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ІННОВАЦІЙНІ ПІДХОДИ ДО ЗАСТОСУВАННЯ ТЕХНІК ЗВОРОТНОГО ЗВ'ЯЗКУ В ОСВІТНЬОМУ ПРОЦЕСІ ЗАКЛАДІВ ВИЩОЇ ОСВІТИ

Анотація. Авторами сформульовано сутність зворотного зв'язку, описано організаційно-дидактичні умови його ефективного забезпечення в освітньому процесі закладу вищої освіти. Дослідниками запропоновано розглядати зворотний зв'язок у двох аспектах: як варіант налагодження успішної комунікації і взаємодії між викладачем і здобувачем освіти, і як варіант ефективного фітбеку для оцінювання навчальних досягнень і контролю знань здобувачів освіти.

У статті наголошується на визнанні важливості правильного застосування технік зворотного зв'язку в освітньому процесі, оскільки він може мати як позитивний, так і негативний вплив на організацію освітнього процесу та успішність здобувачів вищої освіти. Поняття зворотного зв'язку розглядається багатьма науками в межах різних наукових підходів



та напрямів, оскільки здебільшого має різне трактування та значення, адже виступає одним з основних елементів функціонування освітньої системи. Формат змішаного навчання, на відміну від інших сучасних форм організації освітнього процесу, передбачає використання режиму віддаленого доступу, що зазвичай унеможливорює безпосереднє спілкування та взаємодію між викладачем і здобувачем освіти. Наголошується, що зворотній зв'язок потрібно розглядати в контексті того освітнього компонента, де він застосовується. Дослідники вказують, що зворотний зв'язок є засобом здобуття важливої інформації, результатів навчальної діяльності, необхідної для ефективного керування освітнім процесом у змішаному форматі навчання. Зазначається, що метою та провідними завданнями дослідження є розкриття інноваційних підходів та організаційно-дидактичних умов застосування технік зворотного зв'язку в освітньому процесі закладу вищої освіти. Інноваційні ідеї технік зворотного зв'язку успішно реалізуються в сучасному освітньому просторі України. Наголошується, що ефективність впровадження в заклади вищої освіти технік зворотного зв'язку залежить від контексту, цілей, завдань та змістового контексту навчання і виховання юної особистості.

Ключові слова: зворотний зв'язок, освітній процес, освітня взаємодія, фітбек, змішане навчання, оцінювання, здобувачі вищої освіти.

INNOVATIVE APPROACHES TO THE USE OF FEEDBACK TECHNIQUES IN THE EDUCATIONAL PROCESS OF HIGHER EDUCATION INSTITUTIONS

Abstract. The authors formulate the essence of feedback, describe the organisational and didactic conditions for its effective provision in the educational process of a higher education institution. The authors propose to consider feedback in two aspects: as an option for establishing successful communication and interaction between the teacher and the higher education applicant, and as an option for effective feedback for assessing academic achievements and controlling the knowledge of higher education applicants.

The article emphasises the recognition of the importance of the correct application of feedback techniques in the educational process, since it can have both a positive and a negative impact on the organisation of the educational process and the success of higher education applicants. The blended learning format, unlike other modern forms of organising the educational process, involves the use of remote access mode, which usually makes it impossible to communicate and interact directly between the teacher and the education applicants. It is noted that feedback should be considered in the context of the educational component where it is applied. The researchers note that feedback is a means of obtaining important information, the results of educational activities necessary for the effective management of the educational process in a blended learning format.

It is noted that the purpose and main objectives of the study are to reveal innovative approaches and organisational and didactic conditions for the use of feedback techniques in the educational process of a higher education institution. The authors point out that innovative ideas of feedback techniques are successfully implemented in the modern educational space of Ukraine. It is emphasised that the effectiveness of implementing feedback techniques in higher education institutions depends on the context, goals, objectives and content context of education and upbringing of a growing personality. The concept of feedback is considered by many sciences within the framework of different scientific approaches and directions, since it mostly has a different interpretation and meaning, as it is one of the main elements of the functioning of the educational system.

Keywords: feedback, educational process, educational interaction, blended learning, assessment, higher education applicants.

