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THE PROJECT-BASED LEARNING IN THE HIGHER EDUCATION - THEORETICAL AND PRACTICAL ASPECTS

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Abstract: *In the educational practice, the project-based learning is well-known and used as a teaching-learning method, and also as a complementary evaluation method, both in the pre-university and higher education. This complex method was first used by J. Dewey and W. Kilpatrick, in the United Stated, and it implied replacing the classical study subjects with the performance of practical activities, having a real purpose (learning-by-doing), starting from the Pupils' spontaneous interests. It was believed that by doing so, by solving real issues, knowledge could be acquired, and abilities could be built. The project-based learning can take a variety of shapes, depending on the subject specificity the project is prepared for, the approached topic complexity (imposed or chosen, preferred), the age of the Project-Creators, their creative skills, the workmanship of the Teaching Staff, who must stimulate the Project Initiators' efforts, to encourage them during the activity performance, regardless of whether it is performed at individual or micro-group level. This article presents both some theoretical aspects related to the project-based learning method and its features, and some aspects regarding how it was applied in the artistic higher education, within the National Music University in Bucharest.*

Keywords: *project-based learning, teaching-learning method, complementary evaluation method, authentic evaluation, artistic higher education*

1. INTRODUCTION (THEORETICAL INSIGHTS)

Amongst the concerns on the minds of specialists in the field of education sciences is also the study of those teaching-learning-evaluation methods proposing that the theory be entwined with the practice in the didactic process, thus stimulating both the Teachers and the pupils or students. Amongst the teaching-learning methods, the ones meeting this requirement would bathe active-participative ones, and amongst the evaluation methods -the complementary evaluation methods.

Unlike the traditional methods, states *I.T. Radu*–who performs the evaluation of school/academic results obtained over a limited period of time and, usually, covering a wider or smaller content area, but nevertheless a defined one – "*the alternative evaluation methods* have, at least, *two features*: on the one hand, assess the results in close connection to the training/learning, many times, simultaneously to it; on the other hand, they concern the school/academic results obtained over a long period of time, aiming at creating abilities, acquiring skills and, above all,

changes in interests, and attitudes, correlated to the learning activity".[7, pag. 223-224].

Moreover, A. Stoica highlights the advantages of the alternative evaluation methods [8, pag. 124-125], mentioning that using the complementary evaluation methods leads to the creation of the *authentic evaluation.* This is a relatively new concept referring to the evaluation of the Pupils'/Students' performances through complex work tasks. Furthermore, the authentic evaluation in not managed strictly formally. Thus, the Students complete work tasks not only during the course, seminar or laboratory work, but also at home, the time period being flexible: from several hours or days up to several months, one semester, or even an academic year (in the case of the portfolio performance). Therefore, *the authentic evaluation* aims both at *evaluating the process* the task is performed through, and at *evaluating the final product.*

Hereinafter follows a list of the *main complementary evaluation methods* the Teachers use (both in the pre-university and higher education):*systematic observation of the Student's activity and behavior; paper; essay; evaluation sheet; questionnaire; investigation; project; portfolio; conceptual maps; Master's/Bachelor's degree thesis; self-evaluation.*

Amongst them, the *project method* holds relevance for this paper, which aims at being a plea for the higher use of the project method in the Romanian educational system, highlighting below the benefits it has.

Thus, the project is a complex method of *individual* or *group* evaluation, recommended to the Teachers for the summative evaluation. Furthermore, some authors consider that the project "can be used in the case of Pupils in the upper classes of high-school and of Students for learning topics lending themselves to multidisciplinary, interdisciplinary and cross-disciplinary approaches. Sometimes, it is used as an evaluation test for graduating a vocational school, an industrial or art school, as well for graduating a faculty in the technical, art and architecture fields". [2, pag. 531]

The project subjects are imposed by the Teacher or chosen by the Student, the Teacher imposing the *performance period* and initiating them in the (individual or collective) *work stages and techniques*.

According to *D.S. Frith and H. G. Macintosh* [apud 4, pag.275], performing a project implies going through the following *stages:*

1. Identifying an issue/topic/subject;
2. Collecting, organizing, processing and evaluating the information related to the chosen issue or topic;
3. Elaborating a set of possible solutions to the issue;
4. Evaluating the solutions and deciding on the best choice;
5. * (optionally) Applying the solution opted for, which implies elaborating an implementation plan, with stages, resources, responsibilities, manners of evaluating the obtained results.

The Students shall enjoy support, guidance, counselling, but also interim evaluations, during the project performance, performed by the Teacher.

The abilities which can be evaluated during the project performance are the following: observing and choosing the work methods; using the bibliography appropriately; handling the information and using the knowledge; ability to reason and use simple procedures; ability to investigate, analyze, synthesize and organize the material and prepare a product[6, pag. 595-596].

