

Learning Outcome 4: Utilize critical thinking skills in the design, interpretation, application, and ethical conduct of research.

NUTR 6101: Nutrition Research Methods

Artifacts: Article Review 1 and Quiz 3

Being a part of the Coordinated Program (CP) in the Department of Nutrition at Georgia State University (GSU) has provided me with a variety of courses to complete my Master of Science in Health Sciences degree. Two graduate level research courses are part of the curriculum and required for all CP students. Prior to starting the CP I found research and statistics extremely intimidating. Nutrition is an evidence-based science and registered dietitians (RDs) are the gatekeepers to decipher between the facts and fads on behalf of the general population. I was eager to learn how to find and evaluate quality research publications, how to disseminate the material in each article, and how to write research proposals in order to conduct my own research at some point in my career. One of the research classes I took at GSU was Nutrition Research Methods. This class focused on the application of various statistical tests, software and programs, research methods pertaining specifically to nutrition, and offered practical applications of material covered. The bulk of Nutrition Research Methods was dedicated to presenting two research articles, three quizzes, and completing a research proposal as the final examination.

Presenting the articles to the class forced me to over-prepare by reading each article very carefully, and sometimes more than once, in order to make sure I understood the meaning of the article without leaving out important details. Both of the article reviews required a one-page typed summary discussing the background, purpose, study design and methods, data analysis, conclusions, implications, strengths, and limitations and improvements of the study. This thorough preparation helped me to be the expert on each article I reviewed and be prepared to answer questions anyone may have had. I found myself making connections to what I had learned in class when deciphering each research article. One of my favorite parts about the assignment was the opportunity to choose articles on topics we were intrigued by rather than be assigned articles at random. I felt I was more confident when presenting because the articles were about topics I was fascinated by, such as cycling and bone health and the impact of dietary flavonoids on ovarian cancer. After my first article presentation, it was gratifying to hear my professor say my article was an ambitious choice, because it was a systematic review, and that he was impressed by my ability to create an appropriate synopsis.

The quizzes in the class varied but each required detailed responses explaining your reasoning and methods for each step of the research question being asked. I chose quiz 3 as one of my artifacts for this learning objective because I feel it emphasizes my progression from limited exposure to research to understanding of research. I feel competent with analyzing research after completing the two research courses in the CP. Quiz 3 focused on determining independent and dependent variables and the statistical procedures I would use to make this determination. It also focused on explaining various ways to conduct multiple Pearson correlations between variables. If you had asked me what a Pearson correlation was before I began the CP I probably would have looked like a deer in headlights, but I answered the questions on the quiz with flying colors. The remaining questions focused on conducting t-tests

for the fictitious variables addressed in the sample study. Other questions discussed how to predict total cholesterol from the other variables collected. This led me to discuss how to conduct a regression analysis, which predicts the value of a dependent variable based on the value of at least one independent variable. Regression is normally the next step after correlation and is used as a statistical approach for explaining and predicting quantifiable clinical outcomes. The final question on the quiz asked which statistical test would be used to determine if 3 different groups have different cholesterol values. I discussed analysis of variance (ANOVA) and how it would be used to run multiple t-tests at the same time. My professor noted, "Best responses. Nice job." at the end of my quiz, which elated me because I felt I finally had a grasp on various statistical tests used in research.

For the final project we were to create a research proposal on any topic we wanted. The proposal included a literature review and our methods for the study. This research proposal gave me additional practice searching and reviewing articles relevant to my topic in the form of a literature review. I gained valuable experience in writing methods of a study, such as participants and inclusion criteria, recruitment strategy, as well as emphasizing the potential study design and statistical analysis. This research course was incredibly beneficial to my education in the CP at GSU and I was able to expand my research skills, which was showcased by earning an A in the course.

These research courses have built a strong foundation for my future practice as an RD. Taking the research courses at GSU prepared me to identify appropriate methods of data acquisition and categorization, gave me the ability to carry out methods of statistical analysis for data, and showed me how to critique biomedical research publications while emphasizing study design and statistical analysis. The Academy of Nutrition and Dietetics is based upon evidence-based practice. RDs in various practice settings use systematically reviewed scientific evidence, the best available evidence based on the hierarchy of evidence, their professional expertise, and client values to improve nutrition outcomes. Using evidence-based practice is not only ethical but is what the consumer deserves in order to meet their goals and live a healthier lifestyle based on the facts, and not the fads and myths from their peers and the media. Looking forward, I hope to lead my clients and patients to optimal health through the coupling of evidence-based research and personal nutrition knowledge.