Developing a Class Session

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   The purpose of the following paper is to present an educational plan for developing a class

session covering the topic, the respiratory system and oxygenation. This class session is part of

the introductory nursing course 2220, at the Michigan Institute of Technology (MIT). The

presented educational plan includes an overview of the class content and identifies cognitive

class objectives utilizing Bloom's taxonomy. Teaching methods of lecture, gaming and case

study are also discussed along with their strengths and weaknesses for learning. Numerous

evaluations include summative and formative evaluation of students learning. Teaching and

course material evaluations are also discussed as methods for reviewing learning

accomplishment and quality improvement. In order to provide a visual reference the respiratory

class lesson plan is attached depicting the objectives, evidence of learning, and evaluation

methods (appendix A).

Content for the Class Session

       The topic for the following introductory nursing course 2220, will be the respiratory

system and oxygenation. Since this class is an introductory course within the MIT nursing

program the intent for this content is to provide the student opportunity to build a fundamental

knowledge base and opportunity to relate this new knowledge to the nursing role. The content for

this class will include an overview of the upper and lower respiratory system anatomy and

function. Oxygen and carbon dioxide transfer between the atmosphere and circulating blood will

also be discussed. Significant subjective and objective assessment data that should be obtained

from a patient are presented along with techniques used in physical assessment of the respiratory

system. Patient signs and symptoms of inadequate oxygenation and the implications of those

findings for nursing care will also be discussed. In order for students to prepare for this class

session they will be assigned reading material from their required course textbook identifing the

respiratory chapter. Along with their reading assignment students are requested to print off a

crossword puzzle from their discussion board and to have this assignment completed before the

on-line lecture date. The course content will be organized utilizing the cognitive domain of

Bloom's taxonomy of learning.

Class Objectives

Class objectives play a role within the learning-teaching process by providing guidelines for

student goals, teacher instruction, and a measurement for evaluation. Gaberson and Oermann

(2007), note that the outcomes of learning are presented through written objective; these

outcomes may address attainment of knowledge, structuring of values, and performance of

psychomotor skill. Due to the introductory level of the nursing course 2220 and the online

delivery format, course objectives were written to focus on the cognitive domain of learning.

Huitt (2011), presents the fact that Bloom identified six levels within the cognitive domain, from

the simplest which is knowledge or recall of facts through increasingly more complex such as

analysis, to the highest order of synthesis. The first three levels within Bloom's cognitive domain

was utilized to write objectives for the learning outcomes of building knowledge, comprehension

of material, and application of learned material to concrete situations within this course. The

course objectives for nursing 2220 - topic respiratory system are:

1. The student will be able to name five anatomical structures within the respiratory system

2. The student will be able to describe the purpose of the respiratory system

3. The student will apply the concept of oxygenation to a case study.

The organization of learning content will start with building basic knowledge of the respiratory

system anatomy moving into the purpose and how the respiratory system functions. After

identifying and establishing the normal functions of the respiratory system, signs and symptoms of abnormal respiration will be presented as an opportunity to discuss appropriate nursing intervention and evaluation.

Teaching Methods

Lecture

Due to the constraints of time and our on-line learning environment the main teaching method that will be utilized for delivering the respiratory course content will be lecture. However the lecture teaching method will be supplemented with the visual aid of a powerpoint presentation. Also for additional learning support the teaching method of gaming will also be implemented to assist with engaging student's attention during the lecture and powerpoint session. According to Woodring and Woodring (2011), the lecture format is still alive and kicking and remains one of the most widely used content delivery methods. Even with all the technology available, the lecture remains a commonly used technique. In support of a lecture format, Johnson and Mighten (2005) present that there are two kinds of lectures formal and informal. The formal lecture usually does not concern the student but is determined by the needs of the teacher, being teacher-centered not learner center. Informal lectures emphasizes explaining, showing, and telling with the purpose of being student-centered preparing the learner for problem- solving. One of the strengths of the lecture method is it can be used and manipulated to different cognitive and developmental levels. But at the same time one of the weaknesses of a lecture method is student boredom leading to decreased student interaction. Johnson and Mighten (2005) also present that informal lecturing is of particular value when time is a factor and it can serve to channel the thinking of students in a given direction. Even though traditional learners may be comfortable with formal lecturing today's young learners are into

multitasking and technology. In order to meet generational gaps, Woodring and Woodring

(2011) present that educators must accompany lectures with other adjuncts, such as technology

or gaming to meet the need of both young and experienced adult learners.

Gaming

In order to keep learners attentive and connected the teaching method of gaming was

implemented to supplement the lecture method with the purpose of keeping the delivery of

content student focused not teacher focus. Gaming as encouraged by Cowen and Tesh (2002),

allows students opportunity to validate their own learning and promotes active involvement in

learning, contributing to the teaching and learning process. Rowles and Russo (2009) promote

the use of gaming as a teaching method to reinforce learned knowledge and can help the learner

connect basic knowledge to practice. Adult learners have a particular need, according to Jaffe

(2011), to interact purposefully with learned content and apply it through various methods,

which can be accomplished through the dynamic and diverse format of games. Even though one

of the weaknesses of gaming is the time involvement required to coordinate the right game with

the intended content. The strength can out way the weakness by providing the opportunity for

engaged student involvement with the assigned course content.

