PEDAGOGICAL PROJECT DESIGN
IN EDUCATIONAL ACTIVITY

Radomsky I. P.

INTRODUCTION

Project activity is a universal means of human development. Adults can use the project activity for self-improvement, improvement of environment and professional development; it can become a generator of creative expression of personality.

Considering the project activity in general, one should mentioned that in addition to a technical project design, we distinguish a social project design aimed at creating social elements of human life activity.

The urgent issue of innovation process implementation in education and adult education is, in particular, implementation of the pedagogical project design. The project design of an educational activity is a vital scientific problem providing implementation of the whole range of research tasks.

The employees of education field are actively being involved in the project activity. It helps to develop imagination, creative work, creativity, promotes a social activity, enriches emotionally through the feeling of ability to change the reality. The efficiency of a pedagogue depends more and more on his or her skills in building up own activity on the scientific basis, planning not only the educational process itself, but also its results, imagining in details future changes, evaluating their anticipated effect.

The employee in the educational field involved in the project activity has the opportunity to implement educational projects as a developer or executor in the institution where he or she works, to design own educational programs, courses or trainings, be involved in network projects.

The pedagogical project design development is connected with explorations of opportunities to increase efficiency of the educational process.

Studying the range of problems of innovation pedagogical system project design, V. Dokuchaeva[1] has determined a range of contradictions which make the pedagogical project design relevant:

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[1] Докучаєва В. В. Проектування інноваційних педагогічних систем: теоретико-методологічний аспект / В. В. Докучаєва // Андрагогічний вісник. – 2014. – № 5. – С. 37-46.

- Between the social order of educational field for creation of innovation pedagogical systems and non-development of theoretical-methodological substantiation of this activity;

- Between objective meaning of psychological component of the process of creation of innovation pedagogical systems and its insufficient awareness in pedagogical design practice;

- Between the demand of educational field for thorough equipment of an innovation design activity and non-development of its technological basis;

- Between modern requirements of pedagogical practice to implementation of innovation activity at the system-design level and availability of stable dominants of professional thinking by the subjects governing innovation projects implementation in educational space;

- Between the public needs for functional competence of the subject of innovation pedagogical system project design and lack of theoretically substantiated model of such competence.

In the philosophical aspect, project designing is seen as an element of culture, promoting the development of a person's creative work and imagination, and the project as a result of spiritual transformation activity. "Every action that is not instinctive, not impulsive ... but purposeful, had to be carried out on the basis of the previous project"[2].

1. Historical Aspects of Pedagogical Project Design in Education

In the educational field, the project activity as a source of pedagogical activity was formed over a long period. The necessity of introducing research orientation into the pedagogical process was noted by the founder of pedagogy Ya. J. Komensky. He wrote: "People have to be taught mainly to receive knowledge not from books, but by observing the heaven and the earth, oaks, beeches, that is, that they have to study and cognize the objects themselves and not to remember only others' observations and explanation"[3].

J. J. Rousseau advised to put to a child accessible to his or her understanding questions and give the child an opportunity to independently solve them. "Let the child finds out not because you have said to him or her, but because he or her understood themselves; let him or her not learn science, but make it up[4].

[2] Каган М. С. Философия культуры. – СПб., 1996. – С. 240.
[3] Коменский Я.А. Великая дидактика / Пер. А. Щекинского. – М., 1893. С. 138.
[4] Руссо Ж.Ж. Эмиль, или О воспитании. – М., 1996. – С. 211.

In the 19th century, heuristic methods aimed at the development of autonomy in cognitive activity were being developed actively in the pedagogy. A. Diesterweg noticed features of heuristic methods, namely: forcing the student to independency; research of phenomena; search for truth through personal reflection, research; aspiration of the student to receive answers to the questions that naturally arise in him or her; inductive way of developing a problem[5]. J. Armstrong as another supporter of the heuristic method noted that the heuristic method puts a student in the position of a researcher and allows discovering scientific facts instead of only hearing about them[6].

At the beginning of the 20th century J. Dewey, K. Popper, H. Simon, W. H. Kilpatrick, E. Collings and others made a significant contribution to the development of project activities in the educational field.

The project method as a pedagogical technology and a form of educational work spread in the first half of the 20th century. It combined heuristic, research, experimental, and scientific components. The founder of the project method is considered to be the American philosopher and teacher J. Dewey. The scientist considered educational mission in the fact that education had to develop the student's ability to solve his or her vital needs of life "here and now" rather than merely give knowledge necessary in the future.

