



## THE ROLE OF MODERN BIOLOGY CLASSROOMS IN SECONDARY SCHOOLS IN INCREASING THE EFFECTIVENESS OF LESSONS

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<b>Received:</b> September 6 <sup>th</sup> 2021 <b>Accepted:</b> October 4 <sup>th</sup> 2021 <b>Published:</b> November 18 <sup>th</sup> 2021	The article provides recommendations for the creation of a modern biology room in order to increase the interest of students in biology in secondary schools, to develop their knowledge, skills and abilities.
<b>Keywords:</b> School biology room, aesthetic requirements, hygiene requirements, technical safety, natural remedies, visual aids, electronic board, computer.	

### INTRODUCTION

The process of acquiring knowledge, skills and abilities of students on the basis of the biology curriculum, ie the main part of the educational activity of students depends on the biology classroom and its level of equipment. The school biology room is a department of the school equipped with special teaching equipment, which has a positive effect on the organization, management and activation of student learning activities in biology lessons, extracurricular activities, extracurricular activities.

The biology classroom is a specially equipped room designed to organize the biology teaching process. The biology classroom also has a specific history. The original science classrooms were similar to a museum that housed plant herbariums and animal chuchelas in glass cabinets. The biology classroom is enriched with auxiliary equipment needed for laboratory and practical training.

From the 50s and 60s of the last century, schools were established to teach all subjects, including biology. The Decree of the President of the Republic of Uzbekistan "On measures to develop a program for the development of school education in 2004-2008" states the need to provide schools with teaching and laboratory equipment, computers, textbooks and teaching materials.

By strengthening the material and technical base of secondary schools, it is necessary to organize a biology room in accordance with modern requirements to provide students with practical assistance in the formation of knowledge, skills and competencies in accordance with the requirements of the State Education Standard. For the biology room, it makes sense to choose the last room near the hallway. Because in these places it is possible to organize nature museums, exhibitions.

The biology room should consist of 2 rooms: a classroom, 2 laboratories and a living room. It is the responsibility of the biology teacher to equip the biology room at the required level. The biology room is aimed

at the following main tasks: to provide the necessary equipment for the organization of the educational process in order to increase the effectiveness of education; use of technical means of teaching in lessons and other forms of educational process; use of computer control programs to identify, monitor and evaluate students' knowledge; it is necessary to provide the necessary equipment for conducting classroom and extracurricular activities in biology. The classroom should be on average around 70 m<sup>2</sup>.

The laboratory room should be 35-40m<sup>2</sup>. The biology classroom is equipped with the necessary furniture and special equipment: electronic board, teacher's desk and chair, demonstration table, desks and chairs for students, separate cabinets for storage of drugs and models, ethics and aesthetic requirements of the subject should be taken into account when decorating the biology classroom. It would be expedient to put in the room the history of the evolutionary development of flora and fauna, portraits of prominent biologists.

All the equipment of the biology room should be adapted to conduct experiments, practical work and observations during the lesson, timely presentation of tables, video slides, distribution and collection of materials and tools in practical work. This in turn allows you to store learning tools in a specific system, quickly finding and preparing them for use in the classroom. All this fosters in students a culture of organizing educational work.

The laboratory room is an integral part of the biology room. It basically contains educational and exhibition weapons, tools, utensils, that is, all the manuals needed to organize the learning process. Audio and video cassettes, video discs, didactic materials, instructions for conducting laboratory and practical classes, as well as instructions are all included in the system of bibliographic card indexes on a particular topic. In addition, the necessary materials for experiments are prepared on the table in the laboratory room, exhibitions are repaired.



There will be a tap water tap on the table. It is used for washing dishes. The biology classroom, in addition to the laboratory room, should have a living nature corner. The Wildlife Corner is useful not only for keeping live plants and animals, experimenting with them, and demonstrating them in class, but also for doing extracurricular and extracurricular activities.

A living nature corner can be arranged in the foyer near the biology room as much as possible. When arranging a special place, it is necessary to take into account that the storage and placement of living organisms meet biological requirements. A passport is placed in front of each plant and animal that is stored. It provides an opportunity to get acquainted, as well as make observations by measuring and recording data on experimental and control objects, and the Living Nature Corner fosters in students a work culture on plant and animal care: Socio-organizational skills and a caring attitude to social-school property help to build a sense of conservation and reproduction through the care of plants and animals. The effectiveness of biological education in secondary schools depends on the organization of the educational process in the classroom, extracurricular and extracurricular activities, excursions at the required level. The organization of these classes at the required level depends, first of all, on the full equipment of the biology classroom, laboratory, wildlife corners.

