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SYSTEM FOR EVALUATING THE ECOLOGICAL AND PROJECT ACTIVITIES OF STUDENTS

Abstract. *The article creates and describes a system for evaluating students' environmental project activities, analyzing them according to the stages of implementing environmental projects in the educational process. The goal is to create a system for evaluating students' environmental project activities. The objectives of the study are as follows: to describe the main types and determine the principles of assessment; to create and justify a system for assessing environmental project activities; to develop a protocol for assessing environmental project activities and determine the assessment of each criterion using a scoring system; to analyze the system of assessing students at the stages of implementation of environmental project activities. To achieve the set goal and defined tasks, the following methods were used: comparative-analytical, systemic, and generalization, systematization, and concretization. Modern approaches to assessment, which are transforming from a controlling to a motivational and developmental function, were considered. The main types of assessment were identified and characterized: traditional, formative, summative, criterion-based, and competency-based. The principles of assessment are defined, namely comprehensiveness, objectivity and impartiality, transparency and openness, consistency, individualization, reflexivity, and variability. High, sufficient, average, and low levels characterize the criteria for assessing environmental project activities. An assessment protocol has been developed that defines a quantitative assessment for each criterion, allowing the relative importance of different aspects of the project to be differentiated. The main advantages of the developed protocol have been identified, namely objectivity, transparency, stimulation of development, uniformity of requirements, and feedback. The proposed assessment system contributes not only to the objective assessment of the results of students' activities, but also to the development of their research, analytical, and reflective skills, which is particularly important in the context of education for sustainable development.*

Keywords: *assessment system, environmental projects, environmental competence, students, project-based research activities.*

Introduction. The use of a project-based approach in the educational process is effective for developing students' environmental competence, as it combines research, practical, and socially significant activities. However, the effectiveness of such activities largely depends on the availability of a clear and well-founded assessment system that stimulates the development of a creative approach, critical thinking, and a responsible attitude toward the environment.

In the modern educational paradigm, the emphasis is shifting from the transfer of knowledge to the development of competencies and the ability to apply knowledge in real-life situations. Therefore, assessment should not only record achievement levels but also serve as a tool for self-knowledge, correction, development, and motivation. Special attention should be paid to the system of assessing environmental project activities, which covers both content and practical components, takes into account individual development trajectories, and supports initiative, creativity, and independence. The

complexity of assessing environmental project activities necessitates the development of criteria that align with current educational trends and ensure objectivity, transparency, and motivation in the assessment.

Purpose and objectives. The purpose of this article is to develop a system for evaluating students' environmental project activities.

Research objectives:

- characterize the main types and define the principles of assessment;
- create and justify a system for evaluating environmental project activities;
- develop a protocol for evaluating environmental project activities and determine the evaluation of each criterion using a scoring system;
- analyze the system for evaluating students at each stage of implementation of environmental project activities.

Research methods. To achieve the set goal and defined tasks, theoretical research methods were used: comparative and analytical for analyzing scientific literature on the research topic; systemic for creating a system for evaluating environmental project activities; generalization, systematization, and concretization for determining the criteria, indicators, and characteristics of the levels of evaluation of environmental project activities of students.

Research results. Assessment is an integral part of the educational process, providing feedback, stimulating development, and helping students to recognize their achievements and areas for growth. In the context of environmental project activities, an effective assessment system requires recording the final result and analysing the process of working on the project, the development of key competencies, and the personal qualities of learners.

Contemporary pedagogical research has transformed assessment approaches, moving away from a purely controlling function to a diagnostic, developmental, and motivational one. Modern assessment concepts focus on the formation of competencies and the ability to apply them in real-life situations.

