International Journal of Advance Scientific Research
(ISSN – 2750-1396)
VOLUME 03 ISSUE 07 Pages: 107-111
SJIF IMPACT FACTOR (2021: 5.478) (2022: 5.636) (2023: 6.741)
OCLC – 1368736135

Journal Website: http://sciencebring.com/index.php/ijasr

Research Article

CHARACTERISTICS OF STUDENT'S CREATIVE SKILLS IN TEACHING BIOLOGY IN INTERDISCIPLINARY HORIZONTAL-VERTICAL CONNECTION

Submission Date: July 20, 2023, **Accepted Date:** July 25, 2023,
Published Date: July 30, 2023
Crossref doi: https://doi.org/10.37547/ijasr-03-07-19

Mahmudov Yusup Ganievich
Termiz State University, Uzbekistan

Jumaeva Zukhra Javlievna
T.N. Researcher Of The Scientific Research Institute Of Pedagogical Sciences Of Uzbekistan Named After Qori-Niyazi, Tashkent City (Uzbekistan)

ABSTRACT

In this article, the content of the characteristics of the student's creative ability in the interdisciplinary horizontal-vertical teaching of biology is described mainly in terms of psychological, pedagogical, didactic requirements, criteria and principles.

KEYWORDS

Creative, interest, knowledge, skill, skill, competence, intelligence, evaluation, criterion, analysis, synthesis, activity, situation, aspiration, success, result, effect, description, praise, ability, process, intellectual.

INTRODUCTION

Based on summarizing the materials given in the literature on psychology, pedagogy, didactics, personal observations and experiences, a brief description of the individual components of the creative ability of the student (high school student) is given below:

1. Direction of student's creative activity in interdisciplinary teaching of biology.

International Journal of Advance Scientific Research
(ISSN – 2750-1396)
VOLUME 03 ISSUE 07 Pages: 107-111
SJIF IMPACT FACTOR (2021: 5.478) (2022: 5.636) (2023: 6.741)
OCLC – 1368736135

ISSN-2750-1396

Curiosity, creative interest expresses the student's demand for knowledge, eagerness to master new types of activity. The ability to work intellectually, that is, is manifested in the desire to thoroughly and deeply understand the questions that are being observed or analyzed and newly asked questions. The evaluation criterion is the number of questions asked over time and the level of striving to understand them, to understand the content of the question.

The feeling of curiosity, emotional upliftment, innovation, joy, discovery express the typical emotional state of the student's creative activity. The criterion for evaluation is the appearance and level of said qualities.

The pursuit of creative results is expressed in the desire and desire of the student to perform an interdisciplinary creative assignment from biology clearly and at an excellent level. The student strives to achieve new successes in every situation. In other words, this aspiration does not stop with the achieved result, but it is necessary to strive further, to strive for a better result.

The desire to be a leader in creative activities is manifested in the desire and initiative of the student to fulfill the leadership role. Subduing other students, sharing tasks, mutual support, etc.

The desire for leadership is especially evident in a creative situation with a plot-role. In this case, the success of the class is provided by the ability of the class leader to gather the potential of each participant to achieve a common goal. It is possible to evaluate, it is the meeting and level of this quality. Striving for high grades, success in creative activities is expressed by the importance of evaluating the result for the student.

Assessment is based on the student's sensitivity to failure, response to encouragement, and the impact of grades and praise on their performance.

The sense of responsibility and duty in the performance of an interdisciplinary creative content assignment from biology is expressed by the extent to which the student's interest can be resolved, and at the same time, how the interest of the students of the class prevails over the student's personal interest. The student's sense of responsibility in front of the class and the subordination of personal interest to social interests are considered to be the criteria for evaluation .

In each field, creative activity is expressed by the importance of personal value - valuable direction, its establishment, the direction of the student and the place of creative activity in the value system. It is evaluated by the student's position in the direction of the value system in specific creative activity. It is aimed at the goal of cultivating creative abilities in the student. Based on self-directed activities, the student's creative abilities are expressed through personal instruction and inner desires aimed at changing the development.

This quality is evaluated by the existence of a plan to organize and educate the student's creative ability, his behavior and the level of his desire to implement it. Ability to analyze, compare, analyze the student's intellectual-logical, heuristic and communicative skills in the interdisciplinary experience of biology, divide the studied object

International Journal of Advance Scientific Research
(ISSN – 2750-1396)
VOLUME 03 ISSUE 07 Pages: 107-111
SJIF IMPACT FACTOR (2021: 5.478) (2022: 5.636) (2023: 6.741)
OCLC – 1368736135

into parts, find similarities and differences in processes and events; it is expressed by the student's intellectual-logical ability to distinguish separate, similar, necessary and general signs of the objects of the phenomenon studied in the process of creative activity. Analysis and comparison will be judged by its accuracy, completeness, depth and thoroughness.

The ability to separate the main ones and exclude the secondary ones is a complex process, it is the ability to understand the main and secondary aspects of the phenomenon; intellectual-logical thinking ; the ability to see the main factors and the process of development of the phenomenon in the determination of cause-and-effect relations, and to distinguish their secondary and less important ones is expressed by distinguishing the most important and the main one from complex imaginary information. In this case, the depth of thinking and conclusion is determined by its correctness and logic.

The ability to describe processes is expressed by the intellectual ability to convey one's own thoughts in a logical way, to correctly and impartially describe an event or process . And it is assessed according to the completeness, depth and logic of the student's ability.

