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Assessment of higher education teaching outcomes (Quality of higher education)

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Abstract

Evaluation is a complex process, which is attributed a certain value according to certain criteria and standards. The assessment of higher education teaching outcomes is focused on the student's progress in learning, skills and attitudes. The situation before and after undergoing certain training activities is taken into consideration in relation to the objectives (range of student's knowledge in various subjects, profile of graduate study programme). The evaluation of results of higher education teaching in time is carried out in three steps: initial, ongoing and final. In our article, the evaluation represents an effective tool of student's preparation for their future career in their field of study as well as an effective tool of shaping student's personality (it evokes a need for further education in the field, the need for self-realization and knowledge). The aim of the paper is to highlight the complexity of project teaching evaluation and a causal link between the evaluation of higher education teaching outcomes and the quality of higher education. The article focuses on the importance of multicriteria assessment and presents its sample.

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1. Introduction

The evaluation of the teaching results can be assessed from the position of a teacher or a student. It represents a form of feedback for the teacher to correct his next teaching activity in terms of student readiness to continue the process of acquiring knowledge and skills. The evaluation of teaching results for student has an impression of

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motivation to achieve better performance, deficiencies found represent development opportunities. There opens a space for multi-criteria evaluation in modern methods of education and thus eliminate deficiencies in evaluation of one mark. The quality of university education is affected by the evaluation quality of teaching results. The evaluation of the teaching results finds compares and assesses the level of knowledge and skills obtained in relation to established standards. Standards are prepared on the basis of practical needs in terms of content in the field and personal development of the student by the influence of pedagogical process

2. Definition of learning evaluation

The assessment of results of university education at the present stage of social development experienced the transition from quantitative to qualitative evaluation of results. Quantitative results are mainly the total number of students and number of successful graduates in relation to the number accepted. The qualitative results can include the applicability of students in practice, transfer of know-how from foreign renowned universities, scientific research results with an adequate participation of university students, successful study stays in foreign universities. "Scientific research confirmed that using modern methods of process management enable to reach higher performance, (Sujová, 2013, p. 543). Methods of approaches to learning evaluation are several. The Kirkpatrick model is the most famous, (Kirkpatrick, 2006, p. 178).

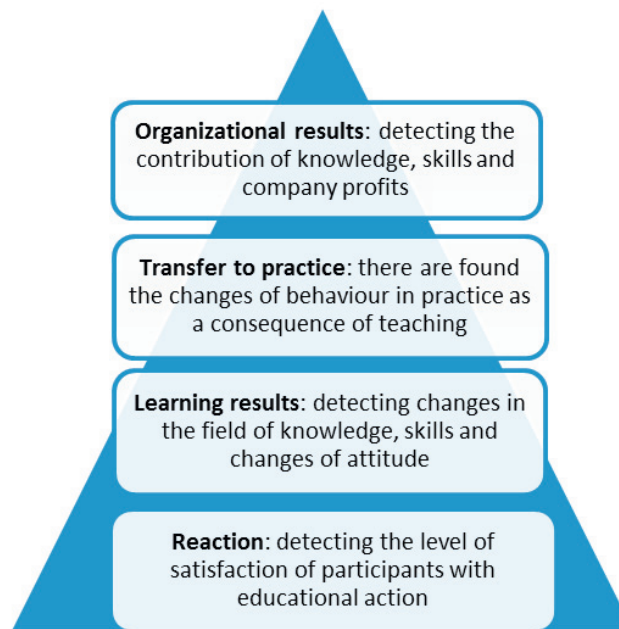


Fig. 1 The levels of learning evaluation according to Kirkpatrick

(Adapted according to source: Kirkpatrick, 2006, Miklovič, 2013)

"Philips continues the work of Kirkpatrick and also recommends to monitor the financial evaluation of the success of the ROI programme (Return of Investment)," (Miklovič, 2013, p. 204).

The evaluation measures the progress of students, i.e. knowledge, skills and changes of attitudes. "The knowledge is considered a set of concepts, facts, definitions, principles, ideas, regularities, patterns, diagrams, relationships, etc. adopted and remembered by learning or experience. Skills are activities of various kind adopted in practice. An attitude is internal orientation to a particular problem or situation, certain belief, which is also reflected in specific actions," (Slávik, 2012, p. 205). "Knowledge is a successfully applied information, and from the enterprise point of view, the relationship of information and knowledge is very important," (Jacková, 2008, p. 49).

“The knowledge-oriented world receives more and more attention, which does not limit the development prospects given the immensity of its capabilities.” (Litvaj, Poniščiaková, Stančeková, Drbúl, 2013).