INTRODUCTION

The problem formulation. The concept of "feedback" occurs in all spheres of modern life that involve dialogic interaction and communication between people. An employee of an organisation receives feedback from his or her manager and clients, a teacher - from education applicants, a politician - from voters, a doctor - from patients.

The availability of well-established feedback is a prerequisite for the development and improvement of the performance indicators of commercial organisations, the functioning of educational institutions and for the comprehensive development of the individual.

In this regard, scientific research related to the study of the peculiarities and conditions for the use of innovative feedback techniques in various forms of organising the educational process acquire particular relevance and practical importance.

Analysis of recent research and publications. In pedagogical research, the concept of "feedback" was introduced in the early twentieth century. The emergence of this concept is associated with the period of development of the psychological and biological foundations of pedagogy. J. B. Watson was one of the first to reveal the concept "feedback" in his writings in 1914. The researcher distinguished two forms of feedback: satisfaction of needs or punishment (Watson, 1914). Further development of this term is associated with the research of E. Thorndike and his proposed "Law of Effect" (Thorndike, E.L., 1931).

The concept of feedback was introduced and investigated initially as a phenomenon of cybernetics. Later on, feedback was studied by educators and psychologists regarding the processes taking place in educational systems. With the introduction of electronic learning technologies, changes are taking place in theoretical pedagogy and educational practice. This also applies to the concept of feedback.

Various aspects of this problem become the subject of active scientific discussions both in Ukraine and abroad. Researchers study the issues of providing feedback in the context of distance learning (M. Zolochivska, N. Oliynyk), feedback as a factor in improving the quality of the educational process (J. Hattie, H. Timperley), within the framework of constructing formative assessment toolkit (N. Morse, O. Shunevych), as a form of interaction in the organisation of the



educational process in higher education institutions (T. Koval), as a form of response reinforcement (E. Thorndike), as a component of teacher competence (I. Humeniuk). A group of Ukrainian scientists is exploring feedback in the context of developing interactive learning models and as a means of interdisciplinary integration (P. Atamanchuk and I. Bogdanov); feedback as a method of modernising teaching tools and technologies (A. Bovtruk, V. Buzk). However, innovative approaches to the application of feedback techniques in the educational process of a higher education institution remain insufficiently studied.

THE AIMS AND TASKS OF THE RESEARCH

The aims and tasks of the research are to reveal innovative approaches and organisational and didactic conditions for the application of feedback techniques in the educational process of a higher education institution.

RESEARCH METHODS

In the suggested article theoretical research methods were applied, including analysis and synthesis of research results on the problem; method of generalization to formulate conclusions, method of prediction – to determine the prospects for further research.

RESULTS OF THE RESEARCH

The blended learning format, unlike other modern forms of organising the educational process, involves the use of remote access, which usually makes it impossible for the teacher and the higher education applicant to communicate and interact directly. Accordingly, the problem of establishing effective feedback in higher education institutions under martial law acquires particular relevance and social significance. After all, feedback is a means of obtaining important information and learning outcomes necessary for the effective management of the educational process in a blended format.

In pedagogy, feedback is a way of obtaining information about the correctness or degree of falsity of actions. In education, it is directed to two objects: to the teacher and to the education applicant, and usually has a guiding and educational nature of interaction.

Feedback is an important mechanism of the educational process. In all innovative educational concepts and doctrines for modernization of education, it plays a substantial role. Feedback affects the pedagogical system as a whole and particularly its components, and changes occur under its influence.

Feedback techniques include: knowledge control tools, methods of making adjustments to the educational process, which are aimed directly at the student's personality, taking into account his or her individual educational trajectory and model of development and self-development, and the profile of professional competences.

Innovative ideas of feedback technologies implemented in the modern educational space of Ukraine have quite high performance indicators, and the experience of teachers who apply them in their professional activities is widespread among fellow teachers from other educational institutions. This confirms the relevance of the effectiveness of using feedback techniques in the educational community.

The concept of feedback is considered by many sciences within different scientific approaches and directions, as it mostly has different interpretations and meanings. After all, it is one of the main elements of the functioning of any system.

The term "feedback" is used in scientific discourse quite widely. It is used in psychological, linguistic, and pedagogical research based on the requests of a particular educational field. Accordingly, we will analyse the essence of this concept and its interpretation from different perspectives. Thus, from the point of view of communication theory, feedback is understood as the recipient's response to the sender's message.

