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**METHODOLOGICAL DESIGN OF CONSCIOUSNESS
DISCOURSE FOR SUBJECTS OF EDUCATION**

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Abstract

The article poses the problem of the need to develop a project consciousness and teacher's self-awareness, to expand the methodological discourse of the theory of project activities by introducing these concepts into its composition. The structure of the considered definitions "project consciousness" and "project self-awareness" is proposed. The substantiation of the content of the mental representation of the formation of the project consciousness and self-consciousness is carried out. Under the project self-awareness, the authors understand the stable system of relations of the subject in the process of implementing the project technology to their position in the ongoing socio-cultural pedagogical project and the need to change it in a problem situation, the ability to restore and update the norms of this socio-cultural pedagogical project in problem situations simultaneously with the development of their professional activity position. As a result of a theoretical study, the mental representation of the formation of project consciousness and self-awareness was modeled, the process of strategizing "project self-awareness" was described, the methodological discourse of the theory of project activity was expanded taking into account the peculiarities of the educational situation in the general education system of Russia in connection with the introduction of new educational standards. The resources ensuring the intensification of the development of "project consciousness" and "project self-awareness", as well as the efficiency of transferring theoretical ideas about the project technology into practical activity, are an adequate way of mental representation of the design activity of teacher.

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Keywords: Methodological discourse, professional consciousness and self-awareness.



1. Introduction

The problem of project activity has been developed for a long time in pedagogical theory and practice. In the works of foreign and domestic teachers of the late 19th - early 20th centuries: Dewey (2000), Kilpatrick (1925), Collings (1926), a number of Russian scientists etc. The philosophical and methodological foundations of the organization of project activities of students were disclosed. This problem is widely represented in modern pedagogy and psychology. Today, the relevance and demand for professional pedagogical competencies in the management of project activities of students has increased many times over. This is due to the fact that the new GEF of the basic general education requires students to defend the mandatory final educational project (Primernaya osnovnaya obrazovatel'naya programma OOO, 2015). Due to this, the project activity of students has become an indispensable component of the educational process, and the teacher's project technology skills have ceased to perform the function of demonstrating the breadth of the pedagogical professionalism, and have become a mandatory teaching tool..

2. Problem Statement

We have many years of experience working with teachers in mastering the competencies of project activities (experimental sites on the topic "Methodological support of applying the project method in the educational process": State Educational Institution "School No. 2009", State Budget Educational Institution "Lyceum No. 1561", State Budgetary Educational Institution "School No. 626 named after N.I. Sats", State Budgetary Educational Institution "School No. 2026", Moscow's Khoroshevskaya School private educational institution "On the basis of the State Scientific Institution "Institute for Strategy of Education Development"). It allowed us to make sure that the success of this process depends on a great many factors (Krasnov & Malysheva, 2015, 2017). When teachers are aware of the relevance and importance of the project skills of students, when they are motivated to this activity, they are deeply familiar with the project technology; in their practical implementation they do not always achieve success. Why does this happen?

3. Research Questions

What is the place of project thinking in the process of formation of the project competencies of the teacher?

In the methodological and pedagogical literature, various reasons that prevent the successful implementation of project technology in the pedagogical practice of general educational organizations are reflected, and the problems arising during its implementation are given (Brinkerhoff, 2005; Selivanova, 2003; Sosnovskaya, 2013; Teplickaya, 2018; Heath & Heath, 2015), as well as in the works of foreign authors (Kołodziejski & Przybysz-Zaremba, 2017).

We are close to the point of view, which explains such difficulties by the fact that the teacher does not have time to form project thinking (Bono, 2014; Sosnovskaya, 2013). Contemporary authors explore the specifics and problems of the formation of project thinking in the educational process with an emphasis on the education of a "responsible person". In foreign psychology, there is a tendency to

research effective ways of its formation (Brinkerhoff, 2005; Dirksen, 2017; Duarte, 2012; Heath & Heath, 2015).

Design thinking today in science is understood as the mastering of a categorical apparatus by a project technology and the ability to build a mental image of upcoming innovation activity (Gromyko, 1997; Selivanova, 2003; Sosnovskaya, 2013). Most researchers agree that the features of project thinking are manifested in the ability to “fish for the future” using certain procedures. In particular, it concerns the structuring and restructuring of information about the object, about the situation of its development, its external and internal relations, future condition.

What are the difficulties in the formation of project thinking among teachers?

