THE BASICS OF PROJECT ACTIVITY OF VOCATIONAL SCHOOL STUDENTS IN UKRAINE

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Abstract. The article is devoted to the theoretical foundations of project technology of teaching and theways of its realization in vocational educational establishments. In particular,the author considers the content and goals of project activityof vocational school students, project types, methods of their implementation and evaluation and the role of the teacher in the organization of project activityin the process of vocational training.

Keywords: project technology of teaching, vocational schoolstudents, project activity, evaluation criteria, the final result.

Introduction

It is an obvious fact that the implementationof personal-centered teaching principles in the traditional approach to education, traditional forms, methods and learning tools is impossible today. To include each studentinto an active cognitive process applied in practice we should create adequate educational and objective environment that would provide the opportunity for free access to various sources of information, communication with peers, work together in solving various problems.In this respect the technology of projects is the most promising.

Theoretical foundations of project learning in vocational educational establishments of Ukraine

Project technology as one of the innovative technologies of educational process today is increasingly used in the system of vocational educational establishments. Its essence is to stimulatestudents' interest in specific problems, possession of a certain amount of knowledge, abilities and skills to solve them and formation life skills of students' personality. The main element of the project technology is the process of designing students'search – from simulation of training abilities to the formulation of the educational problem and its research, to the construction and determination ofits optimal solutions in the form of a project. The result of the project technology implementation in educational establishments is the innovation and developmental of environmentthat provides:

- Motivation of students' educational activity;

- Creative problem orientation;

- Interactive organization of the educational activity of the institution staff;

- Theacquirement bystudents of knowledge, abilities and skills in both individual and collective search;

- The formation of new experience and the development of necessary psychological qualities;

- Focus on the personal and collective success (Sokhan, 2003).

Projecttechnology involves the formulation of the specific problem and its following disclosure, the solution with an obligatory idea and hypothesis of this problemsolving, an accurate plan of action, the distribution (regardingthe group work) of roles, that is the introduction of tasks for each participant in the conditions of close cooperation, the responsibility of project participants for their part of work, the regular discussion of intermediate steps and results.

Solving of a specific learning, upbringing or production problem in the project activity involves on the one hand the use of different methods, learning tools and on the other handthe integration of knowledge and abilities from different fields of science, technique and creativity.

As O. Pekhota marks «the results of theproject implementationshould be«tangible»: if it is a theoretical problem, its solutionis specific, if it is practical,the resultis a concrete one, ready for implementation» (Pekhota, 2004).

With the help ofthe project technology implementation in the educational process of professional educational institutions you can teach students to:

- Detect and identify production problems;

- Make their analysis;

- Find ways to solve them;

- Develop the ability to work with information;

- Find the source of such data in reference books, the Internet or in the media;

- Use the received information for solving the tasks.

Projects technology is effective in the case when the learning process has a certain research and creative task to solvewhich requires integrated knowledge in different fields as well as application of research methods (for example the study of demographic or economic problems in various regions of the world, creating a series of reports concerning different regions on one of the problems that would disclose a particular topic, etc.).

Projects are by right among the non-traditional teaching technologies because they are able to provide:

- The activity even of those students who are usually passive in class;

- The disclosureof students' skills that forms their self confidence;

- Comfortable learning for students as they are no longer afraid of negative assessment;

- The Improvement of students'communication skills as it gives them more opportunities for speaking;

- The development of students' abilityrange (joint decision-making, creative thinking, etc.);

- The increase of positive motivation to learn, because the project is selected and implemented on the basis of their own interests, needs and opportunities;

- The formation of creative system thinking;

- Forming and promoting business communication culture and the ability to defend their positionreasonably;

- The increase of imagination which is a powerful impetus for the birth of new ideas, finding alternative solutions, their analysis and synthesis as the foundation of innovative thinking;

- The formation of internal action plan and its practicalimplementation, etc.

