

STRATEGY OF INNOVATIVE TEACHING/LEARNING IN HIGHER SCHOOL

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Abstract

Rapid changes in all spheres of our life have induced the coming of innovative teaching/learning in a modern higher school. It enables us to consider a student as a subject participating actively in the process of knowledge creation together with the teacher. With such perception, it becomes possible to project teaching/learning as a constantly renewing process, directing knowledge towards the solution of concrete practical tasks.

Projecting innovative teaching/learning in higher school, the teacher needs new knowledge and competencies. A lot of teachers do not adopt the innovations of educology sufficiently, they work intuitively, using ordinary methods and modes. The fragmentary usage of different methods and modes without any pedagogical system of the assessment of the interdependence of all the elements deepens the contradictions between the objectives of teaching/learning, set in the standards and the social order, which is expressed by the quality of preparation of the graduates for their professional activity.

Goal of the article – *to analyse the features of the strategy of innovative teaching/learning in higher school.*

Object – *innovative teaching/learning.*

Methods – *the analysis of theoretical literature, meta-analysis, modelling.*

Key words: – *innovation, teaching/learning, strategy.*

The content of education as an element of pedagogical system.

The content of education of the higher school should be directed not only towards the gaining of knowledge significant to one's professional activities, but also towards the commonsense, ability to foresee the subsequences of actions, to distinguish between the essential things and casual, insignificant ones, to choose the best solution. In other words, education is not only a science, but also the art, in the process of which people of different age gain knowledge, learn to overcome difficulties and problems, which can happen in the processes of knowledge creation.

According to the processual meaning, education is an activity of a growing individual in the organised environment, motivating him/her to create new and increasingly complex knowledge. However, teaching/learning takes place not only in an organised environment. It is based on the sphere of everyday life and true-life activities of the student and the teacher, when an individual tries to obtain knowledge not only acting, but also by observing the environment and perceiving the significance of its objects and phenomena. It allows us not only to perfect reflexive thinking, but logical thinking as well and to perceive the content, structures of social, cognitive actions, and follow them subsequently creating new knowledge.

Considering the content of teaching/learning as an element of pedagogical system it should be made full-fledged, systematic and significant for teaching/learning of intellectual power and qualifying competence (Arends, 1998).

Projecting the content of teaching/learning it is very important that every student contributes to the processes of knowledge creation. The principle of teaching not a subject, but a speciality should be implemented. The principal tasks of a teaching/learning subject are to assure theoretical and practical training of higher school graduates, ensuring subsequent education, which means the continual renovation of knowledge. Therefore, it is necessary to educate students' competences to study the content of subjects through the integrative thinking and the complete approach to the education of a new intellectual culture (Шукшунув, 1994).

A student as a participant of the process of knowledge society creation should observe, analyse, suggest, be responsible for the solutions and be able to overcome conflicts and contradictions (Gruževskis, Česnaitė, 2003).

The effectiveness of the projecting of innovative teaching/learning largely depends on adequate choice and the implementation of concrete pedagogical technologies. Pedagogical technologies in the process of traditional education are called "organisational forms and methods of education". The functions of a teacher can be described as a system of consequent (technological) operations, expressed in planning, observation and correction of students' activities. The completeness of the cognitive activities of students and the teacher is the didactic process (Laužackas, 1997).

Technological approach towards the application of pedagogical means projects the procedures of formulation of forms and methods of teaching/learning process, their structure and pedagogical tasks.

Pedagogical technology as a complex system of innovative actions.

There are certain requirements for the objectives, the content, the process. The essence of technological approach makes the outlining of goals (what for? and why?), which determines the choice and the projecting of the con-

tent (what?), the planning and the management of education process (how?), teaching/learning methods and modes (by what means?), the level of the necessity of teachers' qualification (who?), the contemplation of the methods of the assessment (is it right?). The complex application of these criteria specifies the conditions of the successful functioning of teaching/learning.

The technological approach also specifies the construction of the process of teaching/learning directed by the concrete content and objectives. The correction of the process of teaching/learning and the diagnostics of the quality requires specific attention.

The process of the standardisation of the results of professional training, which has started recently, is complicated and unexpected for teachers. The complication is determined by the shortage of proper methodological preparation, insufficient perception of the essence of role and functions of innovative pedagogical technologies. This has formed a paradoxical didactic situation: the teacher generally does not discern any difference between methodology and technology. The perception of pedagogical technologies facilitates the teachers to formulate the objectives and their aspiration and secures the management of the education process.