As established by researchers, it is this process of “providence” that most often fails: three factors work against the teacher (Gromyko, 1997; Selivanova, 2003; Sosnovskaya, 2013). The first is related to the fact that design is a risk, chaos and uncertainty that must be overcome, unraveling the intricate, making the process manageable, orderly. Otherwise, instead of designing, haphazard fantasy is performed. To be able to overcome such a situation of uncertainty, we need both psychological and technological readiness, as well as a high level of personal subjectivity. Secondly, experience is needed. But it does not come immediately. The number of projects developed by the teacher himself, as well as projects developed by students under his leadership, plays a serious role in the progress of experience in this type of activity. Well and, thirdly, project thinking requires awareness from a person and trains it (Sosnovskaya, 2013). The project requires monitoring and tracking all the time - to monitor the progress of actions and their performance, and teachers themselves, as the subjects of activity.

What is meant by project consciousness and self-awareness, what is their structure, essential characteristics?

Gromyko (1997) made a significant contribution to the development of ideas about project consciousness, as well as the relationship between project consciousness and thinking. He focused primarily on the psychological characteristics of the identified phenomena of mental activity and the basics of their development. We have not met any work related to the identification and description of methods for the formation of project consciousness among teachers. Therefore, this problem has become the subject of our theoretical understanding.

4. Purpose of the Study

The purpose of our research was: a) clarification and specification of the concepts “project consciousness” and “project self-awareness”; b) a description of the resources ensuring the intensification of their development and the efficiency of the transfer of theoretical ideas about the design technology into practical activities; c) modeling the mental representation of the formation of project self-awareness. By model we mean a conceptual system that indirectly reflects a combination of factors that reproduce, imitate an object at different levels of their organization, self-organization and development (Derkach, 1999). We regard mental representation in the interpretation of M.A. Kholodnaya as “... the actual mental image of an event (that is, the subjective form of seeing what is happening)” (as cited in Belykh, Kopoteva, & Golovleva, 2018, p.115).

5. Research Methods

Theoretical analysis of pedagogical, psychological, philosophical literature; reflection of experimental work on the introduction of project activities in education; expert evaluation of educational projects, a comparative analysis of the experience of project activities of subjects of education in various theoretical and methodological approaches. The following methods were used as additional methods: pedagogical observation, documentation analysis, etc.

6. Findings

Under the project identity we propose to understand the stable system of relations of the subject in the process of implementing the project technology:

- this is an understanding of one's position in an ongoing socio-cultural pedagogical project and the need to change it in a problem situation;
- the ability to restore and update the norms of this socio-cultural pedagogical project in problem situations simultaneously with the development of its professional and activity position.

It is absolutely clear that in order to clarify the definition of its essence; this phenomenon should be studied in the context of the structure of the concepts of "professional pedagogical consciousness" and "professional pedagogical self-awareness". Science has developed models of the structure and functions of professional consciousness, studied and characterized the conditions affecting the process of its development (Abulkhanova-Slavskaya, Volovikova, & Eliseev, 1991; Guslyakova, 2013). Professional consciousness is interpreted by modern researchers as an integral personal education. When modeling, we will rely on the model proposed by Kosaretsky (1999) (Kopoteva & Molodyh, 2018).

Using his ideas, we propose the following structure of project consciousness as an integral psychological and pedagogical phenomenon (Figure 01):

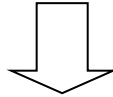
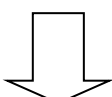
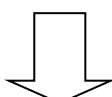
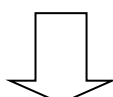
substructure of features and characteristics		substructure of functions	
core part		content part	
			
professional image of "I" as a designer (in the position of the designer)	value orientations of project activities	professionally important personal qualities for the implementation of project technology	professional knowledge and skills necessary to implement the project technology

Figure 01. Structural and functional model of the teacher's project consciousness

In the context of our theoretical research, our attention will be devoted to the substructure of the functions of the teacher's project consciousness.

In order to demonstrate the systemic and holistic nature of the model of professionally important personal qualities that we propose, demonstrating the formation of project consciousness and self-

awareness, we found it necessary to present them in comparison with the psychological signs of the definition "consciousness" (Enikeev, 2007).

Table 01. Professionally important personal qualities necessary for the formation of project consciousness and self-awareness

Signs of consciousness	Professionally important qualities of a person possessing project consciousness and self-awareness
The ability to extract algorithms from the mental activity (methods)	The ability to identify ways of project activities, to carry out a positional analysis of the situation
To assess the adequacy or inadequacy of the quality of their own actions	The ability, based on the positional analysis of the situation, to predict problems and make preventive decisions, that is, the ability to manage your future
	The ability to change in changed circumstances - understanding the need for self-change to solve a professional problem situation
To program activity	To understand the intentionality of oneself and other people and on this basis the ability to build the new cooperation necessary for the realization of one's value
To regulate and control activities	The ability to regulate and control their own activities for the implementation of new value bases
	Increased responsibility for the professional activities and livelihoods of the people around them.