According to scientists the vocational schoolstudentproject activity stimulates and enhances positive motivation for learning because it:

- Is personality-oriented;

- Activates many didactic approaches – learning in the processof activity, joint learning, brainstorming, role-playing, heuristic and problem teaching, discussions, team training;

- Is self motivated which means the increase of the interest and involvement in work according to the extent of its implementation;

- Allows you to learn on your own experience and experience of others directly in a particular case;

- Gives pleasure to students who see the result of their own work.

The basic principles of project-based learning are:

- Freedom in choice of the activity type for each student;

- Taking into account of the interests and psychological characteristics of a particular student age group;

- Feasibility of work, bringing it to its logical end;

- Laying the foundations of work culture, quality manufacturing and aesthetic design of objects;

- Usefulness, importance and economic validity of the executed projects.

Project activity is also associated with learning and research activity of students but there is a number of features which make them different:

- First of all unlike the latter, projecttechnology aims at a comprehensive case study of the problem and develops specific eventual result;

- Secondly the main result of learning and research work is the fact study while project work involves first of all gaining the practical result;

- Thirdly the project is above all the result of performers'collective efforts as the final stage of the activity involves the reflection of teamwork, analysis of its completeness, depth, information support and creative contribution of each participant.

So if the teaching and research activity is individual by its nature and aimed at obtaining of new knowledge, the purpose of the project is beyond a separate study. Itinvolves the development of a sense of responsibility, self-discipline, the ability of activesocial participating and self-organization, ability of planning work and time, desire to do thejob qualitatively and the ability to present the results of work in the best way.

This process is carried out both in the process of learning and during specially organized student extracurricular activities.

Noteworthy is the organization of project activity on the creation of motivational situation and keeping it in the process. According to the «theory of life experience» by J. Dewey the action that comes out of one's own initiative brings more pleasure and greatly increases the likelihood of its recurrence than the action that is performed forcibly (Dewey, 1980). So the motivation of students is a very important feature of the project technology.

Forming the motivation of success achievement in the process of project activity as a basis for creating a positive atmosphere,a teacher can use different versions of motivation to encourage students in their work with the project, for example,the opportunity: to get interesting information and perform tasks on their own; get the respect of peers; become better; understand the usefulness of their activity for other people; acquaint with new people.

Each project is characterized by different types of students' activity, one or another type of coordination of the project manager, timelines, phasing and number of participants. Therefore developing a project you should keep in mind the features and characteristics of each type.

Considering different approaches to the classification of projects in pedagogical literature (Belozertsev, 2006; Dewey, 1980; Pekhota, 2004) the author proposes to differentiate them according to a number of parameters:

• The composition of the participants of the project activity: individual, collective (paired, group);

• Implementation duration: short-term (a few lessons from the program of one subject), average (from one week to a month), long-term (several months);

• The nature of contacts: domestic and international. Domestic means organized within a school or between schools and classes within the region and the country. If the representatives of other countries take part in the project, it is called international and for its implementation information technology toolscould be used;

• The nature of the interactions between members of the partnership in project activity: cooperative, competitive, contests;

• The level of implementation of interdisciplinary connections: mono subject, interdisciplinary, beyond the subject;

• The nature of coordination within the project: the immediate (rigid or flexible), hidden;

• The purpose and nature of the project activity: information, introductory, adventure, art, scientific and retrieval, construction, research, creative, game, practically-oriented, educational and communicational and so on.

As the author has noted the purpose of project technology is the creation of conditions in which students acquire knowledge from various sourcesindependently and willingly;learn how to use them (knowledge) to meet new cognitive and practical tasks; improve communication abilities by working in different groups; develop research skills and analytical thinking.

It is necessary that the implementation of a project involvethe connection with real life, unusual forms and the independence of creating materials which are essentially different forms of documentation: annotation, review, questionnaire, table, description, photo, audio or video report, collage, comics, script, diary, magazine, directory, summary, catalog, brochure, album, dictionary, article, wallpaper, exhibition etc. The material can be supplied in various forms: discussion, review, exhibition, demonstration, consideration, presentation, role play, debates, messages, report, conference, reportage and dramatization.