J. Dewey considered school as a place where a child is taught to live in the surrounding world, to work together with peers and adults, thereby acquiring the necessary knowledge. At the same time learning should be based on the students' own experience and focus on their interests and needs. The main way of learning is to study the surrounding environment in the project form. Any action performed individually, in a group, with the participation and with the support of a teacher or other people, a child must plan, execute, analyze and evaluate independently[7].

Russian researcher of the history of education A. I. Piskunov describes the project method (J. Dewey, W. Kilpatrick) in the following way: "In the process of learning children plan (design) the implementation of a specific practical task, including learning there. Despite the fact that the supervision remained with a teacher, this method was based on the existing experience of the child, his or her own way of searching, overcoming difficulties. W. Kilpatrick believed that only under such system of learning education can turn into a continuous transformation of

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[5] Дистерверг А. Руководство для немецких учителей. – Изд. Т. Тихомирова, 1913.

[6] Ягодовский К.П. Исследовательский метод в школьном обучении. – М.; Л., 1929. – С. 64.

[7] Dewey J. Experience and Education. – N.-Y., 1938.

the child's life and raise him or her to a higher level, and the school will prepare students for the conditions of a dynamically changing situation in society and to the facing with unknown problems in the future. Later on, this method as well as other ideas of John Dewey was used in many countries of the world"[8].

Another researcher of the history of pedagogy O.N. Dzhurinsky considering the implementation of the project method in pedagogy of US schools in 20-30s of the 20th century by W. Kilpatrick, the follower of J. Dewey, stated the following: "The students designed themselves what they had to do. Particular attention was paid to the type of activity through which knowledge was obtained. Materials for learning were taken from everyday life. The students chose themselves what had to be the content of the educational work; the teacher only provided them with assistance in the performance of something they intended to do[9].

W. Kilpatrick defined the project activity as "a reasonable activity carried out with all one's heart, which manifests itself in certain social conditions, which is chosen for the typical feature of school life"[10]. The scientist outlined the following components of his pedagogical system: the learning material, which stems from the nature and interests of students; reasonable activity; learning as a continuous transformation of life and the transition to its higher levels. The aim of the study was to master methods of problem solving, search, research by students. In his scientific works, Kilpatrick[11],[12] distinguished the following types of projects: creative; consumer (connected with entertainment); projects on solving problems or intellectual complications; projects-exercises.

Since the proclamation of the social nature of learning by J. Dewey in his scientific work "Democracy and Education" (1916), the project design has been focused on socialization of the learning content based on the search for problems and questions in the surrounding life environment.

With the availability of the translation of W. Kilpatrick's book "Project Method" in the Soviet Union (1925), educational and pedagogical project design developed as a special form of pedagogical activity, but in 1931 already the Central Committee of the CPSU (b) the project method was disapproved because it "did not allow students to acquire a system of

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[8] История педагогики и образования. От зарождения воспитания в первобытном обществе до конца XX в.: Учебное пособие для педагогических учебных заведений / Под ред.. А. И. Пискунова. – М., 2001.

[9] Джуринский А.Н. История зарубежной педагогики: Учебное пособие. – М., 1998.

[10] Килпатрик В.Х. Метод проектов. – Л., 1925. – С. 42.

[11] Килпатрик В.Х. Основы метода. М.; Л., 1928. С. 334. Килпатрик, В. Х. (1930).

[12] Воспитание в условиях меняющейся цивилизации. Москва: Работник просвещения (Kilpatrik, W. H. (1930). Education for a changing civilization. Moskow: Educator).

knowledge in the field of specific learning courses", and in the next more than half a century in the USSR, the project method was not used as independent one.

Unlike the USSR, in such countries as the United States, the United Kingdom, Belgium, Finland, Germany, Italy, Brazil, Holland, and many other humanistic approaches to education and J. Dewey's project method have gained popularity.

The project design concept by A. Makarenko who was at the beginning of development of the pedagogical thinking logic was actively used. He considered pedagogical project design as a necessary starting point in the organization of educational-learning process. "As it is impossible to construct a house without a project, in the same way it is impossible to educate the right people without having an idea of what qualities they should master. Only through project design one can foresee educational goals in organization of the objective process of children's education"[13].

In 70–80's of the 20th century, scholars began to actively use the engineering terminology of project design in a pedagogical activity (G. Schedrovitsky, V. Kraevsky, I. Lerner). The concept of "project" in the methodology of pedagogical activity was used by G. Schedrovitsky in 1968 in his work "Pedagogy and Logic", and N.V. Kuzmina singled out a design component in the structure of the pedagogue's activity. Soviet pedagogy begins to operate with the concepts of "pedagogical project design", "teacher's project activity", and "pedagogical project".