The ability to give a description is expressed by the development of practical thinking about the difference between various designations and appearance of an object, phenomenon, by giving a correct description that is short, clear and logically concluded by means of generalized considerations. Evaluated for accuracy, completeness, and accuracy.

The ability to explain is expressed by the intellectual logical ability of the student to clearly state his opinion, the content of the question and experience, the method of its solution, showing its basicity and importance. It is determined by its simplicity, completeness, reasonableness.

The ability to prove and justify is an intellectual-logical ability of the student, which consists of the order of complex considerations and conclusions, and to determine the connection between the known and the unknown, based on the initial situation, thinks reasonably, comes to a conclusion, and confirms his point of view with confidence. The processes of proving and justifying this are evaluated according to its rationality.

Systematization - it is understood to organize established events and processes, to define a sequence, to divide objects into groups based on their common characteristics. Classification means dividing the processes into some type according to the important signs characteristic of this type of processes, different from others. At the same time, each type of content has a constant and clear place in the system. Simplicity and logic are evaluated depending on the order of the student's thinking.

The student's intellectual-heuristic ability to sort out ideas, advance scientific hypotheses, and predict and advance the interdisciplinary teaching of biology in the conditions of limited information technology is expressed by the

International Journal of Advance Scientific Research
(ISSN – 2750-1396)
VOLUME 03 ISSUE 07 Pages: 107-111
SJIF IMPACT FACTOR (2021: 5.478) (2022: 5.636) (2023: 6.741)
OCLC – 1368736135

student's intellectual-heuristic quality. Evaluation criteria: the number of ideas and hypotheses offered by the student in a certain period of time, their novelty, effectiveness for carrying out the experiment.

The creative-imaginative ability is the most vividly expressed form of creative imagination, which is always characteristic of it, but when it increases, it creates not new, but incredible paradoxical images and concepts. The originality and novelty of a bright image is evaluated by experimenting.

Associativity of thinking is expressed by the ability to imagine new connections between the components of the interdisciplinary teaching of biology to students, to reflect, especially to identify known and unknown facts and contradictions in terms of similarity. This ability increases the effectiveness of interdisciplinary teaching of biology. Evaluation indicators (indicators) are as follows: the number of associations at the same time, their novelty, interdisciplinary experience from biology or efficiency of laboratory work.

The ability to see contradictions expresses the student's intellectual-heuristic ability. Dialectical contradictions, trends of phenomena are expressed by the ability to put interdisciplinary experience from biology based on the analysis of all situations in its unity, mutual understanding and development. The number of contradictions revealed by the development of this ability is expressed over time, and given interdisciplinary experiences are evaluated according to their increased novelty.

The ability to transfer knowledge and skills to a new situation shows that the acquired thinking and cognitive skills in the interdisciplinary teaching of biology change them, taking into account the uniqueness of performing a new interdisciplinary experience in accordance with another educational subject. The breadth of transfer of the development of these abilities (within and interdisciplinary transfer), the level of efficiency of knowledge transfer, and the skill of performing interdisciplinary experiments are evaluated.

of fixed ideas , to overcome the inertia of thinking, is defined by the ability to quickly move from the generally accepted, seemingly correct method of interdisciplinary teaching to a new, more productive method. The development of this ability is determined by the speed of transition to finding a new method of interdisciplinary teaching of biology, the way of thinking in the analysis of the contradictions that arise, in search of a more original approach .

The strength of opinions is expressed by the student not following the generally accepted points of view scholastically, but having his own point of view, independent from the instructions and opinions of other students.

Criticality of thinking is characterized by the ability to judge and evaluate the results of one's own and other students' creative activities, to evaluate oneself, to use reliable, impartial instructions in one's judgments. Critical thinking

International Journal of Advance Scientific Research
(ISSN – 2750-1396)
VOLUME 03 ISSUE 07 Pages: 107-111
SJIF IMPACT FACTOR (2021: 5.478) (2022: 5.636) (2023: 6.741)
OCLC – 1368736135

is manifested in the ability to find the reasons for one's mistakes and failures. Evaluations are evaluated by the objectivity of judgments, the reliability of indicators, and the effectiveness of determining the cause of one's errors and failures.

to the success of creative activity are expressed by the student's deep understanding of the social significance of his creative activity in the scientific-technical and social development of the society and his ability to prove and justify the importance of the social effect of the student.

Assessment is determined by the level of credibility, evidence and awareness of judgments about the social and personal importance of a certain type of creative activity .

Resistance to wrong ideas and the ability to defend one's creative positions is expressed by the student's ability to demonstrate an active life path, to be able to reliably and reasonably defend his point of view in controversial situations in creative activity. The student's ability to resist wrong ideas is evaluated by the levels of reasonableness and reliability of judgments.

REFERENCES

1. Babansky Yu.K. Intensification process training. - M.: Znanie, 1987. -78 p.
2. Batishev G.S. Vvedenie v dialektiku tvorchestva. - M., 1997. -287 p.
3. Zagvezinsky V.I. Uchitel kak issledovatel. - M.: Znanie, 1990. -96 p.
4. Logic and problem learning. -M.: Pedagogy, 1997. -214 p.
5. Rubinstein S.L. O myshlenii v putyakh ego issledovaniya. - M., 1999. -181 p.