In the process of the design activity all the participants of educational process solve a number of different level didactic, industrial, educational and developmental tasks. It promotes the development of students' cognitive skills, the formationof their own abilities to construct their own knowledge, navigate in the information space etc. (Kobernyk, 2008).

Thus the basic requirements concerning the use of projects are:

• Existence of significant problems (problem) in research, the creative solution plan of which requires integrated knowledge and research findings;

• Practical, theoretical and cognitive significance of the anticipated results;

• Independent (individual, pair or group) activity of students;

• Semantic structuring of the project part (with the indication of each phase results);

• Use of research methods;

• Determination of the problem of arisinginvestigation tasks, setting up of hypotheses, discussion of research methods;

• Discussion of the ways of the final result representation (presentations, creative reports);

• Collecting, systematizing and analyzing obtained data;

• Summarizing, preparing of results and their presentation;

• Drawing conclusions and designating new research problems.

There isa general scheme concerning the project structure.

1) The choice of the project topic, its type and the number of participants.

2) The determination by a teacher of possible problemoptionswhich are important to explore within the intended subject.Studentsintroduce problems in accordance with the teacher's list (leading questions, situations).It can be followed by a brainstorming with the subsequent collective discussion.

3) The distribution of tasks in groups, discussing of possible research methods, information search, creative solutions.

4) Individual work of project participants in their individual or group research, creative tasks.

5) The discussion of data (at lessons – in scientific unions and in the library – in groups).

6) Presentation of projects.

7) Collective discussion, examination, results of external evaluation, conclusions.

The author singles out the main stages of projecting based on the analysis of student project activity: organizational and preparatory, planning, research and practice, the final (Kobernyk, 2008; Shevchuk, 2012) which are presented in the following tablein more detail.

The level of detection of personal responsibility by individual project participants is of great importance for its successful implementation. The practice of using projects shows that the higher the level of personal initiative and responsibility of the participants the higher is the quality of the final product. During self-group work organization (creative, research, search) the most important tasks are assigned to those students who have high level of responsibility for their own tasks assigned to their powers, ability to work in a team and focus on the eventual result of the work.

An important step is the evaluation of project work of students whose main goal is the promotion of the project and ensuring its effectiveness and development of students' desire for self-education and self-improvement.

The nature of theproject evaluation of students depends on the project type and themes as well as conditions. Research, information and practice-oriented projects represent phased character of implementation and the success of the whole project largely depends on the proper organization of work at various stages. So it is necessary to track the project activity of students in stages assessing it step by step. The head (coordinator) of the project or entrusted experts carry out continuous monitoring of project activities of students tactfully providing assistance in case of need.

Table 1

The stages of project implementation

Stages of project	The activity of the project participants
Organizational and preparatory	• choice of theproject theme (problem formulation); • selection and justification of the type and kind of project.
Planning	• determination of goals and objectives of the project; • determination of theoretical or practical significance of the project (relevance of the problem); • establishing interdisciplinary connections within the project; • determinationof the forms and methods of research; • preparation of the project plan and the participants' activityplan at each stage of the project; • identification of the expected results; • budgeting and resource support (approximate budget taking into account all types of expenditure required for the project successful implementation).
Research and practice	• studying sources of information on the project, analysis, systematization and synthesis of received information; • conducting empirical research using defined methods (observation, questioning, testing, interviews, etc.); • conducting practical activity for productive results; • holding consultations with the project manager; • analyzing, structuring and synthesizing the empirical or practical research; • processing the obtained results; • clearance of project.
The final	• performance of project results: presentation, report, publication, album, etc; • discussion of presented results by all the project participants; • evaluation of project results and prediction of further researches.

