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Contextualising Learning – Interactive Problem Solving

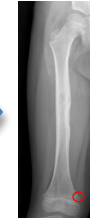
Using E-Learning And Blended Learning Principles In A Problem Based Learning Package To Contextualise Anatomy And Physiology

The computer-based interactive multimedia learning package proposed here utilises a constructivistic theoretical framework with a high-degree of novice to expert competency to guide the learners' cognition, using problem-based and interprofessional learning themes (PBL / IPL). Originally designed to present the subjects of anatomy and physiology, this tool would be of use to any tutor delivering subjects both within the classroom and in self-directed learning environments.

The initial section is about ensuring the student has a foundation of knowledge. It involves the student observing, for example, anatomical pictures or limited physiological animations; they then enter text in response to on-screen prompts to identify what they have just seen and immediately receive feedback to their responses. This low-level section can also be utilised as a revision tool for students struggling with higher sections.

Level 1 Activity

From the x-ray, identify the bone, whether it is left or right, and the highlighted area



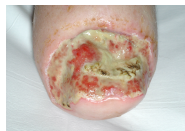
Click on the correct answers

- ☐ Humerus
- ☐ Tibia
- ☐ Femur
- ☐ Radius
- ☐ Left
- ☐ Right
- ☐ Outer tuberosity
- ☐ Inner tuberosity

The next, slightly more complex part introduces the PBL process and develops medium-level cognition, involving reflection on newly presented knowledge as well as adjusting current conceptions; this will involve providing opportunities for students to work alone with a scenario delivered through text, images, animation and/or video. The student will start with basic information and receive further content as they follow a directed sequence of questions. On completion they should be able to enter text for the required solution/responses; again, feedback will be immediate.

Level 2 Activity

Wound Care - identify the most appropriate dressing...



Student searches for further information, limited to content within the system – terms are listed as tags on the media

Patient History



Tags: History, Notes, Records

Quality of Life Indicators



Tags: Quality, Life, Indicators

Range of Dressings



Individual Tags: based on product name, type and materials

Identify the correct answers

Click a dressing from the first list

From the second list, choose why that dressing is the most appropriate

The final, more complex part of the process will move the students to higher-order cognition, where they rehearse new knowledge and relate it to alternative systems and scenarios, to synthesise ideas and test their understanding. To promote interaction, which stimulates new thinking, students work in pairs or small groups, either in the classroom, or by discussion boards (synchronous/asynchronous). Once the students have used the package within their own professional sphere, it is not inconceivable that scenarios could be presented to multi-professional student groups; this will provide the opportunity to consider the subject from an alternative professional perspective.

Level 3 Activity

Patient Diagnosis - identify the condition and propose the course of treatment

Patient History



Student searches for further information – within the system terms are listed as tags on the media – free searches are carried out using the Internet

Allocation of Pairs or Groups from multiple disciplines for IDL activities

Tutor reviews forum content and final response

Correct Answer Feedback provided

Incorrect Answer

Group Submit

Discussions With Tutor

Recorded for review

potential for use of



X-Rays



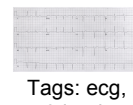
Tags: x-ray (+ body area)

Ask the patient questions



Tutor provides response

ECG



Tags: ecg, 3 lead, 12 lead

Laboratory Tests



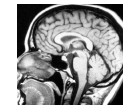
Tags: name of investigation

Quality of Life Indicators



Tags: Quality, Life, Indicators

Scans



Tags: scan type (+ body area)



Use of Internet Resources

Forums

Synchronous / Asynchronous

Students progressively generate their response

Feedback identifies areas to review