18th PCSF 2018
Professional Culture of the Specialist of the Future

PROJECT TECHNOLOGIES IN COOPERATION AT UNIVERSITY CLASSES

Natalia Kopylova (a)*
*Corresponding author

(a) FSBEI of Higher Education "Ryazan State Radio Engineering University", Gagarina Str. 59/1, Ryazan, Russian Federation, nakopylova@yandex.ru, +79109042267

Abstract

This article shows the main principles of work with students using project technologies in cooperation during classes. The main terminological apparatus is considered. Project culture is described as a general formula in which art of planning, invention, creation, execution and design is realized and which is defined as design. The main methodological principles of conceptual significance for project methodology are shown. Project technologies possibilities for teachers and students are discussed. A project as a collective creative action, in which several stages can be distinguished is considered. The examples of using project technologies at English lessons at a technical university are given. One of the projects was a tour for students to the museum of Ivan Pavlov, a Russian scientist. Different features of a project were found. For the practice of using language, a large number of situations are created with the help of verbal and subject-figurative visibility. It is mentioned in the article that the specific features of communicative and projective techniques have many similarities, and are based on identical principles, but they are used in different ways of learning. In the first case, training is based on the use of situations, in the second – on the use of projects.

1. Introduction

In modern conditions, while preparing a highly qualified specialist, great attention is paid to teaching and upbringing newest technologies, which promote teachers and students' cooperation and joint activity in the process of education, for example, foreign languages (Core, Rothery, & Walton, 2003; Almazova, Khalyapina, & Popova, 2017; Popova, Almazova, Khalyapina, & Tret'jakova, 2017; Almazova, Eremin, & Rubtsova, 2016; Kogan, Khalyapina, & Popova, 2017).

One of these is a project technology. The concept of projectivity was created in the context of the program for the restructuring education, given in the late 70s of the twentieth century by Royal College of Arts in the UK. The project method was developed by American educators W. Kilpatrick and E. Collings on the basis of the theoretical concept of D. Dewey. They took into account that with a great enthusiasm for students, only those activities that are freely chosen by him are performed; cognitive activity is often not built in the mainstream of an academic subject, but is based on the immediate students' interests; real learning is never one-sided, side effects are also important. In Russia these ideas were first realized by Shatsky (Sharipov, 2011).

2. Problem Statement

Let us consider the main terminological apparatus. A project is 1) a plan for the reorganization of a particular area of reality according to certain rules. In translation from Latin "a project" means "thrown forward"; 2) the developed plan for the construction, designing, processing, event, manufacture of something. In this case, a "project" is a result of some - "design, projecting" - activity, a holistic image of the future object; 3) a preliminary, supposed text of a document; 4) a certain form of organizing people's joint activities for performing large, relatively independent undertakings, campaigns, cases that have definite purposes; 5) an organization name. Different specialists can take part in construction and implementation of business projects, forming a temporary organization, which is also often referred to as a "project". A project method is a way of organizing students' independent activity in achieving a certain result. This method is based on interest, creative self-realization of developing students' personality, the development of his intellectual and physical abilities, volitional qualities and creative abilities during any activity to solve problems of interest to him.

Designing is a purposeful activity that allows finding solutions to problems and implementing changes in the environment (natural and artificial).

Educational creative project is an independently developed and manufactured product (material or intellectual) from the idea to its implementation, possessing subjective or objective novelty, executed under teachers' supervision and consultation (Romanova, 2009).

Projectivity is closely related to the project culture, which arose as a result of the unification of the humanitarian, artistic, scientific and technical areas of education (Connolly & Stansfield, 2006).

Project culture is a general formula in which art of planning, invention, creation, execution and design is realized and which is defined as design. Mastering design culture, a student learns to think creatively, independently planning his actions, predicting possible solutions to the challenges facing him, performing the work tools and methods. Design culture is now included in many areas of educational work using project methods and project teaching methods. A project method is actively involved in

foreign language teaching. A striking example of using this method is the textbook called "Project English", published in 1985 by the Oxford University publishing house. The author of the course is T. Hutchinson, a specialist in communicative grammar teaching (Shkel, 2007).

3. Research Questions

In project training, students' activities have the nature of design, implying the receipt of a specific (practical) result and its public presentation. The technology of project training is a development of problem learning ideas, when it is based on the development and creation of new products (goods and services) by a student under teachers' supervision, which has subjective or objective novelty and has a practical value. The essence of project-based learning is that a student is in the working process on a training project comprehends the actual processes, objects, etc. It involves accommodation to the students' specific situations, overcome difficulties; the initiation of its penetration into the phenomena, processes, design new facilities, processes (Garrison & Kanuka, 2004).