The main types of assessment are as follows:

1) Traditional assessment. It focuses on testing the acquisition of factual knowledge and reproductive skills. It is often based on a point system and aims to compare students with each other. Despite its prevalence, it has limitations in reflecting depth of understanding, creativity, and the ability to solve problems independently, which are key to project activities;

2) Formative assessment. It is an assessment for learning, a process of continuous monitoring of learners' progress during learning in order to provide timely feedback that helps to adjust the educational process. It focuses on identifying learners' strengths and weaknesses and on promoting self-regulation and independence. In the context of project activities, formative assessment allows you to

track each stage of work, provide targeted recommendations, and support students in achieving their goals;

3) Summative (final) assessment. It is an assessment of results conducted at the end of a specific stage of learning or project to determine the level of achievement of educational goals. It provides an overall picture of success, but without a detailed analysis of the process;

4) Criterion-based assessment. It is the basis for objective evaluation, as it is based on clearly defined criteria that are known to students in advance. This ensures transparency and fairness, as it assesses the student's achievement against established standards rather than comparing them with others;

5) Competency-based assessment. It aims to measure students' ability to apply knowledge, skills, and abilities in practical activities and to solve complex problems. Ecological project activities are an ideal platform for the formation and assessment of ecological competence, which includes knowledge of ecology, value attitudes, critical thinking skills, and responsible behaviour.

A combined approach that connects elements of formative, summative, criterion-based, and competency-based assessment is most appropriate for evaluating students' environmental project activities. This will allow us to evaluate the project's final product, tracking students' development, involvement in the process, and ability to cooperate and self-reflect.

Effective assessment of students' environmental project activities is based on principles that ensure its objectivity, fairness, and pedagogical relevance. The following principles of assessing environmental project activities have been identified:

- comprehensiveness – assessment should cover all stages of environmental project activities: from the inception of the idea and planning to implementation, presentation, and reflection. It is important to assess not only the final result, but also the process of work, taking into account activity, independence, teamwork, and problem-solving skills;
- objectivity and impartiality – assessment should be as objective as possible and based on clearly defined criteria, rather than on the personal likes or dislikes of the teacher. It is essential to avoid subjectivity and ensure the assessment reflects the student's actual achievements and efforts. To this end, it is necessary to develop transparent and understandable assessment criteria that will be known to students before they begin working on the project;
- transparency and openness – assessment criteria and procedures must be transparent and understandable to students and their parents. They must clearly understand what they will be assessed for and how. This helps to build trust, motivates a responsible attitude to learning, and allows students to assess their progress independently;
- systematicity – this involves regularly tracking students' progress throughout the entire project;

● individualization – assessment should take into account the individual characteristics of each student, their previous experience, pace of work, and potential. It is important not to compare learners to one another, but to assess their personal progress and achievements in relation to their own level of development. This helps to maintain their motivation, especially those who may be experiencing difficulties;

● reflectivity – assessment should encourage learners to reflect on their own activities. They should learn to assess their own strengths and weaknesses, draw conclusions from their experience, and plan further steps for improvement. Involvement in self-assessment and peer assessment is an essential tool for developing reflective skills;

● variability – in order to obtain a more complete and objective picture of students' achievements, it is necessary to use a variety of methods and tools, namely: portfolios, presentations, defenses, self-assessment, peer assessment, observation, etc.

These principles help educators not only assign grades but also promote students' development and motivate them to engage in further environmental activities.

Assessing students' environmental project activities is an important part of the educational process. It allows teachers to assess students' knowledge and identify the development of key competencies, including environmental, social, communicative, and civic competencies. Effective assessment involves considering both the content and procedural aspects of senior students' activities, as well as their level of personal involvement, responsibility, and ability to self-reflect.

The following criteria were established to evaluate the environmental project activities of students:

● relevance and originality of the idea;
● clarity of the project's goals and objectives;
● activity planning;
● depth of research and analysis, use of scientific methods;
● quality of implementation of the practical component of the project;
● creativity and innovation of approaches;
● cooperation and communication;
● independence and responsibility;
● practical focus, possibility of implementation in the community/educational institution;
● presentation of results;
● presentation and defense of the project;
● reflection.

High, sufficient, average, and low assessment levels are distinguished, allowing not only to state the fact of the work performed, but also to deeply analyze its quality, identify strengths, and further

develop each student. The detailed criteria for each level ensure objectivity, transparency, and differentiation in assessment, and provide clear feedback for further improvement.

The characteristics of the assessment criteria for environmental project activities by level are presented in Tables 1 and 2.

