Participative Management of Project and Research Activities in the educational Collage Environment

Gestión participativa de proyectos y actividades de investigación en el entorno educativo Collage

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ABSTRACT:
The given article is devoted to the problem of developing participative management of students of the collage during their performing project and research activities. The authors view algorithms and stages of organizing the project and research activities of students aimed at their independent and co-functioning work accompanied by self- and peer-analysis. The article deals with the attempt to illustrate the correlation between cognitive, operational and functional aspects of students in the process of participative management based on project and research activities in the collage educational environment. The results gained prove the significant increase in the number of students with high level of formation of research competence according to the following criteria: cognitive (10,75% in the first cut to 45% in the final cut), operational (from 8.5% to 40.5%), functional (from 8.1% to 51.5%) aspects. Keywords: participative management, project, research activity, pedagogical consulting, collage educational environment

RESUMEN:
El artículo se dedica al problema del desarrollo de la gestión participativa de los estudiantes del collage durante su proyecto de ejecución y actividades de investigación. Los autores ven los algoritmos y las etapas de organización del proyecto y las actividades de investigación de los estudiantes con el objetivo de su trabajo independiente y de funcionamiento conjunto, acompañado de análisis de autoevaluación y de pares. El artículo trata del intento de ilustrar la correlación entre los aspectos cognitivos, operacionales y funcionales de los estudiantes en el proceso de gestión participativa basada en actividades de proyectos e investigación en el ambiente educativo del collage. Los resultados obtenidos demuestran el aumento significativo en el número de estudiantes con alto nivel de formación de competencia de investigación de acuerdo con los siguientes criterios: cognitivo (10,75% en el primer corte a 45% en el corte final), operacional (del 8,5% a 40,5%), aspectos funcionales (de 8.1% a 51.5%). Palabras clave: gestión participativa, proyecto, actividad de investigación, consultoría pedagógica, collage entorno educativo
1. Introduction
Normative documents devoted to questions of modernization of the Russian education system note that the state comes back to education as the guarantor of quality of educational programs and services provided by both general education and professional educational institutions irrespective of organizational and legal forms. Actual tendencies of development of domestic education testify that change of the existing didactic paradigm focused on traditional training due to change of forms and methods of training, its individualization, increase in a complex of the latest technical means with emphasis on active types of independent work of the trained is necessary.

Project and research activity are such kinds of activity that promotes participation of all students in the educational process (Suvorova, 2005; Danilova, 2015). Considering substantial content of the following concepts, we must mention that research activity is traditionally presented as educational activity, which is connected with the solution of a creative, research task by learners (in various areas of science) and assuming existence of the main stages, characteristic for scientific research, and such elements as practical technique of research of the chosen phenomenon, own experimental material, analysis of own data and conclusions following from it (Kuznetsov, 2013). Nowadays the problem of using Project management is connected with treating it as a powerful tool for all sorts of project regardless of industry, professional field or project size (Cope III et al., 2007). Having the double influence on the formation of participative management of students, these two activities enable them to organize their work on the principles of parity and flexibility.

Collage educational environment is considered as the one giving an opportunity to stimulate the students into creative work helping them to minimize the limit of ‘understanding of reciprocity between communities and schools as teachers’ (Barnes Meghan E., 2017).

2. Methodology
Design activity of learners is joint educational-informative, creative or game activity of learners with general target dominant, complex of methods and ways of activity, directed on achievement of general result of activity. An indispensable condition of design activity is existence of in advance developed ideas of the final product of activity, design stages (development of concept, definition of purposes and tasks of the project, available and optimum resources of activity, creation of plan, programs and organization of activities for implementation of the project) and implementation of the project, including its judgment and reflection of results of activity. On the basis of identified general segments of research and design activity semantic filling of complex design-research activity can be defined the following way. Project and research activity of learners is an educational technology, which assumes solution of research or creative task by a learner under the leadership of the expert during the technology scientific method of knowledge is realized (Shashenkova, 2010). Due to this definition it can be argued with the statement that “the success of research projects largely depends on the interaction of students and supervisors” (Moskvicheva, Bordovskaia, Darinskaya, 2015).

Problems of design-research activity are the following:

- creation of conditions for organization of learner’s activity: definition and fixing of purposes and problems of forthcoming activity, choice of means of its realization and their application in practice, organization of interaction;
- creation of conditions for formation skills of independent getting of new knowledge, collecting necessary information, ability to make hypotheses, draw conclusions;
- formation of general educational skills, which are formed in design-research activity: reflexive and search (research) skills and abilities, skills to work in cooperation, administrative, communicative and presentation skills. Educational activity of learners has difficult, multipurpose character. First, the main objective is formation of learners’ competences, secondly, training of learners for future independent professional activity in situation, which he will meet after educational institution. Therefore, learner is necessary to design the content of future
3. The Problem
The problem has been studied in the following way - this study is aimed at identifying the correlation between cognitive, operational and functional aspects of students being involved in peer activity through participant management when project and research work within the college environment.