The main methodological principles of conceptual significance for project methodology are:

- Humanism: the development of students' creative abilities.
- Students' personal interest in a project. The learning process is built not only in the subject logic, but also in the activity logic, which has a personal meaning for a student. This increases his motivation in learning.
- Students' learning process is the working process on his future project.
- Teachers and a students' awareness, what they do and why. The deep, conscious assimilation of basic knowledge is provided by their universal use in different situations.
- Respect for a different view.
- Responsibility for the result.
- Surrounding life usage as a laboratory in which knowledge process exists.
- Consciousness provides students' support of grammatical rules' system, where the work with tables is built (for example, foreign languages).
- Accessibility is shown, first of all, in the fact that educational course construction on project methodology considers questions and problems that are important for a student at this stage, based on his personal experience, provided by the appropriate processing of the learning material.
- Activity in project methodology is founded not only on external activity (active speech activity), but also on internal activity, which is considered when working on projects, developing students' creative potential and founded on previously learnt materials. In project methodology, the activity principle plays a leading role.
- Cooperation between subjects of activity (students and teachers) in solving a variety of problems.
- Communication provides contact not only with a supervisor, but also interaction within groups, while preparing projects, as well as with tutors of other groups, if any. "Project methodology is stood on high communication, involves the expression of students' own opinions, feelings,

active inclusion in real activities, taking personal responsibility for progress in learning" (Selevko, 2006, p. 231).

- Visibility is used; first of all, when presenting material in the form of projects already prepared by course characters, i.e. both auditory and contextual visibility are used.

- "Regularity is relevant for this technique not only because all the materials are divided into topics and sub-topics, but also because the technique is based on the cyclical organization of the educational process": each of the provided cycles is designed for a certain number of hours. (Selevko, 2006, p. 231). A separate cycle is considered as a completed independent period of study, aimed at solving a certain task in achieving the overall goal of mastering the English language.

- "Self-reliance also plays a very important role in the project methodology. A project is a work independently planned and performed by the trainees, in which speech communication is interwoven into the intellectual and emotional context of other activities" (games, travel, etc.). (Selevko, 2006, p. 231). The novelty of this approach is that students are given the opportunity to design a communication content, starting with the first lesson. Each project is related to a specific topic and developed over time. The work on the project is combined with "the creation of a solid language base. And since the work on projects is carried out either independently or in a group with other trainees, we can talk about the principle of independence, as one of the fundamental" (Selevko, 2006, p. 231).

- An individual pace of work on a project provides access to every student's development level.

- Openness continuously expands and deepens knowledge, which is a necessary condition for the knowledge system development and students' personality.

- Continuity lies in the qualitative modification of knowledge based on its generalization and systematization during the transition from one level of education to another.

All the basic approaches to project methods can be divided into the following ones:

- A learner-centered approach implies that conscious learning activity of a student is the basis of the entire learning process.

- A culturological approach means the increase in quantity and intensity of interrelation, interdependence among the elements of the scientific knowledge system on a higher level of this system's operation.

- A complex approach to developing education projects contributes balanced evolution of basic physiological and psychic functions of a student (Selevko, 2006, p. 230-231).

The project methods' principles and approaches are tightly related and quite important. These methods teach students to think creatively while planning their actions and perhaps options for achieving their goals for themselves. The underlying principles of these methods make learning with them possible for all age groups.

Selevko (2006, p.229) remarks that "in the modern pedagogy project education is used as an element of educational systems not only instead of systematic subject education but also alongside with it".

4.   Purpose of the Study

The teachers of Ryazan State Radio Engineering University quite often use modern innovative research and project technologies for their classes. These technologies allow education processes' participants to establish cooperation and co-creation while remaining equal. The technologies create a comfortable moral and psychic atmosphere that activates thinking process of a person in the best way possible as well as stir up their spiritual, moral and behavioural state. All the mentioned factors also have influence on self-organization, self-learning, self-training, professional and social self-realization. Research and project activity assists subjects of the activity (students and teachers) to master all the modern and effective technologies, new communicatory tools while also helping them to find their personal socially significant point of the academic and professional activity.

The project technologies can allow their users (Yurlovsky, 2013; Yurlovsky, 2014):

- to reach out to more students and to avoid their overwork;
- to regard students and teachers as equal partners and creators of class tasks;
- to establish cooperation among subjects of pedagogical process;
- to develop cognitive skills, critical and creative thinking of learners;
- to teach them to build up their own knowledge and to navigate in information space;
- to form the ability to see the issues, formulate it and identify solutions.