For issuing a project evaluation that is as objective as possible, the Teacher must envisage (both for the interim evaluations, for the final one, when the project is delivered, defended) certain *general evaluation criteria,* criteria *related,* on the one hand, *to the quality of the product* (project), and on the other hand, *to the quality of the process* (the Student's activity).

Several of these *criteria* are presented herein below: Setting forth the project scope/objectives and the content structure; Individual activity performed by the Author (investigation, experiment, enquiry, etc.); Results, conclusions, observations. Appraisal of the project success, in terms of efficiency, validity, applicability, etc. Project presentation (communication quality, clarity, coherence, synthesis ability, etc.); Project relevance

(usefulness, interdisciplinary connections, etc.).

The project evaluation strategy is of a holistic nature, which must be clearly defined through the criteria negotiated or not with the Students, but which they are made aware of, so as to value the Author(s)' exclusive effort in preparing the project. The appraisal grids can be successfully used in evaluating projects.

The second part of the paper shall provide examples related to these criteria.

2. STUDY DESIGN

2.1. Problem statement. The basic training programmes for the Teaching Staff in our country include topics specific to the subject matter of *Pupil Class Management*, but they leave out approaching certain issues, situations when different management knowledge should be applied (such as the ones related to the *Educational Programme Design and Management*, for instance). The subject matter mentioned above is only studied during the 2nd level of the psychological and pedagogical training module. We consider that certain knowledge specific to the mentioned subject matter is required not only for the Teachers-to-be, but that it can also be introduced to the class, as an integral part of the Pupils' learning experience. At the same time as transferring the knowledge, certain logical-thinking, problem-solving and decision-making skills should also be practiced. It is important to get used to aspects related to the time management, communication, planning, evaluation, and team work not only in the context of studying subject matters such as the *Project Management* or the *Educational Programme Management*, but also in the context of everyday-life. The complex task management can become more efficient if the technique of breaking the bigger project down into smaller projects, easier to approach is used. Thus, the use of the project method, on a large scale, in the Romanian educational system, would have motivational benefits, both for the Teachers, and for the Pupils or Students, would provide the latter with the possibility to join the theory and the practice together, would thus prepare them for life, and offer them the possibility to capitalize on their creative ideas.

The study (micro-research) was performed at the *National Music University in Bucharest*, where the Author of this paper performs her activity as an Associate Teaching Staff.

2.2. Research Purpose. The research purpose aims at identifying difficulties, errors, typical mistakes which can occur in the Pupils' or Students' elaborating projects, in order to provide recommendations as to how to use the project method, useful to the Teaching Staff (in the context of the project elaboration and implementation).

2.3Research Hypotheses. Has the Students' personal previous experience got any influence on the project (requested work task) performance (elaboration)?

Is the lack of teaching experience in the Master's Degree Students (in their 1st or 2nd academic year) an impediment in identifying valid problems whose solution can be determined through the proposed projects?

2.4 Research methodology

2.4.1 Research sample

This study was performed on a *sample* of *81 students* in their 2nd year in the Master's Degree Programme, all majors (Compositional style and language, Musicological synthesis, Conducting stylistics, Jazz and pop musical cultures, Musical education and religious musical cultures), students who are studying, this semester, as part of the 2nd level of the

psychological and pedagogical training module, the subject: *Educational Programme Design and Management*, the subject matter mentioned above in the problem description. We mention that some of the Students are already Teachers in the state or private music educational system, and some of them give classes of instrument playing. The random sampling may not be representative for the entire population the sample was selected from.

2.4.2 Data collection procedures

The method used in this investigation was the *content analysis method.* It "consists of describing, explaining or theorizing a testimony, an experience, an event of a phenomenon through specific systematization and classification methods. Although it is used in the qualitative data analysis - considered by some authors to be a quasi-qualitative method (Muchielli, 2002)-the content analysis also includes an important quantitative element". [5, pag. 63]

During the seminar activity, at the classes on the subject of *Educational Programme Design and Management*, the Students received the work task to prepare a micro-project, having an imposed structure. The starting point was the identification of a problem they faced in the teaching practice, and then, starting from that, the project was to be a solution to the identified problem (mentioning the title, place of performance, duration, objectives, target group, actions, responsible persons, deadlines, resources, partners, expected results, evaluation, etc.).We mention that this task was given at the beginning of the semester, in order to identify some of the Students' difficulties, and to take improvement measures in the teaching activities during the classes. It was an initial evaluation test, which was based on their previous knowledge, on their professional and personal experience and, particularly, on their creativity. Each project was prepared in micro-groups, each group consisting of 3 students.

2.4.3 Data analysis procedures

THE DATA ANALYSIS AND INTERPRETATION WERE PERFORMED BY RESORTING TO QUALITATIVE METHODS (ANALYSIS, SYNTHESIS, AND COMPARISON) AND QUANTITATIVE ONES (STATISTICAL ANALYSES).

