Kirkwood Community College
CASTLE
Case Analysis Questions
Health Skills I and II

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1. What are the important teaching/learning issues in this case?

Students have routinely learned the content of Health Skills I & II core course via a lecture based delivery and hands-on guided lab practice and testing. The current system finds a great percentage of the students going to lab first, and receiving the lecture content after lab. Although an attempt to synchronize the lecture material and lab has been made, it is impossible to get the synchronization perfected. Because of the inappropriate sequencing of some students, these students tend to arrive at the lab without the knowledge needed to help them understand the lab work and thus to develop the skills they need to be learning in the lab.

2. What teaching/learning strategies might be helpful?

a) A new internet-based PowerPoint delivery method has been developed that will help to deliver lecture content to students outside of the classroom at times that are convenient for the student. The goal is to ensure that all needed relevant lecture materials will have been provided to all students prior to each lab session. For example, the PowerPoint material provides definitions of medical terms, extensive graphics to demonstrate use of equipment, barriers against infectious diseases, and proper body mechanics and exercises. The expectation is that this will equip the student with the foundational knowledge needed to understand the lab assignments and master the skills, and hopefully reduce the amount of time students need to grasp the scope of the procedures they must learn.

b) To help students assess their understanding of the PowerPoint-based lecture material, "quizlets" have been developed using the Perception online testing software and then placed regularly throughout the PowerPoint material. It is recommended that the student score 100% on each quizlet before moving on to the next section of course content. A final Perception test will require an 80% minimum grade to establish eligibility to participate in the associated lab activities.

3. What learning theories might support or inform these teaching/learning strategies?

a) Anderson's (1983) ACT* model of cognitive skill acquisition distinguishes between declarative knowledge (knowledge of facts and concepts) and procedural knowledge (knowledge of skills and processes). Declarative knowledge typically needs to be learned

and mastered first, and then forms the foundation and the raw proposition-based material upon which procedural knowledge is built. This sequence is a crucial element in the development and refinement of all types of skills.

b) The importance of feedback is central to many cognitive-based theories of learning. Angelo and Cross (1993) recognize the opportunity for feedback—to both student and teacher—as one of the primary benefits of periodic classroom quizzes. In order for feedback to be effective, it needs to be specific and immediate. Allowing students to see their scored quizlets, particularly when they are then allowed to return to related materials from the PowerPoint "lecture" to determine the correct answer for each question they answered incorrectly, should help to optimize both the specificity and immediacy of feedback.

4. What questions or hypotheses does this case raise that might be further investigated in a classroom research project?

a) Does an option for self-learning via Intranet-delivered PowerPoint presentations of classroom lecture material work more effectively than regularly scheduled classroom lectures to prepare students for related lab sessions?

b) Does presenting students with periodic quizlets throughout PowerPoint presentations of classroom lecture material, along with the capability to receive immediate feedback regarding their performance and the opportunity to review and correct their errors in test performance improve students' performance in related lab sessions?

5. What classroom assessment data could be collected to test out these questions or hypotheses?

Performance in related lab sessions will be compared with the performance of students taught under the standard classroom-lecture format. Additionally, Perception will provide an analysis of the quality of questioning, the relevance of the questions to the competencies, as well as the final scores. We will also collect surveys from the students regarding the internet training, and informally interview the lab instructors for feedback on whether students who participated in the PowerPoint presentation methodology appeared to understand and master the skills taught in the lab sessions more readily than did students who learned the prerequisite course content via standard classroom lecture.

Conclusions

For the past ten years I have been involved with teaching health skills to health science students. The challenge has been great with many frustrations because the students frequently came to lab without any knowledge of the course content.

The face to face training frequently finds students in lab prior to lecture. Therefore, having no concept of the information associated with the skill they were learning. The

training was not synchronized, and therefore provided a lot of confusion for many of the students.

Because I am involved with so many of the labs, I decided that there had to be a better way. My goal was to provide students with the information prior to the lab, require a minimum score for the test over theory, and see if the lab skills would come easier and make sense.

I accomplished this by taking the face to face curriculum for health skills I & II and added more content and graphics in a power point format. I wrote over 50 quizlets that are available every 10 or 12 slides so that students can measure their understanding of the content regularly. A score of 100% is recommended for each quizlet. Multiple attempts are available for the quizlets, and feedback is available. The power point and quizlets are published on the internet, and students connect to it from a computer wherever they are.

After completion of the theory and quizlets, students are then required to take a final test in a Kirkwood Test Center and score 80% or better to meet minimum standards for passing the course work. Upon successful completion of these standards, students are then eligible to attend lab. The skills are demonstrated, practiced and tested within the lab environment.

The skills students learn in this course are demonstrated via a video and are available on a DVD for purchase. Students are required to view skills prior to their internet final test and in turn have a good understanding of what to expect when coming to lab.

Students that completed the requirements as instructed did very well in lab. It was refreshing as an instructor to present the skills to the students and discuss the rationale regarding the skills with an audience that understood the information.

Lab activities provide guided practices to prepare the student to perform the skills for each course with confidence. They also provide the student the tools to perform the skills and assist the student to understand the importance of maintaining a high standard.

Students have strong knowledge of infection control and are able to practice their skills maintaining a high standard of protecting their patients, themselves and others within the working world of medicine.

Students must perform the required skills of I & II for a grade. The skill must be performed with 100% accuracy for a passing grade. Student's performances have proven successful in the majority of those attending labs. There is an opportunity within the course to repeat any unsuccessful skill for lesser points than originally available. The incidence of repeat performances is less with the internet students than with face to face enrollment.

Internet training is for the conscientious and disciplined student. It meets the needs of those students that find it difficult to come to campus all semester. It appeals to those

students wanting to do as much from their home as possible. It offers flexibility in their daily schedules.

Enrollment numbers have not met our expectations, but we will continue to offer the course and see if word of mouth will add numbers to future courses.

Our Surgical Technology program will be using this course for delivering the required health skills training to their consortium program via the internet based course.

Faculty that have worked in the lab evaluating the student performances have been pleased and refreshed by the positive attitudes and knowledge base of the students.

The little details are covered, and for the most part, the course runs very smoothly. Timely communications from the course managers keep the student's on track.