In this historical period, pedagogical project design was seen as "a peculiar form of implementation and fixation of social goal-setting, where the project design is embedded in the system of pedagogical production. Therefore, it was about a peculiar and multi-tiered area in which the products of activity, having produced at the previous level, are transmitted to the next one and become either means or regulatory guideline"[14].

O. Kobernyk's scientific research has shown that in 90s of the 20th century the study of the pedagogical project design problem was associated with the application of the project method to the complex development of pedagogical projects in national education and in such fields of knowledge as psychology, philosophy, valeology, and others. The researcher notes that social project design is a specific activity

[13] Козлов И. Ф. Педагогический опыт А.С. Макаренко / И. Ф. Козлов. – М.: Просвещение, 1987. – 185 с.

[14] Коршунова Н. Л. Проекты и прожекты в педагогике / Н. Л. Коршунова // Педагогика. – 2003. – № 5. – С. 4–9.

associated with a scientifically grounded definition of the options for the scheduled development of social processes and phenomena and goal-oriented change of specific social institutions. At the same time, in social sciences, project designing, as a rule, is considered as one of the forms of a forward-looking reflection of reality, the process of creating a prototype of a predictable object, a phenomenon or a process with the help of specific methods. Project designing is a concrete form of manifestation of the management prognostic function, when a probable image of the future material or ideal reality is created. The aim of project design is to predict objects, phenomena or processes that would meet the desired properties"[15].

At the end of the 20th and at the beginning of the 21st century the scientists began to consider a project design as a special kind of thinking activity. Thus, the project design of social system development within the framework of methodology of thinking system activity was studied by O. I. Genisaretsky, V. M. Rosin, G. P. Shchedrovytsky, the implementation of a project design as a management procedure was developed by I.V. Bezstuzhev-Lada, M. I. Lapin, I. I. Lyakhov, B.V. Sazonov, Zh.T. Toshchenko; T. Batievska, V. Dokuchaeva, O. Kobernyk, O. Zair-Beck, V. Slastionin, N. O. Masiukova, O. G. Prikot and others worked on the methodology of project designing in education.

The project activity in educational field gained a new impulse in 90's of the last century. The humanistic direction of pedagogical project design was outlined due to involvement of philosophical, cultural, and psychological knowledge in its methodology. The practical opportunities of project activity in education have been further developed in connection with the rapid development of information and communication technologies.

Later on, pedagogical project designing is spreading at the level of pedagogical systems, educational environment, personality, content of education and learning. A process of forming the project space for educational process participants is taking place.

The project methods in pedagogy are gradually being transformed into project learning or learning through project designing (for example, the textbooks of the well-known English teacher T. Hutchinson "Project English", "Hotline", "New Hotline", using problem-project design technology of learning). The project environment is transformed into an educational environment, and the use of logic of creating typical projects

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[15] Коберник О. Сутнісна характеристика проектування педагогічного процесу / О. Кобернік // Збірник наукових праць Уманського державного педагогічного університету. – 2012. – Ч. 2. – С. 101–109.

serves as the main means of learning. Due to the fact that project design increasingly enters the educational space, there are opportunities for obtaining new scientific results within the educational system, forming the new social status of education as a source of new knowledge production. This requires the use of learning methods aimed at research and research-experimental methods.

The peculiarities of the current education state provide the necessity for mass assimilation of project activity foundations. The movement of community in the direction of continuous education leads to a constant change in the nature of motivation and necessary competencies at every life stage of personality. All educational process participants are forced to operate more volumes of information flows in order to keep up with modern trends in science and their areas of professional activity.

Today the priority in education is not assimilation of certain amount of knowledge, but orientation in a growing amount of information flows and production of knowledge which does not exist, but the need for which is realized by personality. The rapid "aging" of scientific data encourages the search for sources of new knowledge in the educational system directly. The project design can be such source definitely.

Shifting the priorities from the process of accumulating knowledge to information paradigm of education raises the question of what to teach exactly? The choice of educational content is transformed from the plane of the required amount of knowledge, skills and abilities in the task to distinguish between typical problems and tasks, the solution of which is necessary for life and professional activity. Thus, the projective nature of education content and methods of its construction is distinguished, and the ways of constructing the content of education become an integral part of its structure.

