

The Importance Of Design Educational Technologies In The Continuing Professional Development Of Biology Teachers

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Abstract: This article analyzes the role and significance of project-based learning technologies in the continuous professional development of biology teachers. It highlights how project-based methods enhance teachers' creative thinking, problem-solving, innovation, and research skills. Furthermore, the article substantiates the effectiveness of project-based learning in improving teachers' professional reflection and competencies in the field of biology education.

Keywords: Project-based learning, biology education, professional development, innovative pedagogy, reflection, competence.

Introduction: Modern education in the system teacher's professional skill continuous develop the most important from factors is one of them. Uzbekistan " Education " of the Republic "about" Law and " Continuous " education system improvement concept of " teachers " innovative technologies to master provide important task as is defined. So from technologies one — project - based education technology It is the teacher 's professional reflection, research activity and independent study skills to develop service does.

Design technology is students or teachers by certain problem practical road with solution to reach aimed, planned and step by step executable activity This technology is called " learning " through to the principle of " creation " is based on.

Biology science teachers for project technology interdisciplinary approach formation, ecological culture improvement, scientific analysis skills reinforcement opportunity gives.

Design technologies own to the activity implementation reached biology teacher:

- study process in real life with connects;
- research methods learns and uses;
- students with in cooperation study environment creates;
- his/ her own methodical portfolio updated

goes;

- professional reflection and oneself assessment skills develops.

For example, " Local ecosystems " Learning " or " Waste Management " biological like " disintegration " projects to the teacher own science according to new knowledge independent search, modern laboratory methods study and to students research skills to absorb opportunity gives.

Project based on work in the process teacher following stages pressing passes:

1. Problem determine – study in the process current issue mark.
2. Information search – scientific sources learning, innovation approaches analysis to do
3. Project working exit and done improvement – teacher 's researcher as activity to conduct provides.
4. The result analysis to do – oneself activity evaluation, reflection to continue, next to activity offers working exit

This process the teacher passive knowledge from the recipient active researcher and to the innovator As a result, it not only of the students, maybe his own profession growth provides.

Design technology main essence known one problematic situation to the body to bring through students their interests increase, design activity to

form, their relevant knowledge acquisitions, interdisciplinary links done increase is considered.

Design technology main idea: " Understood " knowledge, skills to me what for necessity and from it where and where in a way use I know. This idea students' science fundamentals conscious their acquisitions, their lives adaptations and intended correct to receive help gives.

Biology in teaching teacher design from technology students interest and abilities into account received without not only in class study problems solution in the making, maybe from class and from class outside creative in work too problems solution in the process of use necessary.

Design from technology use students individually and differential approach opportunity gives. Each project to oneself typical to the feature has it will be, that's it because of they known to the signs according to as follows classified as:

In the project in sight caught of activity to the advantage according to:

- research in character projects;
- creative in character projects;
- role-playing projects;
- practical in character projects;
- search and destination to take intended projects.

Projects subject and to the content according to:

- a field of science cover received projects;
- interdisciplinary requiring research projects.

Projects to the character according to:

- clear result to take intended projects;
- many directional result to take intended projects.

In the project participation enough participants to the number according to:

- single in order projects;
- two to the student intended projects;
- students small in groups to work intended projects.

Project to the extent according to:

- one class to their students intended projects;
- school to their students intended projects;
- city on a scale solution to be intended projects;
- country on a scale solution to be intended projects;
- world on a scale solution to be intended

projects.

Project for the period according to:

- short term;
- long to deadlines is separated.

Research in character of projects structure very good worked on, including in the project participation enough participants for research subject, relevance, social importance, used methods, research and experiments transfer, results formalize methods clear to be This is necessary. project logically completely research to the problems approached and his/her to the solution suitable and subordinate to be The project needs this type research of the topic relevance , research of the problem subject and object , tasks consistent and step by step to identify , problems solution to grow according to hypotheses previously push it solution of reaching research transfer and experiments to do their ways working output , received result and conclusions discussion to do , to formalize , to research continue to hold for new problems to be determined Biology teacher this in the category from projects in class and from class outside of training some students with take to go in training use possible . Biology teachers for following project works sample as being brought:

For group 1 project work:

" Frogs number decrease problem "

- In the area frogs number to decrease what reason to be possible?

- This problem solution to do for how project to compose possible?

Question for group 2:

" Plants " in pollination of bees importance "

- Bees decrease in the area plant to the types how impact does it?

- Bees number increase or them protection to do for how project organization you do possible?

Question for group 3:

In the rivers " pollution and fish to the population " effect "

- Pollution because of fish number decreased in the area how the project done increase possible?

- Pollution reduce for in society how measures see need?

Problem for group 4:

" Local in the gardens of birds disappeared " go "

- Birds population to decrease reason happening factors study.

- In the gardens birds number increase for how

project done your increase possible?

Problem for group 5:

" Plants " new types create "

- In your area climate to the conditions suitable was plants how selectively to take possible?
- New plant types cultivation according to how project you can fix possible?

Problem for group 6:

" The forests cutting and biological diversity "

- Of the forests cutting in the area biological to diversity how impact does it?
- The forests restoration and storage for how project organization to do possible?

Design education technologies biology to science implementation to grow teacher 's continuous professional development supportive effective It is a mechanism. It is a teacher. own activity analysis to do, in a new way pedagogical approaches mastery, interdisciplinary integration done increase and education quality and students motivation increase opportunity gives. So, the project based on work biology The teacher of the 21st century competencies capable, creative and reflexive expert as shapes.

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