We developed a matrix, where we entered the criteria and sub-criteria based on which we analyzed every single project, the grades for each criterion being granted on a scale from 1 to 5. Here are some of them: Topic complexity (relevance, usefulness, interdisciplinary connections), Approach completeness, Project structure (objective elaboration, objective correlation to the activities), Efficiency, validity, applicability, Elements of novelty and originality, etc.

The projects designed by each team were analyzed by using the content analysis - combining the qualitative and quantitative approaches consisting in rating projects on a five points scale for each of the pre-established criteria and describing the way the projects met those criteria. A mean value for each project was computed. The means were recorded in order to identify low scores (1to2.5), medium scores (2.51 to 3.5), and high scores (3.51to5). In the qualitative analysis, the Author was interested to conduct an in-depth investigation in order to identify usual errors and vulnerable areas of the Students' responses.

A cluster matrix was designed in order to pursue the requirements of such a combined analysis.

3. EMPIRICAL RESULTS AND DISCUSSION

The recorded scores and the applicable frequencies are shown in the table below:

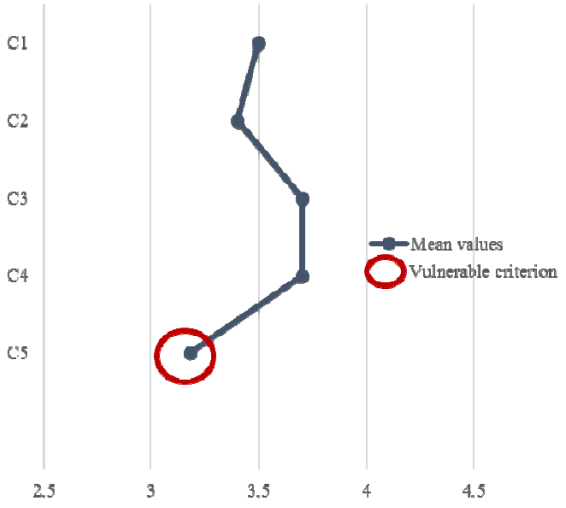
Table 1 Scores in projects' assessment

Score	Frequency
Low scores	14.8%
Medium scores	29.6%
High scores	55.6%
	Total: 100%

As it can be noticed, most of the recorded scores are medium and high, the latter having a frequency higher than 50%.

Moreover, errors and vulnerable criteria were determined, as shown in the chart below (see Fig. 1):

Fig. 1 Mean values for cluster criteria



The difficulties the students encountered in elaborating the projects are: the ones related to identifying a real, necessary and useful problem in the Romanian educational system, uncertainties or ambiguities in identifying the problem, which, further on, leads to an inappropriate project title, superficiality or improper wording in elaborating the objectives, a lack of correlation between activities and objectives, low chances for the proposed projects to become applicable. The problematic criterion is the criterion 5, related to the elements of novelty and originality.

4. THE RESEARCH CONCLUSIONS

Given the results obtained above, the research purpose, of identifying difficulties, errors or typical mistakes, was reached. Furthermore, it is difficult to identify a real problem that the Romanian educational system is facing, because of the lack of teaching experience. Thus, the second hypothesis proposed is validated. It is true that, in the absence of the teaching experience, the Subjects' previous life and learning experience had a positive contribution to the completion of the received work task (the project elaboration), thus validating the first hypothesis, as well.

The performed research was a finding one, which helped and guided the author in subsequently teaching the class on the Educational Programme Design and Management to her Master's Degree Students, and it can become the base for future researches in the field.

We recommend the Teachers using the project method to pay attention, in coordinating the Students' projects, to aspects such as: the topic relevance and usefulness (if chosen by the Students), elaboration of the objectives and their correlation with the activities, the project success appraisal in terms of efficiency, applicability, validity, permanent Students' motivation, and, not least of all, appraising and encouraging their originality, and creativity.

5. CONCLUSIONS

For an effective educational system, the Teacher must create a balance between the use of traditional evaluation methods (oral, written and practical tests) and the alternative ones, and using the project, as a complex teaching-learning-evaluation method, of a training nature, is preferred since it offers the Students enough and varied possibilities to prove what they know (as a set of knowledge), but, especially, what they know and can do (as a set of talents, skills, and abilities).

"The project distinguishes itself as a global, interdisciplinary method, susceptible of stimulating and developing, on a number of levels, the personality in the making of the ones we are training. It is, at same time, an excellent method of testing, verifying the

pupils' intellectual capacities and their creative skills, their energy and willpower, including of certain social and moral qualities (cooperation and team spirit, honesty, etc.) having both a diagnostic, and a prognostic value". [1, pag. 87-88]

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