

How-To-Do-It

The "Everybody Wins" Biology Oral Assignment Lotteries

Louise Squitieri

Often it has been said that if you really want to find out if you know something, try teaching it to someone. Although the future career situations of biology students probably will not require them to teach a group of students formally, they will need to communicate orally their ideas in an effective way. To accomplish this, they must be able to organize, apply and demonstrate their knowledge and understanding.

There are some major topics within the study of anatomy and physiology (as there are in other biology courses) that require a student to learn many specific, separate items, concepts and principles within those major areas. In the anatomical study of the human skeletal system, a student must learn the names of bones, their locations, their specific markings and processes and articulations. An anatomical study of the human muscular system requires a student to learn the names of muscles, their locations, their origins and insertions and their functions. In studying the human cardiovascular system, the student must learn the names of arterial and venous blood vessels, locations of blood vessels and organs they service, and circulation of blood through the blood vessels. Where there are such areas of study within a course, there are many opportunities to practice organizing knowledge and presenting it orally.

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The anatomy and physiology oral assignment lottery has been devised to:

- use teaching by students to improve learning.
- provide a framework for organizing large numbers of facts, concepts and principles.
- integrate and practice the basic skill of oral communication within a content area.

An Oral Assignment Lottery (for the Human Cardiovascular System)

The lottery procedures:

The name of each member of the class is entered in the cardiovascular lottery by placing the name of each student in a "hat." The names of specific arteries and veins are placed in a separate "hat." One entry from each hat is drawn at the same time and each student will "win" a blood vessel in the lottery. This is done in front of the class to add a touch of fun and drama and to provide some element of fairness.

The oral assignment:

Each student is required to make a short oral presentation of two to three minutes to their lab group, which the instructor will join the day of the oral presentation. This provides an opportunity for the student to present the assignment or teach to a small group. The small group situation helps to eliminate a certain amount of stage fright. Class time isn't lost because other lab groups continue to work on what would normally be done with the lab at that time.

The oral presentation will deal with the blood vessel each student "won" in the lottery. It is pointed out that this is a technique students might use in private as they learn the other items within the major topics.

The organization of the oral assignment:

In the oral presentation the student will be required to:

- I. Introduce the blood vessel by:
 - A. *STATING*: the name of the blood vessel "won" in the lottery.
 - B. *DESCRIBING*: the location/position of the blood vessel using correct anatomical terminology.
 - C. *STATING*: what part of the body the blood vessel supplies (for an artery) or drains (for a vein).

- II. Present the main body of the assignment by describing or tracing the flow of blood through the specific blood vessel to the body part it supplies or from the body part it drains to and through the heart, and back to the blood vessel again using correct anatomical terminology. All of the following must be included in the description:

- the names of all blood vessels in the order the blood passes through them.
- the names of the chambers and valves of the heart in the order the blood passes through them.
- the relative amounts of O₂/CO₂ of blood in all blood vessels and heart chambers mentioned.

- III. Outline the presentation on cue cards and hand in the cue cards to the instructor before the presentation. The cue cards may be used by the instructor to see how well the student stayed to the outline.

Evaluating the oral assignment:

Whether such an assignment is graded and how much it counts in a student's grade should be at the discretion of the individual instructor.

Evaluation of the oral assignment is based on:

Content Related Items

this includes accuracy in:

- statements
- descriptions
- use of anatomical terminology

Form Related Items

this includes:

- accurate pronunciation of terms
- voice, pace, etc.

Cue Cards

this includes:

- organization
- how well organization is followed

When the cue cards are returned, the student also receives an evaluation card as shown in Figure 1.

The lottery might be used several times a semester with a different major content area. For example, there might be an oral assignment lottery for the human skeletal system. In this lottery the student "wins" a bone and in the oral presentation is asked to:

- state the name of the bone.
- describe the exact location of the bone using correct anatomical terminology.
- list required markings and processes of the bone.
- describe how this bone articulates with other bones and how each articulation is made.

ANATOMY/PHYSIOLOGY ORAL PRESENTATION EVALUATION CARD

NAME: _____

CONTENT RELATED ITEMS (statements, descriptions, use of terminology)

FORM RELATED ITEMS (pronunciation, voice, pace)

CUE CARDS/PRESENTATION (organization)

Figure 1.

In an oral assignment lottery for the human muscular system, the student "wins" a muscle and in the presentation is asked to:

- state the name of the muscle.
- describe the exact location of the muscle (origin, insertion) using correct anatomical terminology.
- state the action of the muscle.

There are many other main topics in anatomy and physiology, other biology courses and other science

courses to which the lottery format lends itself. Taxonomy, metabolic cycles and tissues are a few that come to mind. Repeating the lottery several times in a course is valuable because it provides additional opportunities for students to organize their knowledge, practice their organization, gauge the accuracy of their knowledge and improve their skills in oral communication, while they learn the content of anatomy and physiology.

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