Sunlight should shine through the windows of the biology classroom, as the colorful room flowers grown and decorated in the room increase students' interest in nature. The room should be decorated with themed visuals. Equipping the biology room and taking into account its enrichment throughout the year is one of the main tasks to ensure that it is always ready for use. Biology is a science that teaches mainly about living organisms.

Teaching biology in accordance with the requirements of the State Education Standard requires the creation of a material base that allows to conduct classes on living organisms on the basis of the use of visual and practical methods. The biology room consists of 2 rooms: a room for lessons, a room for laboratory work, a room for "living nature", where the necessary equipment, tools, objects, tables are stored.

Training and laboratory rooms are organized in special rooms equipped with the necessary equipment. When the classroom is equipped, it should fully cover the content of the subject. There is a board in front of the cabinet, a TV set on the right side and a computer on the left side. On the left side of the board should be placed a plant or animal cell stand or model,

on the right side of the evolution of the organic world, on the side of the mirror should be placed cabinets, on the back side cabinets on biology departments and on these cabinets equipment belonging to each department.

At the top of the cabinet are scientists who have made a significant contribution to the science of biology, including EP Karovin, IA Raykova, TZ Zohidov, AA Muzaffarov, YH Turakulov, BO Tashmammedov, J.A. Portraits of Musaev, A.Abdullaev and others will be exhibited. Science room equipment should be placed in a separate system that meets the requirements of each biological science separately.

The equipment for the experiment must be at the level of the latest scientific and technical achievements, meet the requirements of technical aesthetics, safety, occupational hygiene. Therefore, there are general requirements for the use of training equipment in training and laboratory rooms.

### **1. Pedagogical requirements:**

Classrooms and laboratories, their equipment and tools are designed to illuminate the content of the subject, help students to fully understand the structure of objects, help to remember and apply knowledge, implement the principle of demonstration in biological education, as well as the use of advanced pedagogical and information techniques. In order to thoroughly master the basics, they must structure their teaching and practical skills, prepare them for independent living and help them to choose a profession.

### **2. Safety and hygiene requirements for the biology room:**

All training equipment in the room must meet the requirements of technical means of education and occupational hygiene and safety. The study room should have reminders (notes) on the rules of use and storage of technical means (tools). Full compliance with safety and hygiene requirements is a reliable guarantee of prevention of accidents and various diseases.

### **3. Aesthetic requirements:**

Every piece of equipment placed in the room, as well as their elements and general appearance, must meet the laws of beauty, nurture the artistic taste of students, create a sense of satisfaction in both the student and the teacher.

### **Exhibition sources in the room:**

Optical instruments - more optical instruments, i.e. microscopes and magnifiers, are used in biology classes. They are used to study the anatomical-morphological as well as the structure of microorganisms of animals and plants that are invisible to our eyes.



The visual aids used in biology lessons are divided into natural and visual weapons. Naturally prepared weapons include: From Biology - herbariums, herbarium tables and handouts prepared from the dried plant and its organs for practical work;

from zoology - collections of insects and fixed species of invertebrates, wet preparations showing the development of animals, tulup (chuchela) and skeletons of various systematic groups of vertebrates, handouts - parts of animals, fish bones, coins, bird feathers, etc .; human anatomy, physiology and hygiene - human skeleton, some bones include micropreparations and others.

Visual aids: charts and pictures for each course; human body and model and individual organ systems, which are divided into parts for the course of human anatomy, physiology and hygiene; monkey skull and brain models for the general biology course include slides and micropreparations. Tables - Particular attention should be paid to the storage of study tables.

It is convenient to store the tables hanging on the wire hooks in the cabinet. All equipment of the biology room should be adapted to conduct experiments during the lesson, practical work observations, timely presentation of tables, videos, slides, distribution and collection of materials and tools in practical work. Keeping learning tools in a specific system allows you to quickly find and prepare them for use in the classroom. Proper and beautiful placement of all items in the biology room helps to cultivate aesthetic feelings in students.

## CONCLUSION

In short: This classroom carries out the process of teaching, educating and developing school students. The biology room should be sunny and equipped with natural flowers, birds of prey, fish in the aquarium, that is, a corner of living nature and beautiful landscapes depicting Mother Nature, creating a sense of love for nature while increasing students' interest in biology. Therefore, when equipped with the basic and auxiliary teaching aids necessary for the teaching process, the biology teacher will achieve the goal he or she has set for himself or herself.

Biology classroom is a place where the teacher carries out pedagogical activities. Equipping the biology room with an electronic board and computers and projectors will greatly help the teacher in explaining the topic and raising the level of knowledge of the students studying at the school. The teacher should collect additional literature needed for students' independent learning and organize exhibitions of

literature under the heading "Read is fun". Equipping the biology classroom in secondary schools in accordance with modern requirements will greatly help the teacher to teach students effectively and interestingly.

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