Case Studies

In an attempt to further connect the respiratory content to nursing practice and enhance

learning the use of a patient case study will be presented as part of the lecture/powerpoint format.

Rowles and Russo (2009) supports the use of case studies as a teaching strategy that promotes

real-life situations and allows learners opportunity to apply class content to patient scenarios.

West, Usher, and Delaney (2011) also support the use of case studies as an effective teaching

method that assist student learning by adding meaning, practicality, and relevance to the learning

environment. One of the weaknesses of a case study method is that its effectiveness relies on student preparation and could be frustrating for students who are not ready to problem solve. One of the strengths for when case studies are utilized as an interactive teaching methodology is that it does require students to become active learners and also has opportunity for evaluating student learning.

Evaluation Methods

Formative evaluation

Through evaluation the teacher can determine the progress of students toward meeting course objectives and achievement of them. In order to assess where further learning is needed and to guide continued teaching and learning a formative evaluation will be used throughout the respiratory class. According to Hayes (2011), the benefit of implementing a formative evaluation is to involve both students and teachers in the ongoing monitoring of student learning. Bourke and Ihrke (2011) state, data collected during the learning experience provides students the opportunity to adjustment or modify their own learning before the final assessment of learning occurs. In order to provide students with formative feedback during the respiratory class two strategies will be utilized. The gaming strategy of a crossword puzzle will provide a question and answer method of evaluating class preparation knowledge and ongoing questions throughout the respiratory presentation. Formative evaluation is a learner centered approach that provides a snapshot of student movement towards meeting the course objectives unlike a summative evaluation which will provide data if the objectives have been accomplished.

Summative Evaluation

According to Bourke and Ihrke (2009), the purpose of a summative evaluation is to provide feedback and capture the extent to which course objectives were met. Summative evaluation

judges the quality of the student's achievement in the course, not the progress of the learner in meeting the course objective (Gaberson and Oermann, 2007). In order to determine if the overall respiratory course objectives were met and student learning has been achieved, a final multiple-choice test will be provided following the respiratory case study. In addition to the evaluation of student learning and course effectiveness, student evaluation of teaching also provides data for learning and teaching improvement.

Teaching Evaluation

Student evaluation of teaching soundness is recognized as imperative and is considered valuable feedback into the quality of instructor performance and program quality (Sauter, Johnson, and Gillespie, 2009). Hayes (2011) supports faculty evaluation as an opportunity to provide data on direct contributions from the instructor activities. Direct contribution activities, are defined by Hayes (2011), as those providing to the accomplishment of program outcomes. An instructor evaluation consisting of four questions depicting a range from low to high will be provided for the purpose of teaching strategy improvement.

Learning Material Evaluation

Teaching and learning material is another means for evaluation of teaching effectiveness. Materials ordinarily included for review are teaching and learning aids, assignments, and outcome measures (Oestmann and Oestmann, 2011). The materials are assessed for accordance with the course objectives, consideration to the level of the learner, clarity, organization and usefulness in advancing students toward the goals of the course (Sauter, Johnson, and Gillespie, 2009). In order to fulfill a learning materials evaluation a peer review questionnaire encompassing four questions will be presented for completion by nursing 610 peer reviewers

(classmates). This peer review evaluation will provide useful feedback in regards to curriculum

organization and presentation improvement.

Conclusion

According to West, Usher, and Delaney (2011), today's nursing students want learning

opportunities that are dynamic and mirror real situation content. The nursing class for the

respiratory system topic was designed to implement multiple teaching methods of lecture,

gaming, and case study. The teaching methods were select in order to meet the needs of different

leaning styles but also to fulfill the requirement of our on-line delivery mode. Course content

was organized to follow the levels of learning within Bloom's cognitive domain. Learning

objectives were written with the purpose of reflecting learning organization and expectation for

outcomes. Evaluation methods were selected to cover all aspects of learning from ongoing

student learning to overall student achievement. Instructor and course evaluation was also

selected for the intention of data collection in order to improve the teacher-learner experience for

the future.

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Appendix A

Lesson Plan

Course Title: NUR 2220 Fundamentals in Nursing
Class Session: Oxygenation - The Respiratory System
Course Developer: Ginger VanDenBerg

Course Objective:
1. The student will be able to name five anatomical structures within the respiratory system.
2. The student will be able to describe the purpose of the respiratory system.
3. The student will apply the concept of oxygenation to a case study.

Goal for Learning (what student will know, be able to do)	As Evidenced By Completed assigned paperwork & quizzes	Experiences (generating this evidence)	Online (suited method for experience and sharing experience)	Evaluation of Learning
Respiratory Anatomy	Completed class preparation assignments	Completed crossword puzzle	Lecture/powerpoint	Completed assignments
Assess Patient Oxygenation	Class participation	Class question and answer	Gaming	Quiz
Recognize signs and symptoms of inadequate oxygenation	Class participation	Case study	Case Study	Feedback from case study