UX Methods Madness Individual Report

Method/Technique: Concept Maps
Chosen paper: *Case-Based Group Learning Using Concept Maps to Achieve Multiple Educational Objectives and Behavioral Outcomes*
DOI:

Concept Mapping: Concept mapping is a tool for visualizing or graphically representing the relationships between concepts and ideas. Usually, concept maps articulate ideas in a box or a circle, also known as nodes, and they are connected in a structured hierarchy using lines and arrows (also called arcs). Finally, these lines are labeled with linking words to explain the concepts' relationship.

Technology/Interface/Set of users being studied: This study was conducted to explore knowledge integration in medical science and clinical practice, giving importance to developing professional behaviors, e.g., teamwork and professional interpersonal behavior. The researchers conducted the research for 24, and 25 first-year premedical students from the 2021 and 2022 cohorts, 264 and 200 concept maps were generated, respectively, to promote professional development. It was done in 3 stages: Concept Mapping, student Peer review, and student group evaluation.

How the method was used: The authors designed a weekly 2-hour educational active learning activity among the first-year preclinical medical student to foster knowledge integration and to promote professional development. Four objectives were set for the study such as 1. Identify and integrate basic science and clinical concepts; 2. Develop critical thinking skills; 3. Develop and demonstrate teamwork and professional interaction skills; and finally, 4. Assess peer-developed concept maps to increase content comprehension and improve feedback skills.
Each cohort was randomly divided into groups of 4-6 members, with a team leader responsible for submitting the concept maps to the instructor. And the roles of the members changed each week. The teams spend 75 minutes developing the concept maps and 20min to peer reviews and 5min to do an evaluation of their group. During the first 75 minutes, the groups designed concept maps using a concept map rubric and used the CMAP tool software t build their maps. The three stages had points weighing 50%, 30%, and 20%, respectively. And the instructors assessed it on a weekly basis.

Key insights:
In order to determine whether the course objectives were met, the authors compared student responses provided in the precourse and post-course evaluations using a 5-point Likert-type scale.
1. Improved students' critical thinking.

2. Most students had a positive attitude toward Concept Mapping, enhancing critical thinking both before and after the course.
3. As students progressed in the course, they displayed better knowledge integration by creating more connections between concepts and providing more complex linking word descriptions, reinforcing content comprehension. These data strongly support the objective of identifying and integrating basic science and clinical concepts were achieved.
4. Increased content comprehension and improved feedback skills among the students by practicing peer-developed concept maps.
5. Improved teamwork and professional interaction skills among the students.

Reference:
1. Slieman, Tony A., and Troy Camarata. "Case-Based Group Learning Using Concept Maps to Achieve Multiple Educational Objectives and Behavioral Outcomes." *Journal of Medical Education and Curricular Development*, (2019). Accessed November 22, 2022. https://doi.org/10.1177/2382120519872510.