Relevance and originality of the idea – this criterion emphasizes the importance of senior students' ability to identify real environmental problems significant to the local community or society as a whole, to think creatively, and to find original approaches to solving existing challenges.

The criterion of "clarity in formulating the project's goals and objectives" is the basis of any successful activity. High school students demonstrate the ability to clearly define goals and objectives, engage in logical thinking, plan, and understand the task at hand.

Table 1

Criteria for assessing environmental project activities in senior high school students (high and sufficient levels)

Levels **Criterion**	**High**	**Sufficient**
Relevance and originality of the idea	The project idea is innovative, relevant, has significant social and environmental significance, and is distinguished by its originality and novelty.	The project idea is relevant, has some novel aspects, and reflects an understanding of significant environmental issues.
Clarity of the project's goals and objectives	clearly formulated, specific, achievable, logically consistent, and entirely consistent with the research topic	formulated quite clearly, generally correspond to the subject of the study, but may be somewhat generalized
Activity planning	A detailed, logical, and realistic action plan has been created, with clear roles, resources, and timeframes.	The action plan is sufficiently detailed, covering the main stages of the research, but has minor shortcomings.
Depth of research and analysis, use of scientific methods	A thorough, comprehensive, and systematic study was conducted using a variety of scientific methods, the results were thoroughly analyzed, and original conclusions were drawn.	A fairly in-depth study was conducted, basic scientific methods were used, the analysis of the results was satisfactory, and logical conclusions were formulated.
Quality of the practical component of the project	The practical component of the project is flawlessly executed, demonstrates a high level of skill, and meets the set goals.	The practical component was performed at a sufficient level, meets the objectives, but there may be minor shortcomings.
Creativity and innovation of approaches	The project contains original, innovative solutions and non-standard approaches to solving the problem	The project has elements of originality, but they may not be fully implemented or may be less innovative
Cooperation and communication	Effective cooperation, clear role distribution, excellent communication skills, active exchange of ideas, and constructive dialogue are demonstrated.	Students can cooperate; most roles are distributed; and effective communication and exchange of ideas take place.

Levels Criterion	High	Sufficient
Independence and responsibility	Students demonstrate a high degree of independence and responsibility across all aspects of their work, actively taking the initiative to find solutions, overcome difficulties, and identify new opportunities.	Students work mainly independently and responsibly, show initiative when necessary, and require minimal support.
Practical focus, possibility of implementation in the community /educational institution	The project has a high practical focus, clearly defined paths and real opportunities for implementation, and demonstrates a significant positive impact on the environment/ society.	The project has a practical focus, can potentially be implemented in the community/educational institution, and is expected to have a positive impact.
Continuation of Table 1		
Presentation of results	The presentation is flawless, in line with the requirements, clearly structured, and contains comprehensive information and high-quality visual materials.	The project presentation is of high quality, meets the basic requirements, and contains clear and informative materials.
Presentation and defense of the project	High level of presentation: logical structure, clear, convincing, and interesting presentation of material, clear answers to all questions, and a deep understanding of the topic. Confidence and charisma in presentation	The presentation is well structured, the material is presented clearly, and students answer most questions.
Reflection	In-depth and objective reflection was conducted, thorough conclusions were drawn regarding personal experience, difficulties, and achievements, and prospects for further development were identified.	Sufficient reflection was conducted, key points of experience were identified, and general conclusions were drawn.

Source: created by the authors

Activity planning – this criterion assesses students' ability to structure their own work, distribute responsibilities, resources, and time, anticipate risks, and find ways to overcome them.

The depth of research and analysis, as well as the use of scientific methods, allows us to evaluate not only the fact of information gathering, but also how deeply the students immersed themselves in the problem, analyzed the information reasonably, and applied elements of a scientific approach (observation, experimentation, surveys, etc.). It demonstrates research competence, the ability to work with data, and the ability to draw conclusions and propose well-founded solutions.

The quality of the project's practical component assesses students' ability to apply theoretical knowledge in practice and to perform tasks effectively in accordance with the project's objectives. It reflects the level of organization, independence, and practical application of environmental knowledge in a real environment.