Feedback is widely applied in the educational process when it comes to communication between teachers and education applicants, between teachers and parents of schoolchildren, when there is subject-subject interaction between a teacher and a pupil, between a teacher and a student and other participants in this process. Well-established feedback promotes efficient interaction and high-quality communication.

Therefore, feedback signifies the effect of the results of the system (objects) functioning on the nature of the individual's activity.

The modern scientific literature (Korenev A., Oliinyk N.) reflects several variants of classification of models and types of feedback, which mainly depend on the type of system in which it operates and the functions it implements. Accordingly, we distinguish its reflexive, behavioural, cognitive, cybernetic and communicative models.

In this context, it is worth noting that feedback is, first of all, a characteristic of the learner's state (readiness for the lesson, mood, attention, adequacy of reaction, answers to questions, etc.) On the basis of which the teacher chooses management tactics, flexibly responding to changes. The researcher N. Morse considers the implementation of feedback in the following ways: substantive and emotional aspects (Morse N., 2013). The substantive type of feedback contributes to obtaining information about the level of mastering the educational material of the educational components of the educational and professional programme. Regarding the emotional aspect, it should be noted that effective feedback is implemented through the use of reflection techniques to create a positive emotional atmosphere. It includes the student's external behaviour, positive interest in the content of the material, enthusiasm for the presentation of the subject by the teacher, and the involvement of a wide range of individuals in the discussion.

Similarly to the cybernetic approach to direct and reverse connections in complex systems and mechanisms, we consider the influence of a teacher on a student and a teacher on a pupil to be a direct connection in educational activities. Feedback provides information about how a student has learnt the material and mastered this educational and cognitive influence. However, if we move away from the teacher-centred model of the training system, it is appropriate to consider the educational activities of applicants of education (the education applicant acts, the teacher observes) as direct connection, and informing the education applicant about learning and its results as feedback.



The concept of feedback refers to the information that the teacher receives from the education applicant, and on the contrary - the information that the education applicant receives from the teacher during the educational interaction.

In order to better characterize this concept, it is proposed to use the terms "academic feedback" as information reported by education applicants and through which they maintain this connection - "student feedback" and "student voices" and "pedagogical feedback", which is interpreted as "information received by education applicants in response to learning activities during the educational process and which is directly related both to the learning process and the results of education and upbringing of a growing personality" (Korenev A.A., 2012). This type of communication in the educational space is often correlated with the term "feedback".

For the purpose of implementing the tasks facing the higher school, a modern teacher needs to know the key types of pedagogical feedback. The most popular ones include:

- Urgent feedback (in terms of oral communication), or deferred feedback (when communication is in writing);
- Feedback is considered in the context of interaction;
- Feedback is evaluative and non-evaluative, verbal and non-verbal;
- Feedback is basic and auxiliary, formative and total;
- Feedback according to the types of educational reflection, subjects of interaction and speech communication.

Feedback affects subsequent language communication and the behaviour of interlocutors. In accordance with the selected types, it determines the ways of communication and expands its specificity. Knowledge of these feedback features will help the teacher to establish cooperation with education applicants in the organisation of the learning process.

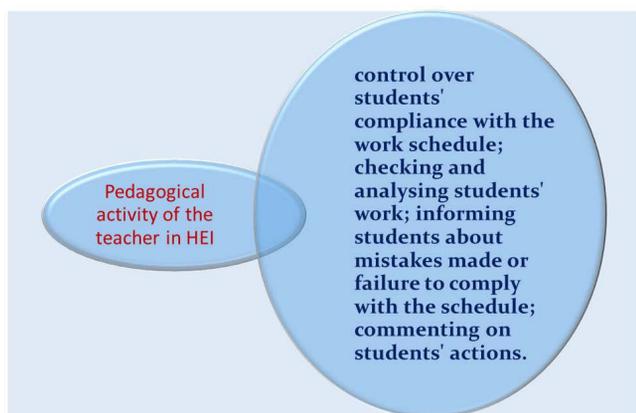


Fig. 1. Types of teacher's pedagogical activities aimed at obtaining effective feedback