Teachers' observations at students' work, analysis of their reports shows active, interested, cognitive activity of students. Without a doubt, an educational project is an effective form that can cause students ' interest in the studied subject, which helps to obtain knowledge independently, which forms the evolution of many social, information, communication competencies necessary for successful socialization, i.e.an ability to interact constructively in the team, to analyze and adjust any stage of their work, to set goals independently, to map out the content of the planned activities, to predict the results of their actions, to distribute responsibilities, to independently look for a way out of difficult events (White, 2007).

We reckon this project like a collective creative action, in which several stages can be distinguished (Arny-Macia, 2012):

1. A preparatory stage.

2. A stage of search and research.

3. A stage of processing the results of the study.

4. The analysis and evaluation of the project results.

5. The protection of a project.

6. A stage of results' analysis and summarizing.

Skillful connection of tour and design methods allow foreign language teachers to develop value-motivational sphere of students, autonomy in planning the action, implementing the lessons of their means and work methods, to increase the charge for implementation of the educational and social objectives to the effectiveness of their own labour.

5.   Research Methods

One of these projects was a tour for learners to the museum of Ivan Pavlov, a Russian scientist. An educator gave learners a task to use local history materials in extracurricular work in a foreign language to ensure its activation, consistency and creation of non – standard speech situations. The students were organized into groups with the same interests and desires. The first group prepared an essay about his life and work. The second group acted as journalists and wrote notes about the life of the academician in the newspaper in English. The third group made a plan of the tour. The roles were distributed among the students: the guide conducts a tour in Russian, the interpreter translates it into English simultaneously, foreign guests (another group of learners) ask questions in a foreign language to the guide, the interpreter translates, etc. The fourth group made out a photo to a newspaper and mounted a video about the visit to the museum, adding their feedback in English. In teachers' opinion, an excursion work contributes to the achievement of educational, cognitive and developmental goals (Kopylova, 2018).

Students successfully apply the received knowledge in practice, develop the research skills and group work. The method of projects in foreign language classes on the basis of local lore material provides high communication, increasing students' motivation and cognitive activity, influences the formation of their citizenship, fosters a sense of pride, respect for the life and work of well-known fellow countrymen, develops students' abilities for joint, creative, reflexive activity.

6.   Findings

The project methodology's effectiveness is largely ensured by the intellectual-emotional content of themes included in the education. It is interesting to say about their gradual complication. But the distinctive feature of the topics is their concreteness. "From the start of education, learners are to participate in meaningful and complex communication, without simplification and primitivism, which are usual characteristic of textbooks for beginners to learn a foreign language" (Baryshnikov, 2012, p. 115).

Another important feature of the project methodology is "a special form of trainees' communicative-cognitive activity organization in the form of a project. From what, in fact, the name of the technique appeared" (Littlejohn, 2004, p. 222).

The novelty of the approach is that a trainee is given the opportunity to construct the content of communication themselves, beginning with the first lesson. In the course there are few texts, such as, they are reproduced in the process of the trainees' work on the projects proposed by the authors.

"Each project is related to a specific topic and is being developed over a period of time. The topic has a clear structure, divided into sub-themes, each of which ends with a task for the project work" (Trinder, 2006, p. 192).

An important characteristic is that learners have the opportunity to talk about their thoughts and aims.

Thanks to the work on projects, a strong language base is created.

A useful thing is also skills' subdivision into two types: students' language skills and language users' skills. "For the development of the first type skills, phonetic and lexical-grammatical exercises of a training nature are used. These are exercises for imitation, substitution, expansion, transformation, restoration of individual phrases and texts. They are presented in an entertaining form": in the form of a

text to test memory, attention; games of conjecture; puzzles, sometimes in the form of a phonogram (Kopylova, 2018, p. 525).

Training in grammatical skills is usually conducted in the form of work based on tables. All exercises, which are especially important, are performed against the backdrop of the development of the submitted project.

7. Conclusion

While using a language, a large number of situations are made with the help of verbal and subject-figurative visibility.

It is obvious that the specific features of communicative and projective techniques "have many similarities, and are based on identical principles, but they are used in different ways of learning. In the first case, training is based on the use of situations, in the second – on the use of projects" (Trinder, 2006, p. 193).