The criterion of "creativity and innovation in approaches" assesses the originality of ideas, the unconventionality of solutions, and the use of new, modern methods in project implementation. It demonstrates students' creative approach, their ability to think outside the box, and their proposal of relevant and effective environmental initiatives (Table 2).

Table 2

Criteria for assessing environmental project activities in senior high school students (average and low levels)

Levels Criterion	Average	Low
Relevance and originality of the idea	The idea behind the project is partially relevant but not sufficiently original, and it is a reproduction of well-known solutions, somewhat formulaic.	The project idea is irrelevant, lacks novelty, and demonstrates a poor understanding of the environmental problem.
Clarity of the project's goals and objectives	formulated superficially, partially relevant to the research topic, not always specific, and logically inconsistent	are vague or missing, do not correspond to the research topic
Activity planning	The planning is superficial, needs refinement, and has significant gaps in resource and time allocation.	There is no planning, or it is chaotic and does not reflect the sequence of actions.
Depth of research and analysis, use of scientific methods	The study is superficial, a limited set of methods was used, the analysis of the results was carried out without proper systematization and generalization of data, and general conclusions were formulated.	The research is absent or conducted informally, there is a lack of understanding or application of scientific methods, and the analysis of results and conclusions is either absent or not substantiated.
Quality of the practical component of the project	The practical component was performed poorly or partially, has significant shortcomings, and does not always meet the set objectives.	The practical component was not performed or was performed only partially and does not meet the objectives.
Creativity and innovation of approaches	are mainly standard approaches, with no innovative elements.	The project contains a template and unoriginal approaches
Cooperation and communication	Cooperation is limited, conflicts or uneven distribution of workload are possible, communication is not always effective, and difficulties arise in interaction	Lack of cooperation or ineffective communication, no interaction
Independence and responsibility	Students require significant assistance and supervision from the teacher, and have a low level of independence and responsibility.	Students are entirely dependent on the teacher, are unable to overcome difficulties on their own, and do not show independence or initiative.
Continuation of Table 2		
Practical focus, possibility of implementation in the community /educational institution	The project has a limited practical focus; its implementation is complex and requires significant changes.	The project has no practical focus or cannot be implemented.

Levels Criterion	Average	Low
Presentation of results	The presentation has significant shortcomings: it lacks a systematic approach to presenting the results and contains insufficient visual materials.	The project presentation is missing or of poor quality and does not meet the requirements.
Presentation and defense of the project	The presentation has flaws in its structure or the logical presentation of material, the defense is unconvincing, answers to questions are incomplete or inaccurate, and the understanding of the topic is superficial	No presentation or extremely low quality presentation, material is presented in an unclear manner, students cannot answer questions, and there is a lack of understanding of the topic
Reflection	Reflection is superficial, limited to a description of events without in-depth analysis or conclusions; conclusions are formal; self-analysis is absent.	Reflection is absent or formal in nature, there is no ability to analyze one's own experience.

Source: created by the authors

Cooperation and communication—evaluation of the ability of students to work effectively in a team, distribute responsibilities, interact with partners, institutions, and the community, and present the results of the project clearly and comprehensively. It reflects students' social and communication skills.

Independence and responsibility – this criterion assesses the student's level of personal involvement at all stages of the project, from planning through implementation to analysis of results. It reflects the ability of high school students to make decisions, show initiative, meet deadlines, fulfill their commitments, and take responsibility for the quality of their work without constant external control.

The criterion of "practical orientation, possibility of implementation in the community/educational institution" is one of the main criteria in assessing the environmental project activities of students, as it reflects not only theoretical knowledge but also the ability to apply it in practice to solve real environmental problems. It focuses on the extent to which the project can be implemented and bring tangible benefits to the environment, community, and/or educational institution.

Presentation of results – this criterion assesses the clarity, logic, and visual appeal of the presentation of project results. It takes into account the structure of the materials, the presence and quality of illustrations, tables, diagrams, the correctness of the text layout, and compliance with requirements.