The previous system of education was oriented towards the carriers of ready-made knowledge, namely, scientists, tutors, teachers who passed on their knowledge to the students, and today, anyone can be the source of necessary information regardless of the level of education received. In the modern educational environment, persons who are trained are in the state when they must independently design their personal trajectories of motion in the information field (educational trajectories), independently designing the content of education and educational environment.

In the modern information society, education no longer serves as a basis for learning of ready-made knowledge, but it is transformed into a way of exchanging information in society. This is the exchange that takes

place throughout the life of a person and involves not only assimilation, but also production of information. Thus, the increased attention to pedagogical project design is determined by the necessity of active development of projective imagination, thinking and way of action in the subjects of educational activity.

2. The Main Concepts of Pedagogical Project Design

What is the essence of concepts of "project", "project design", "pedagogical project design"?

In the process of considering pedagogical project design, we start out from a central concept – a *project*.

The project (from the Latin projectus – thrown forward) is a previously created image and description of an object that does not yet exist and have to be created. The description is not only complete and detailed, but also provides the necessary resources and mechanisms for implementing the idea.

From a philosophical point of view, the project is the result of human spiritual transformation activity (M. S. Kagan). From a standpoint of an activity approach, the project is considered as a goal and the result of project design and project activity. The material of projects is a variety of sign forms: theory, model, concept, formula, algorithms; and a theory of activity is the instrumental system of project design in various fields of human life.

In various sources one can find the definition of a pedagogical project as:

Idea, intention, plan, etc., that is project documentation, in conjunction with the practical implementation of measures in a controlled process[16];

A complex of interrelated activities aimed at a purposeful change of the pedagogical system during a predetermined period of time, at the established budget with orientation to clear requirements for the quality of the results and specific organization[17];

The developed system and structure of teacher's actions for realization of a specific task, specifying the role and place of each action, time of these actions, their participants and conditions necessary for the effectiveness of the whole system of actions (in the same source).

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[16] Підласий І. П. Діагностика та експертиза педагогічних проектів: Навч. посіб. / І. П. Підласий. – К., 1998. – С. 11.

[17] Колесникова И. А. Педагогическое проектирование: Учеб. пособие для высш. учеб. заведений / И. А. Колесникова, М. П. Горчакова-Сибирская; Под ред. И. А. Колесниковой. – М: Издательский центр «Академия», 2005. – С. 19.

There are other definitions of the term "project" that can be correlated with educational activities:

The project is a set of design documents containing fundamental (draft project) or final (technical project) decision, which gives the necessary idea about the structure of the product being created and the source data for further development of the working documentation (technical documentation);

The project is "something that is being intended or planned, for example, a large enterprise" (Webster explanatory dictionary);

Project in lat., projet in fr. a plan, assumption; intended, planned matter and its layout in writing or in drawing.

Projeter in fr to intend at, think, make, realize and assume to be fulfilled; make a note, drawings for this (Dahl Dictionary).

Project design is an activity aimed at creating a project, prototype, prefigure of the future predicted object, phenomenon, state and methods of its production. In project designing a systematic approach is used which is to establish the structure of a system, types of links, attribute definition, environmental impact analysis[18].

The overwhelming majority of human labor products are created due to previous planning – the process of creating a prototype, prefigure of the predicted object, the state preceding implementation of idea in a real product.

The basis of pedagogical project design is the main ideas of classical project design, which can be formulated as follows: a project design is a managed process representing a system with a complex internal structure; external environment has a great influence on the project design efficiency; managed project activity includes variant and invariant components; the systematic approach is the basis of project design; the effectiveness of project design is considered as the ratio between the effort made and the result.

It should be noted that today the theoretical and terminology basis of the project design has not been fully developed, which may lead to complications in the development of theoretical problems.

In scientific sources there are various interpretations of the essence of pedagogical project design: as a process of creating new forms of pedagogical activity, its content and technologies are understood as

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[18] https://uk.wikipedia.org/wiki/%D0%9F%D1%80%D0%BE%D0%B5%D0%BA%D1%82%D1%83%D0%B2%D0%B0%D0%BD%D0%BD%D1%8F.

pedagogical project design by V. A. Bolotov and V. V. Serikov[19]; as a process of creation of pedagogical projects by Borysova N. V.[20]; as a previous development of main details of future students' activity and pedagogues by V. S. Bezrukova[21]; as substantial, methodical, technical, psychological and organizational formulation of idea by E. M. Shiianov and V. O. Slastionin[22]; as the activity aimed at creating a project as an innovative model of the educational and learning system, consisting of such gradual stages as prediction, modeling, designing and implementation of the pedagogical project, is considered by the researcher T. Yu. Pobedova[23].