The term "technology" originates from the Greek words "*techne*" – mastership, art – and "*logos*" – conception, science. In a broad sense technologies are understood as the totality of knowledge about modes and means, with the reference of which qualitative changes of an object occur. Pedagogical technologies are understood as the instruments of striving for objectives (Jucevičienė, 1990). They include all the elements of pedagogical system: from setting the objectives to projecting the didactic process and testing its efficiency.

The comparative characteristics of the essence of «methodology» and «technology» are presented in Table 1 (Сибирская, 1997).

Table 1

The comparative characteristics of "methodology" ir "technology"

Features of comparison	Methodology	Technology
Purpose	Recommends the application of concrete methods, organisational forms and teaching aids.	Recommends the process of the creation of the system of organisational forms and instructional aids, oriented towards the objectives and the management of education.

Features of comparison	Methodology	Technology
Definition	The system of scientifically reasoned methods, roles and educational means.	Instrumentation of the achievement of the goals of education. The systematic and consequent implementation of preprojected practical educational process, systems, means and methods to achieve the objectives of management of the process of education.
Factual assumptions of the development	The reasoning and the process of creation are found in the technology.	The objectives; orientation towards the results. Methodological reasoning of the methodology.
Paradigm	The completeness of the recommendations for the planning and the performance of the educational process.	The project of the prospective process of education.
Orientation	Towards the instructors (teachers).	Towards the students.
Purposefulness	To a concrete subject or the implementation of the objectives.	To the universality of learning methods of instructional aids.
Reflection of the dynamism of education	Gives concrete recommendations.	Reflects the dynamics of the process of education.
Intellectual approach	A narrow objective aspect (topic, subject).	The perception of a new educational culture, connecting teacher's innovative thinking and activity.

Consequently, the concept «pedagogical technology» is wider than the concept «teaching/learning methodology».

The concept of pedagogical technology originated in the USA about thirty years ago. The concept deep-rooted in other countries as well, as it has been supported by UNESCO. The term «pedagogical technology» has been treated differently. In summary it could be stated that pedagogical technology is a complex system of innovative activities, integrating certain procedures, ensuring the establishment of pedagogical objectives, contentual, informative-subjective and processual aspects, directed to the systematic knowledge, education of professional competences and the dissemination of social, cognitive competences of students.

The structure of pedagogical technology is: the objectives, the content, means of pedagogical interaction, organisational forms, a student, a teacher, the result of the activity.

Giving a teaching subject prominence is typical of traditional teaching/learning. The subjects are overloaded by information, which is too academic and boring for a student. However, socio-economic reforms require much more pragmatic attitude towards the content, structure and functions of knowledge. This is possible through systematic-practical teaching/learning of subjects.

The strategy of innovative teaching/learning supposes the management of a teaching process as a functioning system. The strategy implies that a teacher becomes a guide, his position towards a student and towards himself changes. The teacher becomes not only the conveyor of knowledge, the bearer of information, the keeper of norms and traditions, but also the educator of a student's personality. The character of management, the influence on the sphere of the student's personality and on social-cognitive activities change – the student becomes the creator of knowledge and makes decisions about the construction of the knowledge. Authoritarian position, the position of a “superior” and “more powerful” sort of disappears, and instead of it the position of democratic cooperation, help, inspiration and attention to student's initiative is entrenched. All these neologisms are significant for voluntary and active students' integration into the processes of knowledge creation, which are based on clear position and active cooperation with teachers and course-mates.

Another feature of the strategy of innovative teaching/learning is the change of knowledge, functions and the ways of organisation of their creativity processes. Knowledge should allow the student to take a proper place in the world of modern culture and civilisation. Its acquisition is based not on the actions of reproduction of learning, but on productive creative activities (Dodd, 1999).

Moreover, the feature, characteristic of this teaching/learning strategy is emphasising the social goals of teaching/learning and development of a personality, orientation towards not only individual, but also group activities, possibilities of cooperation, open relationships of students, constantly enriching them by ordinary situations and common creation.

Training of organisers, technologists and mentors becomes the underlying strategic task. Therefore, teachers' training and re-training should also take place. During the course of it three main goals can be aimed at:

- The formation of the active position of a student and the perception of the significance of education/self-education;
- education/self-education of a new type of analytical and together project-based – constructional thinking, which helps evaluate the dynamics of change;
- education of a teacher's and student's dialogic communicability competences, managerial planning of new ways of social and interpersonal cooperation, directed towards creation of common projects and programmes.