Project presentation and defense – this criterion assesses students' ability to clearly, logically, and convincingly present their project, convey the main idea, justify their chosen decisions, and answer questions. The level of preparedness, language proficiency, mastery of the

material, and the visual and emotional appeal of the presentation are taken into account. This criterion demonstrates communication skills, confidence, and a deep understanding of the topic.

The "reflection" criterion assesses the student's ability to consciously analyze their own activities in the project, i.e., to identify strengths and weaknesses, difficulties that arose, new knowledge and skills acquired, and draw conclusions for the future. It reflects the level of critical thinking, self-awareness, and readiness for personal growth through project activities.

Based on the above criteria, the qualitative characteristics of the levels of assessment for environmental project activities have been determined.

A high level in the assessment of students' environmental project activities is an indicator of a deep understanding of all aspects of the project and a high level of work quality. Students who have this level demonstrate initiative, creativity, independence, and responsibility.

A sufficient level indicates a thorough understanding of the basic requirements for environmental project activities. Students at this level successfully complete most tasks but may need minor adjustments or further improvement in some aspects.

An average level indicates partial fulfillment of the requirements for environmental project activities. Students at this level need significant support and guidance, as they demonstrate gaps in knowledge, skills, or responsibility.

A low level indicates a lack of or minimal compliance with environmental design requirements. Students at this level need significant assistance and do not demonstrate an understanding of or a desire to perform the assigned tasks.

Each level contains clear indicators that help students understand what they need to improve to reach the next level and outline ways for further improvement. This makes the assessment process not only a control tool but also a development tool that motivates students to improve their environmental project activities continually.

The proposed system of criteria, developed with modern pedagogical approaches and the specifics of project work in mind, allows for an objective assessment of various aspects of senior students' activities at all stages of implementation.

An indicative protocol for assessing the environmental project activities of senior high school students has been developed, which includes assessment criteria, maximum points, assessment, and assessment justification (Table 3). The developed protocol defines 12 criteria, each with a maximum number of points. This allows for differentiation of the importance of various aspects of the project. The total maximum number of points for all criteria forms the overall maximum score of 100 points.

An essential component of the guided protocol is the justification of the assessment. This is a detailed comment or explanation of why a particular grade was given for each criterion. The

comment should be constructive and include positive and negative aspects, as well as opportunities for improvement. Detailed justification helps students understand their mistakes and areas for improvement, and develops their research and project skills.

The main advantages of the developed protocol are objectivity, transparency, stimulation of development, uniformity of requirements, and feedback. This protocol provides a unified, universal approach to assessing environmental project activities across different teachers.

Table 3

Indicative protocol for assessing the environmental project activities of senior high school students

Project name _____

Student/team _____

Project manager_____

Date of assessment_____

№	Evaluation criterion	Max. score	Score, in points	Justification of score
1.	Relevance and originality of the idea (social and environmental significance)	10		
2.	Clarity of the project's goals and objectives	5		
3.	Activity planning (phasing, resources, etc.)	10		
4.	Depth of research and analysis, use of scientific methods	10		
5.	Quality of the practical component of the project	15		
6.	Creativity and innovation of approaches	10		
7.	Cooperation and communication	10		
8.	Independence and responsibility	10		
9.	Practical focus, possibility of implementation in the community/educational institution	10		
10.	Presentation of results (content, visual presentation, literacy)	5		
11.	Presentation and defense of the project	10		
12.	Reflection	5		
Total		100		

Source: created by the authors

The indicative protocol for assessing the environmental project activities of senior high school students is a structured tool designed for objective and comprehensive assessment of students' projects in the field of ecology. It helps not only to give a grade, but also to provide students with feedback on their work.

The 12-point grading system is the official and generally accepted grading system in general secondary education institutions in Ukraine. This ensures a uniform approach to the assessment of

all types of educational activities, including environmental projects. Therefore, a scale for assessing project compliance with the 12-point system was developed (Table 4).

Table 4

Compliance of the project evaluation with the 12-point system

№	Level	100-point system	12-point system
1.	High	76-100	10-12
2.	Sufficient	51-75	7-9
3.	Average	26-50	4-6
4.	Low	1-25	1-3

Source: created by the authors

Converting project grades to a 12-point scale enables seamless integration of project results into the overall system for assessing the performance of senior high school students.