Summarizing various definitions one can conclude that pedagogical project design is a specific type of activity aimed at creating a project. A project designing in pedagogy is understood as the creation of new technologies on the basis of forecast, the use of which should contribute to goal achievement.

3. Principles, Types and Levels of Project Activity

The rules governing the activities of the educational process participants in the project field are the principles of pedagogical project design. We will consider the basic ones.

The principle of predictability focuses on the future state of the project design object. It determines the difference between the actual and desired states of the project design object.

The principle of step by step nature provides step-by-step and gradual advancement to the project future, from the idea to forming the aim image and action algorithm, and then to the program of actions and its realization. It should be taken into account that the next action should be based on the results of previous actions.

The principle of normalization determines the necessity to complete all stages of the project creation within defined procedures.

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[19] Болотов В. А., Сериков В. В. Компетентностная модель: от идеи к образовательной программе // Педагогика. 2002. № 9. С. 22–27.

[20] Борисова Н.В. Образовательные технологии как объект педагогического выбора: учеб. Пособие. М. 2000. 145 с.

[21] Безрукова В. С. Педагогика. Проективная педагогика: учеб. Пособие. Екатеринбург: Деловая книга. 1999. 329 с.

[22] Сластенин В. А., Исаев И. Ф., Шиянов Е. Н. Педагогика: учеб. пособие для студ. высш. пед. учеб. заведений / под ред. В. А. Сластенина. М.: Академия. 2002. 576 с.

[23] Подобедова Т. Ю. Теория и практика педагогического проектирования / Т. Ю. Подобедова // Проблеми сучасної пед. освіти: зб. статей / Кримськ. держ. гуманіт. ін.-т. – Ялта, 2004. – Вип. 6. – Ч. 2. – С. 81–87. – (Серія: Педагогіка і психологія).

The principle of effectiveness governs the project activity to obtain a result that has an applied significance. It stimulates pragmatism.

The principle of feedback determines the necessity to obtain information on the effectiveness of the project action at each stage of the project to further correct the following actions.

Principle of resource provision provides comprehensive, complete resource support for the whole process of pedagogical project design.

The principle of taking into account the cultural environment indicates the necessity to take into account the conditions of cultural environment where the pedagogical project design process takes place and the design results match the specific cultural patterns.

The principle of self-improvement states that solving some tasks in the process of pedagogical project design leads to the emergence of others that stimulate the development of new forms of project design.

Principle of pedagogical reflection states about the development of participants' ability in pedagogical project design to comprehend and rethink their own actions.

The success of pedagogical project design depends largely on participants' compliance with certain requirements. We formulate and briefly characterize them.

Reality is a guarantee of goal achievement of pedagogical project design. To implement this requirement, all participants in the project activity must have the appropriate competencies and must be provided with necessary resources.

Guidance is compliance with the project discipline determined by the necessity for regulation of participants' activities in pedagogical project design, technical definition of the procedures performed. An important element is the comprehensive information support of each project procedure achieved by the timely receipt of various source data.

One of the requirements is taking into account the diversity of participants' needs in pedagogical project designing. In the project design process, it is necessary to take into account educational needs and interests of various professionals and groups of people. It is compulsory to coordinate the value orientations and actions of all participants in pedagogical project design.

Interconnectivity is the functioning of educational systems associated with the necessity to take into account not only psychological and pedagogical but also economic, legal, philosophical, social and many other aspects. Pedagogical project design deals with interdisciplinary knowledge reflecting a wide range of diverse scientific research. During the project activity, participants have to analyze the entire educational

context in which the project will be included. This is the content of education in general, all levels and forms of learning, regulatory norms, social situation and much more.

Activity is manifested in the voluntary inclusion and positive attitude towards the cognitive activity of participants in pedagogical project design. In the process of project activity, thoughts and suggestions of not only participants in pedagogical project designing but also other involved persons ready to participate in the discussion of project issues should be taken into consideration. The best result in pedagogical project design can be achieved by creating author teams involving people of diverse profile of activity.

Considering the interaction of nature, a person and society, we distinguish three main types of project design: natural, technical and social. Project designing in the field of education belongs to the social one.

G. P. Shchedrovitsky distinguishes two different types of pedagogical project design in a view of strategic planning: adaptation to the social environment and its conditions (a specific way of responding by educators to the social challenges of education), and improvement or transformation of environment in accordance with own values, goals and beliefs[24].