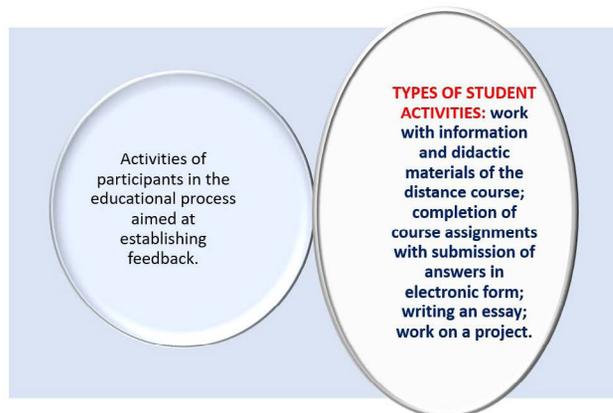


Fig. 2. Types of student activities

Awareness of the influence of feedback techniques on the development of modern communication theories, on optimising the process of formative assessment of the results of educational activities of modern higher education applicants, its demand in educational institutions, is associated with the role and impact on the formation of a growing personality.

Organisational and didactic conditions for establishing effective feedback:

- Constructive and specific suggestions;
- Sincerity and trust between the interlocutors;
- Originality of ideas;
- Personal orientation of the participants of the educational process;
- Dialogical nature of interaction;

Availability of means of communication.

According to certain conditions, feedback can be classified:

- by the conditions of its organisation;
- by the direction of influence;
- by time;
- by forms of manifestation;
- by the degree of focus on the communication objects;
- by the presence or absence of corrective effects.

Characterizing the type of feedback that a teacher should establish for interaction with his/her students, let us refer to the definition of scientists J. Hattie and H. Timperley, who point out that "information that is communicated by a subject (teacher, peer, parent... directly by the education applicant) about aspects of someone's activities and understanding" (Hattie, Timperley, 2007, p.81). Feedback that contains information about the task (project) to be completed, the algorithm of actions, conditions and rules is considered the best. Conversely, feedback loses its effectiveness if it contains only common phrases, generalisations, endorsements or criticism.



Researchers J. Hattie and H. Timperley define effective feedback as "information received by a student in response to certain actions in the educational process and correlated with the processes and results of learning and education" (J. Hattie and H. Timperley). Scientists emphasise that the source of feedback can be a teacher (directly or indirectly), other subjects of the educational process, including peers, fellow students, parents and the student himself.

The effectiveness of feedback depends on the context, goals, objectives and content context of the education and upbringing of a growing personality.

In today's reality, feedback has expanded its appointment powers. And in addition to the function of establishing effective interaction or communication between the subjects of the educational process in HEI, it acquires the functions of control and correction of knowledge and professional competences acquired by educational applicants. This pedagogical aspect of feedback helps teachers in assessing knowledge and controlling learning activities.

For the most part, in foreign pedagogy (Bruner J.S., Hattie, Timperley, E. Thorndike E.L.), this process is called the "feedback effect". And they consider it in the context of professional and communication competences of the teacher.

In this context, it should be emphasised that there is an objective and fairly stable pattern between the frequency and nature of the teacher's feedback to educational applicants during the educational process (lectures, practical and seminar classes, independent work, internships, etc.) and the effectiveness of educational and cognitive activities and learning productivity. It consists in establishing a stable psychological and emotional interaction between all the participants. Therefore, the main indicators of establishing effective feedback in the educational process of HEI include the following:

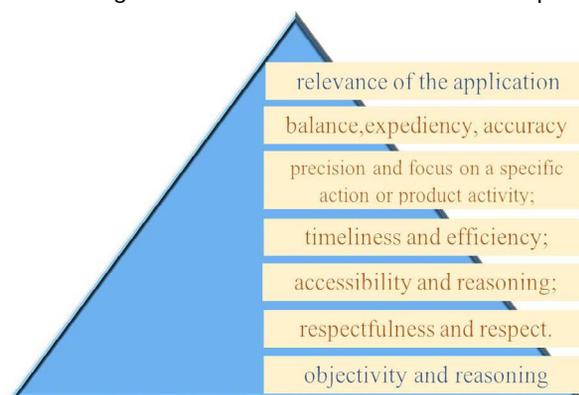


Figure 3. Indicators of establishing effective feedback in the educational process of HEI.