As we can see, the partial components of professionally important personality traits that demonstrate the formation of project consciousness and self-awareness are based on the signs of the psychological concept of "consciousness" and reflect the invariant of the personal potential of the designer, making up an integral model.

Let us turn to the following component of the substructure of the functions of the project consciousness, the model proposed by us: "professional knowledge and skills necessary for the implementation of the project technology" (Scheme 1). We compiled the list of project competencies, relying on the Order of the Ministry of Labor and Social Protection of the Russian Federation of October 18, 2013 N 544n "On the approval of the professional standard" Teacher (pedagogical activity in the field of preschool, primary general, basic general, secondary general education) (educator, teacher) "(as amended on August 5, 2016):

- The project ability to pose a problem is expressed by the teacher's analytical and prognostic competence: the ability to efficiently analyze their professional activities, identify the problems existing therein and make decisions that ensure their optimal solution; ability to effectively formulate goals and criteria for their achievement.

- The creative ability of the teacher associated with the search and finding of the project idea is expressed by professional competence in the field of innovation: the ability to generate new productive ideas in the field of professional activity; proficiency in pedagogical design; the ability to attract

colleagues, the administration to support and participate in innovative projects; proactive participation in the development and implementation of educational projects.

- Organizational design ability is expressed by reflexive competence: the desire and ability to look at oneself through the eyes of others, assess oneself from the outside, openness to accept other positions.

- Communicative competence: the ability to diagnose the causes of conflict situations; possession of methods of productive conflict resolution; the ability to involve other people in solving tasks; the ability to interact productively with team members in solving professionally significant tasks; possession of ways to effectively resolve conflicts.

- The ability to implement the design intent is expressed by the competence of self-organization, which provides the ability to effectively plan and implement the planned plans, self-control.

As we see, on the one hand, the competencies offered by us reflect all the necessary invariants of professionalism of activity, and on the other hand, they fix the features of the design methods of activity.

We have already fixed attention to the fact that to successfully overcome a situation of uncertainty, a high level of subjectivity of activity at all its stages, an understanding of the specifics of each stage of activity, their interconnectedness in the process of achieving the goal is necessary. The subjectivity factor is also important for choosing strategies for the transfer of mental representation of project activities from subject to subject: for someone it is possible only in the form of translation, and someone will be ready to work it out independently (we are talking about any subjects of interaction during its transmission - teacher-student or teacher-teacher). Characteristics of the stages of the subject's activities along the path from setting a goal to achieving it are given by us in the formulations of the Federal State Education Standard of general education (Primernaya osnovnaya obrazovatel'naya programma OOO, 2015), see Figure 02.

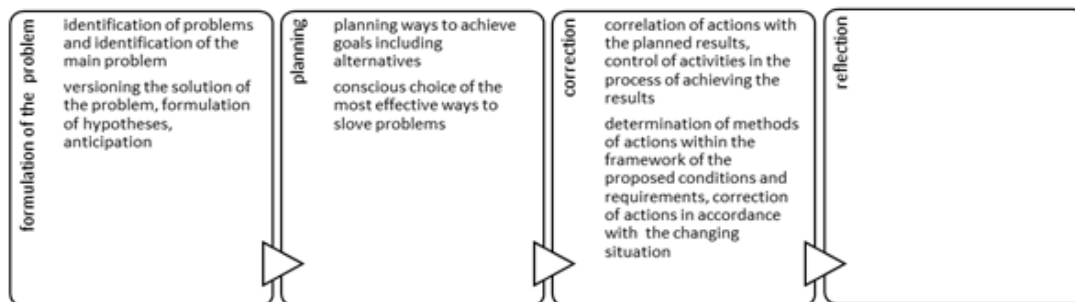


Figure 02. Stages of the subject

We believe that already at the initial stage of activity (understanding the problem), by identifying the mechanism used by the teacher for overcoming the problem situation, it is possible to determine the degree of subjectivity of the design activity and see the resources for its improvement. To demonstrate this process, we have developed a “roadmap” of teacher advancement during problem solving, demonstrating the dependence of the level of development of the teacher’s subjectivity on the method of solving the problem used by him (Table 2):

Table 02. Mechanisms to overcome the problem situation

Mechanisms to overcome the problem situation	Solution	Levels of development of the teacher's subjectivity
Memory	Well-known	Automated
Responsibility	Old (was in practice)	Low
Reflection	Modern (there is a sample in their culture)	Average
Creative communication	New (no prototype in their culture)	High
Transcendental understanding	New (no prototype)	The best

It is absolutely obvious that the systematization proposed by us will make it possible to adjust the mechanisms for a person to overcome a problem situation in such a way as to increase the degree of subjectivity of any activity (projection including) and not only at its primary stage, but at all subsequent ones.

