkovich, Dmitriev & Bystritskaya, 2011; Sulistyaningsih et al., 2019). Creative activities can be very helpful in this, when at the request of a teacher a child can show his or her characteristics.

**Conclusion**

As a result of the study, we identified the procedural characteristics (choice of activity, duration of activity and relationship), highlighted the stages of the formation of the need for self-realization (the acquisition of this need; the need for self-realization in the need-semantic sphere of the personality; the inclusion of the need for self-realization in the socio-cultural space), and the mechanisms for the manifestation of a person’s social essence through his need for self-realization are defined. Based on the proposed data, a rhizome model of the formation of the need for self-realization has been developed and the pedagogical conditions for its implementation have been determined.

The rhizome model is based on the principle of rhizomaticeventiness, which:
- allows you to see the non-linear development of sociocultural phenomena, features of intellectual creativity;
- is implemented on the basis of insecurity, that is, initiated by the subject himself;
- there are no “white spots” and “blind zones” of the process; the polypositionality allows to see the process simultaneously from the “inside” and “outside”;
- new organizational structures are being formed (project teams, committees, associations, centers) for specific target results;
- prediction is not probabilistic, but specifying in nature based on sociocultural paradigms, which allows you to manage the process in conditions of fundamental uncertainty.

Such activity allows to realize:
- reflexive-search process that cannot be fully reduced to the logic of the object under study;
- the needs and attitudes of the subjects to self-identity and the realization of individuality in society;
- the act of creativity, its process, mechanism and result;
- dominant on a constructive, not on an evolutionary process;
- the ability to create a personalized product in society based on the ability to address oneself to another person, to find another in oneself, to carry out interpersonalization in activities.

**Recommendations**

The use of rhizome modules in learning, which correspond to the very essence of human cognition and the structure of its self-consciousness, can be applied to solve a wide range of educational tasks. The rhizome modules can be implemented both in the students’ independent educational activities, and in the organization of the educational process by university teachers. They can be useful for postgraduate education and self-education of a teacher in the context of professional self-realization, they can also allow school teachers and university
teachers to create conditions for students to correct the gaps in their own education. Also, rhizome modules can be useful for teachers of advanced training courses with a lack of time to study individual topics, and can become the basis of creative workshops, master classes, and professional trainings. The significance of the rhizom-modular approach to the formation of new educational standards and basic educational programs is also high.

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