V. I. Slobodchikov outlines two types of project design:

Psycho-pedagogical project design of educational processes, referring to learning as an assimilation of ways of activity; formation as an assimilation of the perfect action form; education as a growing up and socialization;

Socio-pedagogical project design of educational institutions and educational environment in which the corresponding processes are implemented (the same source).

V. P. Bederkhanova mentions a variety of practical project design options, also highlights two main areas. The first one involves the project design and creation of projects in intensive forms. This includes organizational-activity, innovation, productive games and designing meetings. The second one relates to the joint step-by-step project design of the educational process by all its participants, where the design process itself is considered as one of the factors of educational institution formation with humanistic orientation[25].

[24] Колесникова И. А. Педагогическое проектирование: Учеб. пособие для высш. учеб. заведений / И.А.Колесникова, М.П.Горчакова-Сибирская; Под ред. И. А. Колесниковой. – М: Издательский центр «Академия», 2005. – 288 с.

[25] Бедерханова В. П. Становление личностно ориентированной позиции педагога. – Краснодар, 2001. – С. 168–178.

According to I. A. Kolesnikova[26] three main types of project activity is being developed actively, which are different in the object of transformation, goal-orientation and the result:

1. Socio-pedagogical project design is aimed at changing the social environment or solving social problems by pedagogical means. It is aimed at solving socially vital problems that people face in everyday life. It mainly performs the functions of pedagogical ordering of the socio-cultural environment, identifying and changing external factors and conditions influencing human development, education, formation, and socialization. The result of socio-pedagogical project design becomes the basis for organizing more efficient functioning of educational systems, it thereby allows changing the potential possibilities of uncovering the pedagogical processes themselves.

2. Educational project design is focused on designing the quality of education and innovative changes in educational systems and institutes. Within the framework of educational project design, education development projects are being created in the state in general and in separate regions. Projects on both creation of educational institutions and reformation of educational management bodies are being implemented. Educational standards and educational content of all levels are formed.

3. Psycho-pedagogical project design is aimed at transforming the person and interpersonal relationships within the educational processes. It provides building up the models of processes related to the transformation of personality and interpersonal relationships based on the features of motivation, perception of information, learning knowledge, participation in activities, and communication. The pedagogical process as such; the conditions of effective learning and education, pedagogical technologies; the forms of participants' interaction in the educational process, the methods of self designing of personality is in the center of its attention.

According to I.A. Kolesnikova, the considered positions determine three main options for analysis and construction of the project context in the field of education: socio-cultural, psycho-pedagogical and educational.

In our opinion, the concept of "pedagogical project design" combines elements of all three listed types of a project activity.

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[26] Колесникова И. А. Педагогическое проектирование: Учеб. пособие для высш. учеб. заведений / И. А. Колесникова, М. П. Горчакова-Сибирская; Под ред. И. А. Колесниковой. – М: Издательский центр «Академия», 2005. – 288 с.

The project activity, depending on the requirements for the result and the forms of presentation of the final product, can be carried out at the conceptual, substantial, technological and procedural levels[27].

The project activity at the conceptual level is aimed at creating a predictive imagination (model) of the project design object. The final result of the project activity at the conceptual level has a universal nature and can serve as a basis for similar products of the next level.

The final result of the project activity at the substantial level involves obtaining a product with properties that meet the functional purpose and the needs for its further use.

Project activity at the technological level makes it possible to specify a description of the action method in a particular environment.

The procedural level transfers the project activity into a real process in which the final product is fully ready for practical use.

The project activity at each of the specified levels can be extended to the object as a whole or to its individual components. With the transition from one level to another, the scale of the project activity and project tasks changes, the requirements for their solution and the forms of the product presentation are specified[28].

4. The Stages of Pedagogical Project Design

Pedagogical project design involves conducting a series of consecutive stages by participants in the project activity. Scientists describe a variety of approaches to describing the project design stages.

V. O. Anischenko distinguishes the following stages of project design: analysis, synthesis and evaluation of the system object status; analysis, synthesis and evaluation of factors affecting the object state; directly the project design process; evaluation of the results of the pedagogical project study; realization of the proposed project in the mass practice[29].

N. O. Masyukova offers the following steps in the project design: diagnostics of reality (studying, conducting scientific research of various degrees); formation (actualizing, understanding, searching) of values,

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[27] Колесникова И. А. Педагогическое проектирование: Учеб. пособие для высш. учеб. заведений / И.А.Колесникова, М.П.Горчакова-Сибирская; Под ред. И. А. Колесниковой. – М: Издательский центр «Академия», 2005. – 288 с.