When comparing traditional and innovative teachers' technologies, it should be noted that fifteen years ago they were not demanded in Lithuania. Now we have what to compare, as the transition to market relationships has dictated the necessity of the comparison. If the necessity to evaluate pedagogical technologies emerges today, the problem of the indicators of comparison arises. During the comparison of technologies different indicators can be used (e.g., some indicators can be evaluated on the scale «excellent, good, sufficient», some are measured by a number, the others are evaluated by points on a ten-point grading scale). In the process of comparison the technologies should not be ranked from the best to the worst ones. Autonomy, provided to higher schools, which limits only requirements for the quality of specialists, enables them to choose technologies, teaching/learning and management methods and ways independently.

The formulation of the goal to reveal and develop the potential of an individual requires a new attitude towards the content of teaching/learning. It is necessary to distinguish not only the acquisition of some information or facts, not only the learning of mathematical, physical and chemical theories, laws and formulae, not only the competence to solve various theoretical and practical tasks and problems, but firstly to distinguish the creative link of this process, which enables to integrate the complete perception of the laws, problems, relations and development perspectives of the surrounding world. This does not mean that a certain knowledge system will not be included into the content of teaching/learning. Knowledge does not disappear; it stops to be the aim, which is changed by the processes of knowledge

creation. Knowledge is structured in the new system. The student needs access (via databases or a textbook) not only to new information, but also to its modelling, construction. The way of presentation of knowledge should be such as the students to be able to envisage the history of its origin not only in chronological order, but also in the sense of contradictions, which emerged when distinguishing new knowledge. Thus, in the new model knowledge has to be not the object, but the means of improvement of a student.

In the traditional system the content, which is presented in textbooks, manuals, books of problems, descriptions of laboratory works is offered for acquisition. In the project-based – creative system the content is redistributed between a textbook, a database and specialised computer environment and modelling and constructing knowledge. Not learning a text, but also the abilities to construct knowledge and implement it in projects become a universal component of a teaching/ learning process.

Project-based – creative activities enable to enhance the possibilities of perception of information through:

- the change of structure, rejecting the ways of logical analysis accepted in traditional teaching/learning system and applying the synthesis-based models, which can be implemented in computer environments;
- the change of a teacher's role (the teacher is no longer the only keeper of the truth and knowledge, he/she is becoming a project leader and a colleague).

Pedagogical technologies, implementing innovative teaching can be defined through pedagogical tasks and didactic processes (Figure1).

The projection of goals is determined by social and state orders, teaching standards and market research designed to measure the demand for specialists with higher education.

To formulate the goals of a subject means to highlight the system of students' socio-cognitive abilities. It is necessary to outline and assess what a student will do during the process of innovative teaching/learning. Thus, the competence will be named. The projection of a goal is an element of a successful project (Laužackas, 2000).

Teaching/learning activity as a whole integrates socio-cognitive actions and operations of different levels. The actions of acquisition and processing of the content of the teaching material can be attributed to the first level of teaching/learning (Teresevičienė, Gedvilienė, 1999).

The composition of the teaching/learning actions of the second level will depend on whether the knowledge is conveyed by a teacher or it results from general knowledge, as well as from the knowledge conveyed by the teacher, the knowledge acquired by independent searching.