3.1. Research Hypothesis
Any scientific hypothesis is aimed at experimental checking of the validity of the considered aspects. Consequently, our research hypothesis runs as follows: the use of participant management for students will result in intensifying of the cognitive, operational and functional aspects of their research competence within the framework of project and research activities.

Having put forward the problem and hypothesis of the research, it is necessary to differentiate the purposes of such types of activities. Purposes of research and design activity can be the following: 1) acquaintance to the principle of an integrated approach in creation of a creative product of design and research activity; 2) involvement of learners in active informative, creative process; 3) formation of abilities to present creative activity in form of presentation, defend the views about the choice of methods and materials necessary for implementation of creative plans; 4) activation and updating of gained knowledge; 5) development of abilities to think in the context of the studied subject, analyze and compare, draw own generalized conclusions, select and systematize the received material, review it, use information-communicative technologies during registration of total results of the conducted research, to represent results of research on public. The project method is called the technology of the fourth generation realizing personal-activity approach in training. Design activity is caused by existence of the chosen ideas of the final product of activity, design stages and implementation of the project, including reflection of activity results. As design training is indirect, dominant of activity performance is not results, but the process. Learners become subjects of search activity that gives the chance to actualize their general competences (Yemelyanova, 2006).

3.2. Basic terminology
The term "participative management" means "management, participatory". Key term "participation" refers to various forms of participation of subjects of educational process management. According to recent researches the emphasis on autonomy is put due to the stated above changes as means of reconstructing the existing system of education. Considering participative management in sphere of education let us view the roots of penetrating such notion from outside, basically, from economical spheres. So, modern researches show that participative management is “…based on the involvement … in decision-making, problem-solving, … supporting high autonomy, own initiative and creativity” (Rolková, Farkašová, 2015). In addition, participatory management means involvement of stakeholders in governance from all levels of the organization participate in setting goals, making decisions, analyzing and solving problems.

In the article "Managerialist vis-à-vis learning and development goals for EAL teachers: a case study of an in-service professional development provider" (Gurney, Liyanage, 2015) the authors Laura Gurney and Indika Liyanage are discussing the problems of promotion of efficiency and resolution of issues that are typically expected to result from effective management. The authors underline that amongst such expectations, engagement in professional development activities (PDAs) by teachers of English as an additional language (EAL) is widely encouraged, considered to be essential, and usually conducted with a view to
facilitate effective and effortless administration. In this article the concept of management is considered as administration. We believe that it has been widely interpreted.

The scientists Shalene Werth, Sara Hammer and Danielle d’Abadie in the article "Disability and study: Layers of management" (Werth, Hammer, d’Abadie, 2014, p.101) present analysis about examine the relationship of layers of self-management with concepts such as Lifelong Learning, which enable them to position participants on traits and capacity continuum with other student groups.

We agree with authors that the first layer is a ‘negotiation of self’ in which students manage their sense of self-efficacy and their identity as students, and as individuals in a social setting. The second layer is their ‘management of self,’ which involves the way they appear to others, as well as the impact of impairments, work and families. The third and final layer is their ‘management of others,’ which involves managing the perceptions of others, as well as interacting with others as part of managing institutional processes and procedures. We find interesting the idea of self-management because of existing of evident features of participation. These layers have been reflected in the three aspects of forming participative management of students through research and project activities - cognitive, operational and functional ones.

The effectiveness of the use of participatory management depends largely on the proper use of its principles:

- the voluntary nature of participation in management by working in small groups or participate in surveys;
- ongoing assistance and support of the head of a small group, providing the necessary to discuss the data;
- participants work in small groups should be regulated, should also be regulations on other forms of participation (proposals, participation in cross-functional projects, etc.);
- the absence of any sanctions for putting forward ideas and suggestions;
- all practices should be considered necessary feedback on any idea;
- all ideas to be approved shall be implemented;
- any achievements the process should be celebrated, it is necessary that the participants know which of their experience was valuable and movement in any direction is welcome.

The main forms of participation in the participatory governance are: first level – proposing, can protrude both individually and during group discussions (so-called "topical workshop"). This level does not require the introduction of structural and other changes in the traditional organization of the process and can be performed directly by the head. The second level is the development of alternatives – requires the creation of special structures that could effectively solve this problem. In practice, this means the creation of temporary or permanent groups who are assigned to perform a specific task. The third level is the choice alternatives – suggests that participation in management is in the form of the ad hoc groups dealing with variable direction.

