Assessment of Student Learning

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Within the scope of pedagogical design, knowing what content items to use within the respected subject topic and the strategic means with which to deliver the content, in an engaging and motivational way, brings about an opportunity to reflect on the potential success of student performance and the overall effectiveness of the course. Planned assessments of student learning throughout the course of the instructional unit are fundamental aspects of the didactic process that cater to the much broader goal of insuring cognitive resonance of the course material. As a facilitator of knowledge, the important need and personal desire to insure the performance and effectiveness of student outcome is an objective goal that requires a moderate amount of insight, foresight, and accountability. The following assessment activities proposed within this document leans toward meeting pedagogic conditions that successfully demonstrate a student's proficiency and understanding of the skills and information presented within the instructional unit.

Pre-Test Assessment

The use of a pre-test assessment is an effective way of establishing an evaluative baseline for students prior to the commencement of the learning process. Through the use of quizzes and surveys, educators will be able to quickly determine the makeup of the class body. Not only will this opening approach help educators ascertain the level of knowledge that each student possess, but the survey portion of the pre-test assessment can also shed much needed light on aptitude and proficiency levels that could have a direct impact on overall student success. For example, while a student may claim that he or she has "experience" working in a computer environment such as Microsoft Windows, there is substantial difference between Windows XP and Windows 7. Based on my professional experience, the learning curve between the two computer environments can be enough to prove difficult for the student, which could be a causative factor to sharp decline in

self-efficacy and motivation over the course of the class. When it comes to establishing and implementing pre-requisites for courses such as my own *Introduction to Databases* instructional unit, it is imperative that students meet the required level of aptitude and proficiency needed prior to the commencement of the course. In this particular case, if a student is found incapable of navigating the simple complexities of a computer file management system, with a moderate degree of skill and proficiency, having elevated expectations of adequate student performance and learning could potentially prove to be a mistaken calculus with substandard results.

Objective Assessment

As a mode for testing student learning within each module of my proposed instructional unit, I have elected to utilize Google Docs as a means of creating online tests that include the use of multiple choice, true-false, and short answer questions. The tests will include a minimum of 15-20 questions that I will personally author and tailor specifically toward the content items and engagement activities of each module. Since the classroom environment includes a computer lab with six PC workstations, the online tests will be proctored during class by the educator and his or her teaching assistant. Results of the tests will be automatically sent to the student's personal email address for immediate feedback and self-evaluation. As a method of encouragement and motivation, students will be allowed to take the test(s) multiple times. This redundant approach will provide the students with an opportunity to reach the desired 100% mark. In addition to building and retaining cognitive resonance of the subject material, students will also develop increased levels of self-efficacy and motivation, which will be beneficial in both individual and collaborative learning sessions. The emailed test results will include detailed explanations for each missed question, presenting students with constructive feedback that will aid in explaining the rationale behind each correct answer.

Self-Assessment

As a visual learner, I like to believe I understand the importance of visual imagery within the pedagogic context of student learning. With this principle in mind, I have elected to create online interactive slideshows for use as visual information quizzes. Like the objective assessment approach, these interactive presentations will be authored within Google Docs and shared as shortcuts on the Windows environment desktop for quick access. The features of the interactive presentations incorporate the use of imagery and sound, letting the student know immediately that his or her input has been received and evaluated. Explanations for both correct and incorrect responses are displayed as a means of providing students with a more defined understanding of the topic question. While working on his or her individual assignment (database creation), students will have an opportunity to refer back to the visual quizzes as a way of reinforcing their understanding of the subject material, while also having a means to measure their learning progress along the way. Information feedback gleaned from the interactive activity is primarily intended for the student and not the teacher.

Subjective Assessment

Included within this self-assessment approach is the use of a peer review activity. Each student will be provided with a review worksheet document or a link to an online survey form containing three questions that must be answered critically and constructively. This activity assignment will also allow students a chance to review and evaluate the individual assignments completed by their peers. This approach provides students the opportunity to recognize and make note of important elements within their peer's individual assignments that were accomplished or overlooked. The completed peer review activity will then be submitted to and evaluated by the educator. The process of measurement by the educator is categorized as a form of subjective

assessment where grades are based on qualitative and not quantitative student responses. This measured approach is not deemed useful in establishing a grade letter or point assigned value. Rather, the peer review activity is a form of summative assessment that helps the educator gauge the student's understanding of the content items and progress within the engagement activities.

Group Projects

In addition to providing students with direct feedback via the aforementioned objective and self-assessment strategies, an important and equally inclusive aspect of the learning process rests in the proverbial hands of the educator. Having the ability to assess student learning and performance via instructor led participation can prove to be highly beneficial when dealing with a high-level concept such as database structure and developmental design. In the final module of my instructional unit, students are asked to come together within their assigned teams to discuss the merits of each individual assignment. This process leads to a final team assignment that will be conducted as an oral presentation for the rest of the class. Each student within their respective group will have an opportunity to elect one individual assignment that will be representative of their team during the oral presentations. Once the individual assignment is selected, the teams will then create a list of the top 3 items that will be presented and discussed during their oral presentation. During the deliberation process, the educator will observe the conservations within each group while providing meaningful feedback in the form of comments and or questions.

Conclusion

The final assessment for this instructional unit will be a rehashing of the initial pre-test. In this post-test evaluation, the presented list of questions will be reworded mock-ups taken from the original pre-test example. This post-test will also be an authored document in Google Docs. The evaluation will be proctored during class in groups of six students at a time. This assessment

will be evaluated and measured along with the submitted individual assignments. In combination with the submitted individual assignments, the results from the post-test will help educators form a more measurable assessment of student learning and performance. The post-test will assist the educator in gauging a student's cognitive and conceptual understanding of the course material (student learning), while the individual assignment will help to measure aptitude and proficiency (student performance). The fusion of the different assessment strategies over the course of the lesson plan will provide the educator with a fairly accurate appraisal of the content items and engagement activities that were applied. Further evaluation in the way of formative assessment will continue the developmental improvement and overall success level of this instructional unit.