Feedback should take into account the results of students' self-esteem and provide information to teachers to make corrective changes to the educational process.

The organisation of feedback in the educational space of a modern educational institution is aimed at achieving the following objectives of educational activities:

1. Emphasising the content of feedback. It involves the identification of a number of well-defined characteristics of learning aims and organisational and didactic conditions for the use of feedback techniques in the organisation of the educational process;

2. Determination of the amount and frequency of feedback in the time-space of a modern higher education institution.

To establish effective feedback, it is important to adhere to a number of principles that determine its organisation and implementation in the educational process. In particular, this is related to the development of students' skills of reflection upon completion of their studies, stimulation of open dialogue and communication during various types of educational activities.

The task of the teacher in this process is to assist in organising feedback, determining its goals, criteria, implementation levels. Well-organised feedback provides opportunities to reduce the gap between the existing and desired level of knowledge, stimulates a positive mood in the classroom, builds self-esteem, and promotes successful self-realisation.

The results of qualitative feedback also provide the teacher with information that can be used to optimise and adjust the educational process. During pedagogical communication, high-quality feedback is established as a result of the ability to establish effective communication, provided manifestations of empathy and a positive reaction to external influences or reactions of education applicants.

Usually, feedback can have a positive impact on the educational activities of both the entire student group and the individual student. High-quality feedback helps to improve the progress of education applicants, build confidence in their strengths and capabilities.

Having summarised the materials of normative, methodological and scientific sources, feedback techniques, according to the ways they are applied in the educational process of HEI, are conditionally divided into the following groups: visual, schematic and graphic, creative, communication, social networking techniques, digital and combined (mixed).

Thus, innovative feedback techniques that contribute to the optimisation of the educational process in higher education institutions include:

Visual and digital. For the use of visual techniques, we offer such digital tools as Classroom Screen, Jamboard, Zoom, Google Meet, and Canva. Technique "PJEJ-



formula". Where P is position, J is justification, E is example, J is judgement. Each position is a corresponding sentence or reasoning: "Because...", "I believe...", "Based on this...", etc.

The "Senkan" technique. This technique is used to compose poems of five rows. It promotes teamwork.

Schematic - graphic and digital techniques. The "Sheet of Paper" technique. It is used to control knowledge by combining it with digital applications such as Google Forms, Kahoot, Plickers or other services.

Creative techniques. "Logbook", "Three Good Deeds", "Essay".

Techniques for establishing communication. "Daisy of Questions" or "Bloom's Daisy", "Unfinished Sentences", "Emojis".

Evaluation techniques. "Traffic lights", "Green, yellow, red", "Colour extravaganza", "Islands", "I know. I can. I learn.", etc.

Social media techniques. Instagram story, selfie technique and others.

To create and use combined techniques, we offer such digital tools as Kahoot, Classtime, Mentimeter, Poll Everywhere, Google Forms, LearningApps, Flippity, which are designed to create interactive exercises, online quizzes, tests, surveys of education applicants.

Recognition of the importance of appropriate use of feedback techniques in the educational process is primarily due to the fact that it can have both positive and negative impact on the organisation of the educational process and the performance of education applicants. It should be noted that feedback should be considered in the context of the process, educational component where it is applied. The isolation of feedback from these components will not guarantee (ensure) the high efficiency of this process.

CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

We believe that the use of innovative feedback techniques in the educational process of higher education institutions will help to optimise pedagogical interaction in the plane of "teacher- higher education applicant" and "higher education applicant -teacher", increase the effectiveness of educational activities and the objectivity of control and assessment of knowledge.

Thus, innovative ideas of feedback implemented in the modern educational space of Ukraine have rather high efficiency indicators, and the experience of teachers who apply it in their professional activities is widely spread among colleagues from other educational institutions. This confirms the relevance of the problem of the effectiveness using feedback techniques in the educational community. The concept of feedback is considered by many sciences within different scientific approaches and directions, since for the most part it has different interpretations and meanings. After all, it is one of the main elements of the functioning of the educational system.

Further scientific research is associated with the problem of the content of feedback techniques in the educational process of a modern institution of higher education.

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