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Backwards by Design 2015/2016

Assessment Project: Exploring a Threshold Concept in Kinesiology 306 Course

1. Course Description

In Fall 2015, the new 5-credit KIN 306 course was created by combining old KIN 306 and 301 classes (3-credits each). This is the first course completed by all students pursuing a major in Kinesiology. Prior to Fall 2015, all Kinesiology majors completed two separate introductory 3-credit courses KIN 301 and KIN 306. The old KIN 306 course introduced students to theories of measurement and evaluation and various health and sport related aspect of fitness. The KIN 301 course, introduced the process of conducting a systematic search of research literature on health and sport related aspect of fitness and it culminated in students completing a final review paper on topic of their choice written in American Psychological Association (APA) format.

I attended the Backwards by Design Workshop to gain insights on a feasible way to comprehensively integrate the content across the two courses. In addition to the challenge of restructuring this course, it was the first time I was teaching a writing course and also in the quarter system. My goal was to identify strategies to address the challenges of integrating content of old KIN 306 and KIN 301 courses, ensuring the new KIN 306 course had strong writing and discipline-based components, and also addressing feasibility of teaching and assessing this content in the time constraint of a quarter system.

By the end of the workshop, I was able to integrate most content across the two courses. Now the KIN 306 course, introduces theories of measurement and evaluation in the background of health and sport related aspect of fitness. Building on this content, the students complete a class project in which they conduct systematic search of research literature on an aspect of health related fitness of their choice and psychometric properties (i.e. validity, reliability, and objectivity) of a test used to measure and evaluate that aspect. Then they write-up appropriate methods based on the theories of measurement and evaluation, collect data on 5 of their colleagues and then correctly evaluate and interpret data in the light of the research literature reviewed. This class project, is formatted along the lines of a research paper with introduction, methods, results, and discussion sections written in the APA format. Although, the integration was simple, figuring out the order of content and assignments such that it build on the previous one and led naturally to the final class project was challenging.

Since the final project was rather large, students specifically completed several smaller assignments on this project, before submitting their final project paper. Examples of the smaller assignments include conducting systematic literature search, quizzes on APA references and citations, statistics assignment, and writing introduction, methods, and results section of the paper. Further to develop their skills of critical evaluation, each

students peer reviewed the project of their 2 peers, on separate days in class. The students were provided a rubric, in order to guide their review process. Although the students peer review score was not taken into consideration when the instructor graded the paper, each student was asked to review and grade their peer's work. Post peer review students, provided each other feedback on their errors and strategies for improvement. Finally, to be transparent about the expectations, with the introduction of each assignment the relevant rubrics (and examples of assignments in some cases) were discussed in class.

2. Focus of the Study

The threshold concept for the KIN 306 class was understanding and application of psychometric properties of test used for health and performance measurement and evaluation. The pedagogical threshold concept was to complete the final class project and the relevant paper. For a student to complete this project they had to correctly measure and evaluate an aspect of health related fitness on 5 of their peers using theories of measurement and evaluation and relevant systematic scientific research. Also, students had to submit their class project in an APA research paper format.

3. Summary of Results

The integration of content has been an ongoing process and I have been working on it for the past two quarters. In Fall 2015, the students' average score on the final paper was 44.65/50 (B+). At the end of that quarter, students gave a mixed response on the class evaluation about the final project paper. A large group of students found the class project and paper to be clear, with previously covered content and assignments providing the skills to work on the final paper. Whereas the remaining students reported that for some parts of the class project the expectations were not very clear and it was somewhat difficult to understand the connections. Students also commented that this class had too many assignments.

In Winter 2016, the average score of the student on their final paper was 45.93/50 (A-). On their class evaluations, student responses about the final paper were overall very positive with respect to course organization. Almost all students mentioned that most class assignments helped in working on the final project paper. They liked the organization and sequence of assignments. There were some students who reported that having too many assignments in this class made it a little stressful and they suggested making the final project paper group work to address this problem.

4. Future Plans

From the results, it is apparent the integration of content has occurred well in the KIN 306 course. However, grading 40 submissions for each assignment has been very challenging with respect to the time and effort required. Students in the last two quarters have also mentioned that this class has too many assignments. As per their suggestion, one way to address both these issues is make the final paper a group rather than individual work. Although this does not change the number of assignments for students, but it does reduce their individual effort and allow for opportunities to work

collaboratively in groups. For the instructor, group work will reduce the number of submissions per assignment to be graded and thereby, making grading multiple assignments over the course of quarter more manageable. In order to emphasize active engagement in the project, the group sizes will be kept small (i.e. 2-3 students per group). The plan for the Spring 2016 quarter is that students will complete their final project paper in groups.