It has been proved by acmeologists that the best way to develop a personality, its professional competencies, which leads to maximum self-realization, is strategic (Derkach, 1999). Project technology is essentially an implementation of a product development and implementation strategy. After all, the possibility of successful implementation of the design, bringing the project to the result depends on the strategic nature of the project consciousness and thinking. Therefore, we believe that it is necessary to expand the methodological discourse of project consciousness and thinking by introducing the concept of their strategic. In order to isolate the features of the process of strategizing the project consciousness, its stages, we developed the following scheme (Figure 03).

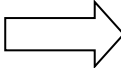
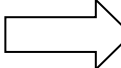
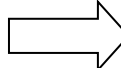
Stage name		Transformation (strategizing) of consciousness
motivation for project activities		desire and decision to transform their project position
problematization and passage of <i>the first bifurcation point</i> (when it is impossible to perform professional activities by old means)		disbanding the old way of sense formation
<i>the second point of bifurcation:</i> - being in an uncertain situation and getting out of it		consciousness is open and there is an intense search for new foundations
		a new meaning and method of its finding are set, the design of consciousness and the formation of a new sustainable project position are created; qualitatively new implementation of project activities

Figure 03. Scheme of development (strategizing) of professional consciousness of a teacher in the design process

7. Conclusion

As a result of our theoretical research, the modeling of mental representation of the formation of project consciousness and self-awareness was carried out:

1. The methodological discourse of the theory of project activities is expanded by:

a) clarification and specification of:

- the content of the concept of "project consciousness" and "project self-awareness";
- a list of professionally important personal qualities for the implementation of project technology;
- professional knowledge and skills necessary for the implementation of project technology;

b) clarification of the concept of "strategic design consciousness."

2. Refinement, specification and expansion of the methodological discourse of the theory of project activities are carried out taking into account the peculiarities of the educational situation in the system of general education in connection with the introduction of the Federal State Educational Standard.

3. The structure of the concept of "project consciousness" and "project self-awareness" of a teacher is proposed.

4. The relationship of the way the teacher overcomes the design problem and the level of development of the teacher's subject in the course of project activities are demonstrated.

5. The process of strategizing "project self-awareness" is described.

6. The resource ensuring the intensification of the formation of "project consciousness" and "project self-awareness", as well as the efficiency of transferring theoretical ideas about the project technology into practical activity, is, in our opinion, the right choice of the method of transmitting mental representation of the design activity (translation or joint development in the process of interactions).

7. The mental representation proposed by us for the formation of project consciousness and self-awareness makes it possible to broadcast it in the process of teaching teachers to manage project activities of students.

References

- Abulkhanova-Slavskaya, K.A., Volovikova, M.I., Eliseev, V. A. (1991). Problemy issledovaniya individual'nogo soznaniya [Problems of the study of individual consciousness]. *Psychological journal*, 12(4), 27–40 [in Rus.].
- Belykh, S.L., Kopoteva, G.L., & Golovlyova, I.V.(2018). Modelirovanie reprezentacij professional'noj deyatel'nosti pedagogov [Modeling representations of professional activities of teachers]. In *The Eighth International Conference on Cognitive Science: Abstracts* (pp. 115-117). Moscow: "Institut psihologii RAN". [in Rus.]
- Bono, E. de (2014). *Lateral Thinking - An Introduction*. Random House UK, Vermilion.
- Brinkerhoff, R. O. (2005). The Success Case Method: A Strategic Evaluation Approach to Increasing the Value and Effect of Training. *SAGE Journals, Advances in Developing Human Resources*, 86-101. <https://doi.org/10.1177/1523422304272172>
- Collings, E (1926). *Experience of the American school by the project method. Library of the "Bulletin of the Enlightenment"*. Moscow: New Moscow.
- Gromyko, YU.V. (1997) *Proektnoesoznanie: rukovodstvo poprogrammirovaniy u iproektirovaniyu v obrazovanii dlya sistemstrategicheskogo upravleniya* [Project consciousness: programming and design guide in education for strategic management systems]. Moscow: Institutchebnika Paideia. [in Rus.].

