Introduction

Learning human anatomy is an enormous challenge for medical, dental and health sciences students, mainly due to the vast volume of anatomical terms and the complexity of the subject.

Anatomy includes many sub-disciplines. It provides the basis for understanding normal structure and introduces students to the terminology of medical communication.

As it is principally taught in the early years, learning anatomy for the younger students who have just entered university can be a daunting task. Anatomy used to be perceived as a dry, boring, testing and even frightening subject, or simply a list of names.

Aims

- To provide a compelling and positive learning experience.
- Use multiple interactive approaches to serve the students’ varied learning styles.

Learning and Teaching Methods

We believe that there are as many learning styles as there are learners. Therefore we aim to use multiple approaches. Firstly to serve the varied learning styles. Secondly to approach the same topic from different angles.

We strongly believe that learning should be active and interactive, therefore we have always tried to actively involve students.

The brain learns by doing and touching more than by hearing or seeing. Learning by doing recruits and utilises multiple senses to reinforce learning.

The focus therefore is on:
- Learning by doing
- Interactive approaches

Three interactive approaches that employ learning by doing are described here.

1. The use of body painting for learning human anatomy

Surface anatomy is an essential tool for learning the position and relations of deeper structures. It helps students to develop a 3-D appreciation of the arrangement of deep structures and be able to “see through the skin”. By painting structures on the skin students learn the accurate position and dimensions of structures, and even learn how organs change their position during movement.

The skin is the first layer that medical practitioners see when examining a patient.

By painting organs and structures as they project on the skin students show their understanding and they apply their knowledge.

Knowledge of the position of muscles, tendons, vessels and nerves is essential for surgeons operating on the hand.

The heart and abdominal organs, a vivid example of learning by doing.

Students say they learn much better by painting and they are more confident about the outcome this way.

The use of colour-coded diagrams for learning human anatomy

Building up diagrams with colour-coding creates interactive lectures. Simple diagrams are made available on MyUni. Students bring a hard copy to the lecture. The lecturer completes their copy using a document camera and students do the same. This method creates excitement in the class room. Research has shown that by doing and explaining, the learner understands more.

Students say “very useful for understanding concepts and neural pathways”. At the same time, students produce their own learning resources.

The orbit before and after painting organs and structures as a true example of learning by doing.

By doing one can capture the attention and gain a better understanding of the position of muscles, tendons, vessels and nerves.

Are a true example of learning by doing

require participation

Break the barrier of complexity.

Knowledge

- Colour-coded diagrams created in interactive lectures:
  - Engage students
  - Capture their attention
  - Require participation
  - Are a true example of learning by doing
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Conclusion

Learning by doing and interactive approaches:
- Enhance the understanding of anatomy
- Acknowledge the varied styles of learning
- Create a compelling positive learning experience.

References


An electronic interactive brain. An accurate replica of the human brain with internal diode lighting system. 32 functional brain areas can be separately illuminated, is a vivid example of learning by doing.

Students say interactive models are very useful in peer discussion and in testing their knowledge.