Aligning project assessment with a 12-point scale is a logical and necessary step toward integrating project results into the educational process. It ensures standardization, transparency, accuracy of differentiation, and practical convenience, which are essential for the effective functioning of the educational system.

One practical tool for assessing students participating in environmental project activities is a workbook. It can be adapted to any project.

The eco-project participant’s workbook should contain the following components: title page and general information, responsibilities, project work plan (brief plan: stages, completion date, activities), research/observation results (description of research results, table, graphs, etc.), analysis of results and conclusions, personal contribution, educational activities as necessary, evaluation of project results.

The workbook is evaluated on a 12-point scale according to the following criteria:

● identification of the project and its participants (title page and general information);

● responsibility for project implementation, personal responsibilities, adherence to project deadlines;

● ability to plan project activities;

● level of research competence;

● ability to summarize, analyze, and evaluate research results;

● ability to apply knowledge in practice;

● ability to present research results;

● ability to self-analyze, self-assess, and reflect on the learning experience (formative assessment is used).

Student assessment can be carried out at all stages of environmental project activities. This allows you to record the final result, track progress, provide timely feedback, and correct students'

actions throughout the project. This approach makes assessment formative, i.e., aimed at learning and development, rather than merely stating facts. At the motivational and goal-setting stage, the originality and relevance of the chosen topic, the clarity and validity of the problem statement, the correctness of the formulation of the project's goals and objectives, and the identification of personal interest and motivation are assessed. During the organizational and planning stage, the logicality and feasibility of the plan, the choice and justification of research methods, the need for resources, and the effectiveness of the distribution of responsibilities within the group are assessed.

During the project-practical stage of environmental project activities, compliance with the developed plan, the quality and reliability of the collected data or the work performed, skills in working with equipment, the level of independence and responsibility, cooperation and interaction skills, and teamwork effectiveness are assessed. During the implementation and results stage, the completeness and depth of the analysis of the results obtained, the logic and validity of the conclusions, the practical significance of the project and the implementation of recommendations or the created product in the community/educational institution, and the level of achievement of the set goal are assessed.

The quality of the project design, its content and structure, the ability to argue one's position, and the ability to self-reflect and self-evaluate are assessed during the analytical and summarizing stage of the environmental project activity.

Discussion. Theoretical and practical approaches to assessing students' academic achievements are outlined in the scientific works of O. Shcherbak, N. Sofiy, and V. Bobovich [15]. Formative, objective, subjective, and other types of assessment are characterized, and their criteria and features of involving students in the assessment process are presented.

The studies by A. Gryvko and L. Vashchenko [9] emphasize the importance of combining different types of assessment in basic and senior specialized schools, in particular, current and formative assessment. The process of formative assessment using web tools is outlined in the scientific research of O. Babkov, S. Polyuga, and K. Stadnichenko [5]. Self-assessment plays an essential role in student assessment, so it is necessary to develop mechanisms that enable students to self-assess their academic achievements during environmental project activities, whether in person or online. The studies by N. Morze, O. Barna, V. Vember, and A. Predik [12; 13] highlight the importance of formative assessment for tracking students' competency development during their studies and the purpose of the assessment process in the context of a competency-based approach.

Researchers I. Kalinina and I. Marchuk [10; 11] emphasize that formative assessment is an effective means of tracking students' personal development and learning experience. They note that the modern educational trend is to combine traditional and formative assessment, achieving a balance between them in the context of activity-based learning.

Research by R.L.F. Silva, N.P. Ghilardi-Lopes, S.G. Raimundo, and S. Ursi [4] show that when assessing environmental education activities, it is necessary to consider the planning stage, data collection and analysis methods, and the project implementation process. Assessment not only allows the identification of the student's level of development but also enables the teacher to rethink their pedagogical activity. In the scientific work of Chacon-Pereira, A., Neffa, E., & da Silva, L. P. [1], a system for evaluating environmental education programs and projects in the field of water resources has been developed. This system uses a qualitative and quantitative approach to assess the interdisciplinarity, participation, communication, and self-assessment of environmental education programs and projects, thereby further improving the quality and effectiveness of programs in the field of water resources.