References

Almazova, N., Khalyapina, L., & Popova, N. (2017). International youth workshops as a way of preventing social conflicts in globally developing world. *3rd International Multidisciplinary Scientific Conference on Social Sciences and Arts, SGEM2016 Book 2, Vol. 1,* 253-260. DOI: 10.5593/sgemsocial2016/hb21/s01.033

Almazova, N.I., Eremin, Yu.V. & Rubtsova, A.V. (2016). Productive linguodidactic technology as an innovative approach to the problem of foreign language training efficiency in high school. *Russian linguistic Bulletin, 3* (7), 50-54. DOI: 10.18454/RULB.7.38

Arny-Macia, E. (2012) The role of technology in teaching languages for specific purposes courses. *The modern language journal, vol. 96, Focus issue,* 89-104. DOI: 10.2307/41478793

Baryshnikov, N.V. (2012). Development vectors of rational foreign languages teaching methodic in nonlinguistic universities. In G.T. Polenova (Ed.). *The second international scientific practical conference. Development perspectives of linguistic education in nonlinguistic universities*", (pp. 3-6). Taganrog, TTI of SFU

Connolly, T.M., & Stansfield, M. (2006). Using interactive technologies in teaching an online information systems course. In E.Cohen. *Proceedings of the 2006 informing science and IT education joint conference*. (pp. 49-60). Salford, UK, Informing Science Institute

Core, J., Rothery, A., & Walton, G. (2003). *A guide for support staff. LTSN Generic Centre e-Learning Series,* no. 5. York : Learning and Teaching Support Network (LTSN). http://www.heacademy.ac.uk/resources/detail/eLearning_Series_Guides_1-5

Garrison, DR., & Kanuka, H. (2004). Blended learning: uncovering its transformative potential in higher education. *The internet and higher education, vol.7,* 95-105. DOI:10.1016/j.iheduc.2004.02.001

Kogan, M.S., Khalyapina, L.P., & Popova, N.V. (2017). Professionally-oriented content and language integrated learning (CLIL) course in higher education perspective. In L. Gómez Chova, A. López Martínez, I. Candel Torres IATED Academy. *ICERI 2017 Proceedings: 10th International Conference of Education, Research and Innovation.* (pp. 1103-1112). Seville, IATED Academy iated.org. DOI: 10.21125/iceri.2017

Kopylova, N.A., (2018). The use of e-learning at foreign language practical lessons in a technical university. In P.Spanik, P. Hockicko (Eds.). *12th International Conference Elektro 2018, 2018 Elektro Conference Proceedings,* (pp. 1-4). The Czech Republic, Mikulov, Institute of Electrical and Electronics Engineers Inc. DOI: 10.1109/ELEKTRO.2018.8398383

Littlejohn, A. (2004). *Reusing online resources: a sustainable approach to E-learning*. London: Routledge

Popova, N.V., Almazova, N.I., Khalyapina, L.P., & Tret'jakova, G.V. (2017). Intercollegiate telecommunication project as means of enhancing learner motivation in foreign language teaching

Proceedings of the 15th international conference "E-society 2017" (pp.202-206) Hungary, Budapest, International Association for Development of the Information Society (IADIS)

Romanova, M.V. (2009). *Upravlenie proektami [Project management]*. Moscow, FORUM-INFRA-M [in Rus.]

Selevko, G.K. (2006). *Ehnciklopediya obrazovatel'nyh tekhnologij [Encyclopaedia of educational technologies]*. (Vols 1-2). Moscow: SII of school technologies. [in Rus.]

Sharipov, F.V. (2011). *Obrazovatel'nye tekhnologii: proektirovanie i funkcionirovanie [Educational technologies: project and function]*. Ufa, BSPU. [in Rus.]

Shkel, V.F. (2007). *Proektnye tekhnologii v obrazovatel'nom uchrezhdenii [Project technologies in an educational institution]*. Saratov, Russia: Publisher "Scientific book". [in Rus.]

Trinder, R. (2006). Integration of E-learning into a tertiary educational context. In Arny, E., Soler, A., Rueda, C. (Eds). *Information technology in languages for specific purposes: issues and prospects* (pp. 191-192). New York: Springer

White, C. (2007). Focus on the language learner in an era of globalization: tensions, positions and practices in technology-mediated language teaching. *Language teaching, vol. 40(4),* pp. 321-326.

Yurlovsky, I. (2013). Proektnye tehnologii kak sredstvo razvitija individual'nosti uchashhihsja [Project technologies as the means of stidents' individuality development]. *Sibirskij pedagogicheskij zhurnal (nauchno-prakticheskoe izdanie), 3*, 94-98. [in Rus.]

Yurlovsky, I. (2014, March). Proektnye tekhnologii v realizacii standartov vysshego professional'nogo obrazovaniya tret'ego pokoleniya [Project technologies in implementing the standards of higher professional education of the third generation]. *Naukovedenie, 2.* Retrieved from https://naukovedenie.ru/PDF/127PVN214.pdf. [in Rus.]