The evaluation of the results of teaching is done by several types. The basic of them are shown in Fig. 2.

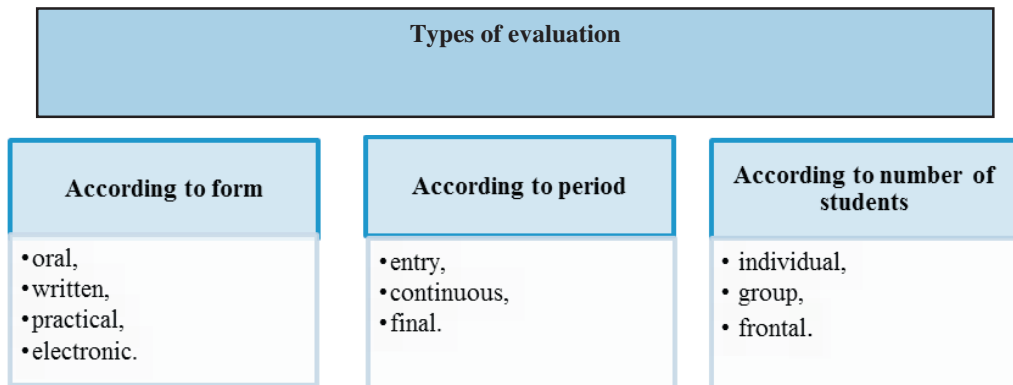


Fig. 2 Types of evaluation

3. Time dimensions of the learning evaluation process

The evaluation process of education affects the time of its implementation during the educational process. There is an entry, formative and summative evaluation. The essence of each one of them is a comparison of student results with defined objectives, which may be patterns and standards. They must have a substantive definition of the content and time limit, and must be measurable. The objectives are based on internal (state of development of students) and external (educational and social) conditions. In order to achieve them it is essential to determine the methods, forms and material means of teaching.

Entry evaluation assesses the state before completing educational activities. They find materials for the creation of content and methodology of education. The importance of entry evaluation is in the ability to divide students into homogeneous groups according to their knowledge level. Didactic test is an important tool to find the results for entry evaluation. It measures objectively the level of knowledge and skills in the field of study (subject) of the group of students assessed. Formative (continuous) is forming and helping to improve the process of acquiring knowledge or skills. Teacher makes a correction of the objectives, content, methods set. Summative (final) is final, summarizing, concluding comparison of results with objectives.

The evaluation of education preceded finding results of teaching (testing). Testing may be oral, written, practical. It is followed by diagnosis, in which the observed results are compared with the standards. The evaluation of education assesses the results, deduces conclusions. The conclusions can be quantitative form (classified the level in Arabic letter, mark, grade, number, etc.) or qualitative form (verbal evaluation of the strengths, deficiencies and recommendations for improving the acquisition of knowledge and acquired skills). Diagnosing has a statement character; evaluation has a character of assessment, evaluation proposition.

The bureaucratic function of evaluation is filled with traditional classification by the teacher, the student may affect only minimally. The problem appears to be the subjective character of the evaluation. The modern evaluation is characterized by a multifunctional character with an emphasis on self-evaluation. The evaluation includes functions of motivation, developing, support, consulting, prognostic. It represents a combination of traditional

classification and its own evaluation.

The traditional concept of evaluation of teaching results is based on the organization of the teaching process at universities and the teaching methods mostly used. Modern forms of evaluation can be used in modern methods of obtaining knowledge focused on building skills of a student to do research, find and select the necessary information processed electronically and synthesize them into a coherent set of knowledge. Project teaching belongs among modern methods. It puts the emphasis on building orientation capacity of students in a number of new information and the ability to use them. Project teaching belongs among research methods characterized by the highest degree of independency in the process of acquiring knowledge.

The process of project teaching is demanding for preparation, course and evaluation of education. The teacher prepares project assignment in the preparation part of the project teaching by defining the problem, specifying the objectives to be achieved, sub-tasks to achieve the objectives, the methods of work used. The project begins with an introductory discussion of solutions among students and teachers on a recent problem. There are continuous consultations and check of teacher during the project, whether the solution is in the right direction. The last part of the project teaching is the evaluation of project teaching. The students present a way of solving the problem, and the conclusions deduced. The place and time of the presentation are known in advance, and therefore, there is not only present the author of project, but also the opponents, others students and persons interested in. "The evaluation of education is an integral part of education. It is the comparison of the objectives (desired behaviour) and results (resulting behaviour) of education. It is the feedback on the effects of educational activities. The evaluation is important, in order to take steps to improve education or to ensure the effective application of knowledge learned and skills obtained," (Kucharčíková, 2009, p. 175).