(Kobernyk, 2008; Shevchuk, 2012)

The evaluation of students'project activity could be carried outin accordance with the following criteria (Burdun, 2007; Polat 2000; Polat 2006):

- understanding of the project problem and the formulation of project objectives;
- significance and relevance of tasks put forward by the project activity, the adequacy of the problematic situation which arises;
- originality of the idea and the way of problemsolution;
- consideration of alternative options to solve the problem and criteria for choosing the best options for solutions;
- evidence of decisions, prediction of consequences of their adoption and ability to dispute their conclusions;
- practical use of existing theoretical knowledge and practical skills and the level of integration of knowledge from different fields;

- the amount of new information that is used for the project realization and the degree of its understanding;
- accuracy of methods used in the research and processing of the results;
- level of difficulty and the ownership degree of used techniques (technologies);
- degree of autonomy in the work onthe project;
- aesthetic clearance of the project results and the implementation of the principle of visibility;
- level of organization, presentation and ability to answer the questions of opponents (argumentativeness and laconic answers);
- possibility of practical application of the results.

In evaluating the project and technology activity of students the author recommends to observe the following criteria (Kobernyk, 2003):
- constructive: strength, reliability, usability, relevance of construction to purpose of the product;
- technological: the number of used parts, using of standard details, originality and use of a combination of materials, their scarcity, consumption of materials, standard of technologies, necessary equipment, complexity and volume of performed work;
- aesthetic: originality of forms, compositional perfection, colour palette and style;
- economic: demand for this product, the ability of mass production and the cost of it;
- ecological: possibility to usethe production wastes and details after the final date of the product.

Communication skills of project participantscan be evaluated separately:
- the activity of each project participant according to their individual possibilities;
- precision of implementation by project participants of entrusted tasks (assigned roles);
- the collective nature of decision-making;
- the nature of students'communication in the process of drafting (culture of communication, productivity, interaction, mutual help).

It is obvious that evaluation criteria should be known to all participants of the project before its presentation.

In evaluating the studentproject activity it is necessary to understand that the most important assessment is the public recognition of its success because from the viewpoint of a student educational project is an opportunity to disclose creative potential to the maximum, an activity that allows to express oneself individually or as a group, to test strength, to perceive knowledge and benefits and demonstrate publicly the achieved results. So a positive assessment is worth any level of student achievement.

Experience shows that it is difficult for students to master the technology of working on the project independently. The teacher is given an important role at all stages.Onthe one hand the teacher is the organizer of the project and on the other – an equal member of the working group who proposes own goals, analyzes the situation and offers interesting ideas for discussion. The teacher can share his or her own life experience, help students find diverse sources of information relating the problemresearch and come into contact with specialists. However they should not carry out basic work: writing letters for students;make callson behalf of them; prepare materials or illustrations, etc.

It should be noted that the ability to usethe project technology is an indicator of high qualification of a teacher and the level of his/her methodical preparation. So the

implementation of project technology in the educational process demands from teachers the following:

- firstly to know not only their own subjects but also be competent in other areas of science;
- secondly to know their students, their abilities, interests, needs and desires;
- thirdly to be psychologically competent, tolerant and empathic;
- fourthly to be creative, have good organizational skills and desire to improvethem constantly (Kobernyk, 2008).

The analysis of the educational process in the system ofvocational education shows that there are opportunities for project activity of students in the study any subject or course.

Recently there have been a large number of publications on the implementation of educational projects in ecology, foreign languages, chemistry, economics, and physics and,what is more important, in special courses by occupations. This technology is used in control and evaluation organization of achievements as an alternative form known as portfolio: collection, selection, analysis of samples and products of educational and cognitive activities.

Scientists both domestic and foreign emphasize that the useof project technology allows implementing activity approach in learning, applying knowledge and abilities gained in the study of subjects at various stages of learning and integrating them in the process of the project. From the author's point of view the most important fact nowadays is that the project activity of students is exactly the kind of activity that allows the educational process to approximateto the real professional and production conditions to the maximum and provides systematic formation of professional competence of industry experts.

Conclusions and suggestions

So it is determined that the application of project technology in vocational training contributesto the formation of personality of a studentas a project participant and social relations, ensures the development of key competencies, helps to prepare students for the future independent and creative professional activity and also increases their motivation in educational and cognitive activities.

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