[28] Машбиц Е. И. Психолого-педагогические проблемы компьютеризации обучения: (Педагогическая наука – реформе школы). – М.: Педагогика, 1988. – 192 с.

[29] Анищенко В. А. Методологические основы проектирования образовательных систем в условиях непрерывного профессионального образования [Текст] / В. А. Анищенко // Новые педагогические исследования. – 2006. – №: 3. – С. 47-58.

goals of reality transformation; creation of the result image; step-by-step planning of joint actions aimed at achieving the project goal in time (preparation of the program); exchange, approval and correction of planned actions in the course of communication; complex examination of project implementation results[30].

O. S. Zair-Beck considers pedagogical project design at the following stages: definition of idea or a draft sketch; development of action models (strategy); planning of real strategies at the level of tasks and conditions of implementation; organization of feedback; evaluation of the process; evaluation and analysis of results; drawing up the documents[31].

V. E. Radionov outlines the preliminary stage; the stage of decomposition (division of the general idea into parts, other tasks) and selection of appropriate means; the stage of transformation on which the original idea is specified, finds the structure and specific content; the stage of convergence, where "putting together" of individual project decisions into programs takes place[32].

We distinguish three basic stages of the pedagogical project design:

1. Preparatory stage;

2. The stage of project implementation;

3. Final stage.

In turn, each of these stages consists of certain internal procedures that form a structural, substantial, organizational, technological basis of the project activity. We should consider them in more detail.

During the preparatory stage, preconditions for pedagogical project design are created. The need for transformation of pedagogical reality may arise at the administrative level in the form of a certain social order, within a social group or a group of persons concerned, in consciousness of a certain personality. The ideas of the future object, subject, and goals of the project activity are beginning to form. A diagnosis of social reality is being conducted with the aim of finding out what exactly does not satisfy us in the surrounding environment, in people, in ourselves; what opportunities (pedagogical, social, psychological) and resources are available for the desired changes; what are the possible consequences of changes in the current state of things. It is reasonable to carry out the

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[30] Масюкова Н. А. Проектирование в образовании : [Монография] / Н. А. Масюкова; М-во образования Респ. Беларусь. Нац. ин-т образования. – Минск : М-во образования Респ. Беларусь. Нац. ин-т образования, 1999. – 287 с.

[31] Заир – Бек Е. С. Теоретические основы обучения педагогическому проектированию : диссертация ... доктора педагогических наук : 13.00.01. – Санкт-Петербург, 1995. – 410 с.

[32] Радионов В. Е. Теоретические основы педагогического проектирования: дис. … д-ра пед. наук. СПб., 1996. 352 с.

preliminary project monitoring aimed at revealing the possibilities of quantitative and qualitative diagnostics of the real situation; revealing of weaknesses in the problems of the future pedagogical project activity; experimental confirmation of the need for a pedagogical project creation; outlining the target, time, financial, resource framework for the future project activity. Diagnosing the real state of things with the help of quantitative and qualitative parameters, the preliminary project monitoring outlines the boundaries of the future project design object.

The information received in the course of the preliminary project monitoring is generalized and arranged, and its further visualization helps to identify the subject of project design more accurately.

Organizers of pedagogical project designing aimed at establishing the pro-active activity of all project participants need to arrange the emergence of natural interest in the development of future project issues; freedom of search and access to necessary information; organization of the permanent exchange of information between the project activity participants; assist in generalizing and presenting the results achieved.

At the preparatory stage, it is also necessary to form an ideal image of the project design object that will act as a guide for future activities. Such image can be presented in the form of a model, an ideal and reflects the imagination of the project participants about a project activity final result.

The formulation of the project problems in the language of professional terms is essential. Definition of the project issues outlines the non-compliance between the real and the desirable, the unknown, which requires a common search. Formulation of the project issues gives an idea of the boundaries, scales, scope and structure of future project activities, highlighting priority areas, and building a tree of goals, which in turn will help in understanding the logic and sequence of actions in the pedagogical project design process.

An important element of the preparatory stage is the project activity systematization, which includes revealing the structure of the project design object, defining its main characteristics in general and individual components, clarifying the goals and formulating the tasks of pedagogical project design, selecting the criteria for assessing the project activity success.

In the process of systematization of preliminary project activity, the project idea is more clearly defined; a high level of project activity is motivated due to the project idea presentation by linguistic means (verbal description, drawings, computer programs, schemes, etc.). The creation of

preconditions for the correct setting and developing of project design goals is also important. The goals and projected ideal project design results should be specific, realistic and aimed at solving the problems that have become impulses of the design process. The project design goals are supplemented by possible final results of the project activity for which it is necessary to develop criteria for their evaluation.