The evaluation of project teaching is more challenging than the evaluation of results using traditional methods of education. Traditional methods of education are focused mainly on remembering knowledge and subsequent reproduction. They do not require complicated thought operations of creating logical links of understanding, application, analysis, and synthesis and evaluation assessment. The reasons are the long-term basis and complexity of the project solutions and the evaluation removes negative aspect of the evaluation of one mark. It is possible to use the method of 3S – meeting, accuracy, summary, and project evaluation form drawn up from its starting points.

Tab.1 Evaluation form

EVALUATION CRITERION	ASSIGNED POINTS
Meeting the objective	
- control of the degree of fulfillment of the objective defined	
- the choice of the way of work	
- the methods used	
- processing of information resources	
The accuracy of the solution	
- comparison of the results achieved with the standards defined	
- establishing the overview in the field studied	
- innovative solutions	
- substantive and formal defects	
- quality of presentation	
- responses to questions in presentation	
- justification of the results	
- verification of the results of the solutions	
Summary of processing – quality	
- assessment of the complexity of the problem solved	
- connection of the phenomenon analysed to the modified unit (system) on the basis of creativity and invention	

- the use of known or proposed algorithm	
- evaluation of the experiment	
- quality of the proposal of methodology	
- proposal for a model	
- the complexity of the modification of known solutions	
- the contribution of the resultant solution for practice	
SUCCESS OF THE PROJECT	

Evaluation scale: 0 – low level, 1 – standard, 2 – very good level

4. The influence of evaluation of education on the quality of university education

The quality of university education is assessed by the external environment (university graduates, employers of graduates, the Accreditation Commission) and the internal environment (student, lecturer, head of department, assistant dean for education, and vice-rector for education). The evaluation of education results has a direct impact on the evaluation of the quality of university education. "Mutual trust is main cooperation tool and acting in the pro-cooperation climate supported by suitable communication and information systems," (Vodák, Soviar, Lendel, 213, p. 319). "Means of communication are constantly increasing and new forms, and ways of communication are developing because of technological innovations" (Križanová, Masárová, Kolenčík, 2014).

When appropriate evaluation, which means drawing conclusions on the findings of the changes in the knowledge, skills and attitudes; there is forming the student's ability to responsibly prepare for application in practice. "A fair and objective evaluation is such evaluation of the student based on clearly defined criteria and requirements; it accepts the principle of demands in accordance with the university education study of the subject field and takes place on the basis of an individual and fair access to student. Objective evaluation is the motivation for further study," (Slavík, 2013, p. 233). Formative evaluation provides students with information on the level of achievement of the objectives and points out effective learning opportunities to meet the requirements of the student's education. It is necessary to focus on the progress of the student and recommendations, not pointing out its defects. Summative evaluation is to be focused on a comprehensive evaluation according to portfolio of predefined criteria with multiple partial evaluations summarized in the overall evaluation. The evaluation interpreted so forms student to be responsible, creative, inventive, which finally reaches a reasonable quality of university education. "Universities nowadays must behave responsibly and creatively competitively – in their activities they must create such future career opportunities for their future students/graduates, which enable them to hold an excellent starting position on the labour market, and at the same time help them to train their skills and competences, to direct their personal potential so that these students/graduates/employees permanently manage to cope with all work challenges. To achieve this level it means a very precise, demanding, and systematic work of the entire university and all its employees (pedagogic and other ones as well)," (Blašková, Blaško, 2013, 18).

The tools, used when examining the impact of the evaluation of education on the quality of university education, include questionnaires and controlled interview with subsequent analysis of the facts. Questionnaires should be prepared for:

- students – content part and part focused on teaching methods used,
- university teachers – students' readiness to master content side of the subject considering the previous subjects completed, relationship of students to study, conditions of the teaching process, self-assessment of process side of teaching,
- employers - the Interaction between a content of higher education and job experience with focus on the improvement of conditions for graduate student success in the labour market.
- university graduates – interconnection of the content of the teaching to the needs of practice, forming the ability for permanent education, teaching conditions, quality of the work of university teacher.

5. Conclusion

The evaluation of university education should be focused not only to find the progress of students in the course of study, but it has to contribute to the development of abilities and skills necessary (evaluation is part of the everyday activity of human) for successful access to employment, lifelong education and personal success. The evaluation records the transition from the traditional oral examination with an emphasis on memorizing of knowledge to the functions of evaluation providing information on the performance level of the student and the possibilities how to improve it. New understanding of the evaluation provides the evaluation of the project teaching based on the model 3S, as included in the proposed form.

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