- Guslyakova, N. I. (2013) *Professional'noe soznanie uchitelya: psihologicheskij aspekt: monografiya* [Professional teacher consciousness: a psychological aspect: a monograph.] CHelyabinsk: Izd-voCHelyab.gos.ped.un-ta. [in Rus.].
- Derkach, A.A. (1999) *Metodologo-prikladnye osnovy akmeologicheskikh issledovanij*. [Methodological and applied fundamentals of acmeological research]. Moscow [in Rus.].
- Dewey, D. (2000) *Demokratiya I obrazovanie*[Democracy and education]. Moscow: Pedagogika-Press [in Rus.].
- Dirksen, J. (2017) *Iskusstvo obuchat': kak sdelat' lyuboe obuchenie neskuchnym I ehffektivnym* [The art of teaching: how to make any learning fun and effective. Julie Dirksen] Moscow: Mann, Ivanov i Ferber.[in Rus.].
- Duarte, N.R. (2012). *Zahvati auditoriyu svoej yarkoj istoriej* [Capture the audience with your colorful story]. Moscow: Mann, Ivanov i Ferber. [in Rus.].
- Enikeev, M.I. (2007). *Psihologicheskij ehnciklopedicheskij slovar'* [Psychological Encyclopedic Dictionary] Moscow: TKVelbi, Prospekt.[in Rus.].
- Heath, C., & Heath, D. (2015). *Serdce peremen. Kak dobivat'sya izmenenij legko I nadolgo*. [The heart of change. How to make changes easy and for a long time]. Moscow: Mann, Ivanov i Ferber, 133 p.[in Rus.].
- Kilpatrick, V. H. (1925). *Metod proektov. Primenenie celevoj ustanovki v pedagogicheskom processe* [Project Method The use of target installation in the pedagogical process]. L.: Brokgauz-Efron [in Rus.].
- Kołodziejski, M., & Przybysz-Zaremba, M. (2017). Project method in educational practice. *University Review*, 11(4), 26-32. Retrieved from: https://www.researchgate.net/publication/321542427_Project_Method_in_Educational_Practice [in Pol.].
- Kopoteva, G.L., & Molodyh, E.N. (2018). Otrazhenie cennostej FGOS obshchego obrazovaniya v professional'nom soznanii pedagogov [Reflection of the values of GEF of general education in the professional consciousness of teachers]. *Otechestvennaya I zarubezhnaya pedagogika*, 5(55), 54-68. [in Rus.].
- Kosaretsky, S. G. (1999). *Psychological conditions for the development of professional consciousness of future teachers* [Psychological conditions for the development of professional consciousness of future teachers] (Doctoral Dissertation). Moscow [in Rus.].
- Krasnov, S.I., & Malysheva, N.V. (2015). Ponyatie gumanitarnogo proektirovaniya v obrazovanii [The concept of humanitarian projects in education]. *Pedagogika*, 5, 28-35. [in Rus.].
- Krasnov, S.I., & Malysheva, N.V. (2017). Teoreticheskie osnovaniya I instrumentarij gumanitarnogo proektirovaniya v obrazovanii [Theoretical foundations and tools of humanitarian projects in education] *Otechestvennaya i zarubezhnaya pedagogika*, 1(5), 169-183.[in Rus.].
- Primernaya osnovnaya obrazovatel'naya programma OOO [The approximate basic educational program] (2015). Retrieved from: <http://xn--80abucjiibhv9a.xn--p1ai/%D0%B4%D0%BE%D0%BA%D1%83%D0%BC%D0%B5%D0%BD%D1%82%D1%8B/938>. [in Rus.].
- Selivanova, T.V. (2003) *Formirovanie proektnogo myshleniya uchitelya izobrazitel'nogo iskusstva na osnove informacionnyh tekhnologij* [Formation of project thinking of the teacher of the fine arts on the basis of information technologies] (Doctoral Dissertation). Moscow [in Rus.].
- Sosnovskaya, K.V. (2013) *Proektnoe myshlenie v bytii cheloveka* [Project thinking in human existence] (Doctoral Dissertation). Omsk. [in Rus.].
- Teplickaya, A.G. (2018) Uchebnoe proektirovanie. Shag v budushchee. [Educational project. Step into the Future]. Sbornik dokladov IX mezhdunarodno jnauchno-prakticheskoy konferencii «Issledovatel'skaya deyatel'nost' uchashchihsya v sovremennom obrazovatel'nom prostranstve». *Issledovatel*, 1, 100-105 [in Rus.].