Authors M.K. Harder, I. Velasco, G. Burford, D. Podger, S. Janoušková, G. Piggot, E. Hoover [13] note that it is necessary to create a new value-based assessment system. They have developed a practical and logically consistent system that performs a step-by-step assessment of environmental programs.

The authors Schlickmann A., Bortoluzzi S.C. [3] also believe that in order to assess the effectiveness of environmental education, it is necessary to implement an assessment model that will not only evaluate the current state and results of learning, but also identify the actions required for its management.

A team of authors, Tolochko S. and Bordyug N., researchers at the Laboratory of Extracurricular Education of the Institute of Education Problems of the National Academy of Pedagogical Sciences of Ukraine, developed criteria and levels of students' environmental competence [6; 14]. In addition, scientific work [8] presents an algorithm for integrating environmental project activities into the educational process, and scientific work [7] describes the diagnostic tools used to assess students' readiness to carry out environmental project activities. This toolkit will help not only determine students' basic level, but also plan effective educational activities.

Conclusions. Therefore, effective assessment of students' environmental project activities should be systematic, transparent, motivating, and development-oriented. It should be integrated into the overall assessment system and take into account the specifics of each stage of project work, providing students not only with a grade but also with a tool for self-improvement and further achievement in environmental protection and research.

The created assessment system combines different approaches and ensures an objective, systematic, and transparent determination of students' environmental competence. The assessment criteria cover students' theoretical component and practical activities, as well as their ability to cooperate, be independent, reflect, and actively participate. This system is an essential factor in improving the quality of project activities and contributes to the formation of an environmentally responsible personality.

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СИСТЕМА ОЦІНЮВАННЯ ЕКОЛОГО-ПРОЄКТНОЇ ДІЯЛЬНОСТІ ЗДОБУВАЧІВ ОСВІТИ

Анотація. *У статті створено та охарактеризовано систему оцінювання еколого-проєктної діяльності здобувачів освіти, здійснено її аналіз за етапами впровадження проєктів екологічного напряму в освітній процес. Мета полягає у створенні системи оцінювання еколого-проєктної діяльності здобувачів освіти. Завданнями дослідження визначено: охарактеризувати основні види та визначити принципи оцінювання; створити та обґрунтувати систему оцінювання еколого-проєктної діяльності; розробити протокол оцінювання еколого-проєктної діяльності та визначити оцінювання кожного критерію за бальною системою; проаналізувати систему оцінювання*

здобувачів освіти за етапами впровадження еколого-проєктної діяльності. Для досягнення поставленої мети й визначених завдань були застосовані такі методи: порівняльно-аналітичний; системний; узагальнення, систематизація та конкретизація. Розглянуто сучасні підходи до оцінювання, які трансформуються від контролюючої до мотиваційно-розвивальної функції. Виокремлено та охарактеризовано основні види оцінювання: традиційне, формувальне, сумативне, критеріальне та компетентнісне. Визначено принципи оцінювання, а саме комплексності, об'єктивності й неупередженості, прозорості й відкритості, системності, індивідуалізації, рефлексивності та варіативності. Охарактеризовано критерії оцінювання еколого-проєктної діяльності за високим, достатнім, середнім та низьким рівнями. Розроблено протокол оцінювання, у якому визначено кількісну оцінку за кожним критерієм, що дозволяє диференціювати важливість різних аспектів проєкту. Визначено основні переваги розробленого протоколу, а саме об'єктивність, прозорість, стимулювання розвитку, єдність вимог, зворотній зв'язок. Запропонована система оцінювання сприяє не лише об'єктивній оцінці результатів діяльності здобувачів освіти, але й розвитку дослідницької, аналітичної та рефлексивної навичок у них, що є особливо важливим у контексті освіти для сталого розвитку.

Ключові слова: *система оцінювання, екологічні проєкти, екологічна компетентність, здобувачі освіти, проєктно-дослідницька діяльність.*

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