A conscious inclusion of project activity participants in a joint work is possible on the basis of a common understanding of the nature of the project design object, and this will require harmonization of the communication language, values, and the conduct of thinking activity based on categories and concepts. The clear definition of category, the concepts used to describe the phenomena and processes in pedagogical project design will influence the project text clarity.

The result of the preliminary project activity systematization is the joint proposal mutually agreed between the participants in pedagogical project design, based on a conscious choice of values, theoretical provisions, principles, and ideas identified as fundamental for this project.

At the preparatory stage the participants in the project activity have to formally draft the project.

The project format is a specific way of limiting (standardizing) the participants' activity in the project activity by defining its scope and scale. A substantiated choice of format includes the definition of time, space, context of the project, the circle of its participants and other necessary parameters. Their number may vary depending on the pedagogical situation and the project design goals[33].

It should be taken into account that the design space should be harmonized with the scale of the project design subjects and available resources and capabilities.

In the future, the work of the project participants is aimed at planning the project activity. Planning is related to the development of a plan for achieving the goals and is of strategic nature. "The essence of planning as a managerial action is to outline the stages of achieving the intended goal through the definition of a number of intermediate products on the way to the final result"[34].

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[33] Колесникова И. А. Педагогическое проектирование: Учеб. пособие для высш. учеб. заведений / И. А. Колесникова, М. П. Горчакова-Сибирская; Под ред. И. А. Колесниковой. – М: Издательский центр «Академия», 2005. – 288 с.

[34] Масюкова Н.А. Проектирование в образовании : [Монография] / Н. А. Масюкова; М-во образования Респ. Беларусь. Нац. ин-т образования. – Минск : М-во образования Респ. Беларусь. Нац. ин-т образования, 1999. – 287 с.

A plan is a document providing meaningful guidelines for activities, defines its order, scope, time limits[35]. The planning of the project activity involves the division of the design procedure into individual components and consideration of possibilities of the integrated provision of each of them. Participants in the project activity may use a variety of schemes for the regulation of project activities and the establishment of feedback. In the process of pedagogical project design, the initial idea of the project is systematically specified at the level of images of the goal and the anticipated result, and on the basis of this, the plan of participants' joint actions in the project activity is specified.

The project submission completes the preparatory stage. It is essential to outline the requirements for project submission forms. After that, the participants in the pedagogical project design begin to implement the project.

At the project implementation stage, each participant should know where, who and in what form, can provide assistance and support in case of difficulties in the process of project implementation. To that end, it is necessary to establish and maintain a permanent feedback system between all participants in the pedagogical project design. An important element in the project implementation process is the ongoing mid-term evaluation of the results obtained and the project correction on their basis. This mid-term evaluation should be based on predefined criteria of the project activity success. It is important to provide procedures for approbation of the project (both within the given conditions and in the variations).

The final stage of pedagogical project design involves conducting an examination which will allow establishing the conformity of the result obtained to the pre-set goals. Evaluation of the project activity results can be carried out with the help of independent experts, by self-evaluation of the project results and the defined criteria, by reflection of success of the joint project activity.

Pedagogical project design participants should think about their further steps among which they can proceed to the development of a new project; cooperate with other similar projects; start the activity of a new organization on the basis of the completed project; expand territorial coverage by the created project.

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[35] Колесникова И. А. Педагогическое проектирование: Учеб. пособие для высш. учеб. заведений / И. А. Колесникова, М.П.Горчакова-Сибирская; Под ред. И. А. Колесниковой. – М: Издательский центр «Академия», 2005. – 288 с.

Each of the outlined stages of pedagogical project design is part of educational process, where, along with the practical implementation of the project activity result is the formation of values, guidelines of the project activity participants, development of their communicative and creative abilities, and creativity.

CONCLUSIONS

The processes which meet the needs of people in education, closely connected with the implementation of modern technological processes, provide training of specialists who are capable of working with new types of activities are in the center of pedagogical project design. The goals and content of the educational process aimed at development of professional competences, general and professional culture are being renewed. The pedagogical project design develops personal structures of its participants actively, stimulates them to self-improvement; and their direct participation in the project becomes a form of mastering a variety of competencies, experience of joint activity.

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Information about the author:
Radomsky I. P.
Candidate of Pedagogical Sciences, Assistant Professor,
Director of Educational-Scientific Center
of the Educational and Learning Process Arrangement
of the V. I. Vernadsky Taurida National University
33, J. McCain str., Kyiv, Ukraine