The mechanism of participatory management can be scientifically justified taking into account the methodology of the participatory approach, which is very close to the concept of "organizational development" ("organization development"). The concept is that the development of any system is possible through the development of its structures (in the educational process – improving the efficiency of the educational process through the development of its subjects). This requires the creation of special organizational forms and structures. The main focus is on the work of small groups (6-9 people), which discusses the problems is joint search for possible ways of their solution, assisted in the implementation of decisions. The primary mechanism for participation in participatory governance is seen as providing opportunities to discuss problems and find their solutions (if statement on a systematic basis in the structural format of tumors) and to introduce regulated collect ideas and suggestions and practice of creating bifunctional groups.

When organising participative management of project and research activities of students within the college environment the following main directions must be taken into account:
open cultural interaction of participants of educational process: creating the conditions for
teacher of design practices of students, realization of their needs and interests in the study
of problems and the design; the saturation problem situations, research tasks; co-
management processes of research problem and develop the project; the inclusion of
students in a collective project research and creative activity character.

3.3. Stages or algorithm of organizing participative
management for project and research activities of students.

We would like to emphasize the stages of the work over any project or research activity
based on parity of students’ interaction.

- goal-setting (joint search for aims – analysis of choice);
- taking decisions in planning and roles sharing (teacher's role is monitoring or advising – analysis
  of choice);
- decomposing the aim and detailing of the stages of project/research (analysis of choice);
- performing (analysis of actions to be done);
- monitoring (operational analysis);
- overall analysis (analysis of the result of the product);
- feedback, peer reviewing, assessment, grading (meta-analysis of work).

In spite of the fact that all the stages include analysis of pre-, while- and post-activities, the
students will get used to constant feedback and current self-control that will make a positive
effect in case of failure of the realization of the project/research activity. The stated possible
failure of the project can be easily analyzed when every stage has been properly scrutinized
and reflected.

The teacher’s role is transformed into mentoring or facilitating one due to the increase in
students’ independence when being involved into participative management of their activity
from the first step of project and research work.

The students’ role, otherwise, is active and stimulating that results in mutual co-planning
and peer reviewing of the gained results of the work.

4. Discussion: challenges and directions.

From a practical point of view the possible variants of participative management of project
and research activities of students may be the following methods and techniques,
successfully used in the practice of teaching foreign languages in higher education: the
participation of students in linguistic audit and pedagogical consulting; implementation of
reception "meeting of experts" when discussing and analyzing hypotheses of the project or
study; study design (individual and group quest-search projects information with the
specified parameters) etc.

The practical basis of research is Shadrinsk Professional College (The Russian Federation –
full–time experimental research).

The aim of the experimental work was interim the summative assessment of level of
formation of research competence of students in control and focus-groups – experimental
groups. To answer the question, whether equally the distribution of students into groups
takes place according to levels of low, medium and high ones, we used the criterion of "Chi-
square" ($\chi^2$) and got the following results in Shadrinsk Professional College (CG - the control
group, FG-1, 2, 3, 4 - experimental (focus-groups). The table below illustrates the
distribution of students as well as calculated values for three basic indicators of research
competence: cognitive, operational and functional ones [see Tables 1-6].

Consequently, the level of development of research competence on this criterion in the
control and experimental groups at the end of the experiment varied.

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experimental groups at the end of the experiment varied. During the formative experiment we also conducted a diagnostic of the cuts (first cut in early formative experiment and the second cut – during the formative experiment).

5. Conclusion
To sum up, it is necessary to emphasize the following research findings based on the carried-out experiment:

- Participant management (in the forms of linguistic audit and pedagogical consulting, "meeting of experts" when discussing and analyzing hypotheses of the project or study, study design) resulted in the significant increase in the number of students with high level of formation of research competence on the following criteria: cognitive (10.75% in the first cut to 45%, according to final cut), operational (from 8.5% to 40.5%), functional (from 8.1% to 51.5%).
- This results were due to the strengthening of analytical and motivational component of the process of using participant management at several levels: information (awareness of students about starting opportunities for the development of a planning and research competencies); management (participatively in the analysis of the external and individual causes of the problems, finding solutions, identifying resources to address identified problems).

The overall conclusion can be stated as follows: the better choice of participant methods takes place, the more effective the process of raising participative culture of students within the college environment can occur.

The given research has the following perspectives: summative and formative assessment of participative management of students, qualitative and quantitative research methods for forming participative managing culture of students and means of peer evaluation when performing participant management in educational institutions.

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