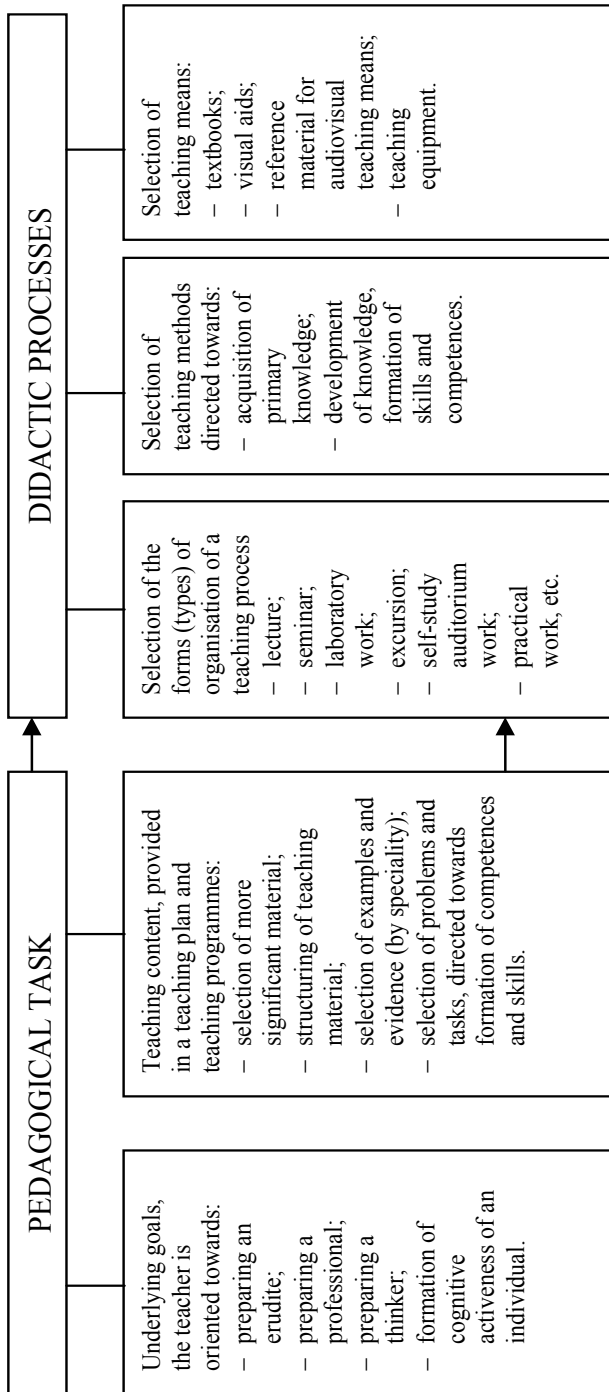


Figure 1. Orientation structural components of pedagogical technologies

Actions and operations of the second level ensure organisation of teaching/learning material. They consist of learning, exercises, interiorisation of the actions performed.

In parallel with operational actions of acquisition of knowledge, control actions are performed.

A higher school teacher is interested not only in the analysis of the structure of a student's teaching/learning activity, but also in processes (especially during the first years), as it is important for teachers to teach students to learn. It is impossible to do without understanding of certain characteristics of knowledge and knowing processes and without anticipation of the strategies of their creation processes. Therefore, a higher school teacher has to be oriented towards the model of innovative teaching/learning, dictated by the knowledge society, as a constantly shifting process, renewing both students' creative capacity and mastering of socio-didactic projection technologies.

CONCLUSIONS AND RECOMMENDATIONS

1. The main principle of innovative teaching is a new teacher's world-view, based on making such pedagogical decisions, which involve clear tolerance towards a different opinion and the formation of responsibility for their own actions.

2. Projection of innovative teaching/learning is based on the following dimensions: pedagogical technology, formulation of the goals oriented towards students' socio-cognitive self-expression, the conceptions of the management and self-management of characteristics of knowledge creation processes.

3. The strategy of innovative teaching/learning implies:

3.1. management of a teaching process as a functioning system;

3.2. the change of knowledge, functions and organisational ways of creative processes;

3.3. emphasising of social goals of teaching/learning and personality development.

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СТРАТЕГИИ ИННОВАЦИОННОГО ОБУЧЕНИЯ В ВЫСШЕЙ ШКОЛЕ

Аннотация

В статье аргументировано положение о необходимости новых знаний и компетенций в современных условиях жизнедеятельности человека. Доказано, что фрагментарное использование разных методов без педагогической системы оценивания взаимозависимостей всех элементов, которые углубляют противоречия между объектами обучения, системой стандартов и социальных порядков и выражаются в качестве подготовки выпускников к их профессиональной активности.

Цель статьи – проанализировать характерные черты стратегий инновационного обучения в высшей школе.

Объект – инновационное обучение.

Методы – анализ теоретической литературы, мета-анализ, моделирование.

Ключевые слова: *инновации, обучение, стратегии.*

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СТРАТЕГІЇ ІННОВАЦІЙНОГО НАВЧАННЯ У ВИЩІЙ ШКОЛІ**

Анотація

Швидкі зміни у всіх сферах нашого життя започаткували інноваційне навчання у сучасній вищій школі. Це дає нам змогу вважати студента суб'єктом, який бере активну участь у процесі оволодіння знаннями разом з вчителем. З цієї точки зору стає можливим спроектувати навчання як постійно оновлюючий процес, який скеровує знання на вирішення конкретних практичних завдань. Для проектування інноваційного навчання у вищій школі вчителю потрібні нові знання і компетенції. Багато вчителів неефективно адаптують інновації у навчанні, використовуючи прості методи і підходи. Фрагментарне використання різних методів без встановленої педагогічної системи оцінювання взаємозалежності всіх елементів, які поглиблюють протиріччя між об'єктами навчання, що встановлені системою стандартів і соціальних порядків, які виражаються у якості підготовки випускників до їх професійної активності.

Ціль статті – проаналізувати риси стратегій інноваційного навчання у вищій школі.

Об'єкт – інноваційне навчання.

Методи – аналіз теоретичної літератури, мета-аналіз, моделювання.

Ключові слова: *інновації, навчання, стратегії.*