GIFT Form

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GIFT Preparation
Title of GIFT entry: Visualizing Research Methods
Entry Subtitle: Using Facebook to Create an Online Classroom Learning Community
Summary
Please describe in 1,000 words or less all pertinent details about your GIFT entry, including: | What is your idea? | Goals? | How does it works in the classroom? Student reaction? Please e-mail your GIFT description as a Word attachment to the GIFT coordinator, Nicole Kraft at kraft.42@osu.edu. Type GIFT ENTRY (Name) [Your name} in the SUBJECT line on your email. All submissions must be received by Sunday, April 17, 2016. Submitters give the AEJMC GIFT Committee approval to use their entry for the competition and to disseminate to members. Email entry is required.
GIFT Poster Display Information
If a panel of judges chooses your GIFT, you will be notified by May 15 and asked to create a visual display of your GIFT to fill your personal bulletin board (measuring approximately 4 feet high and 3 feet wide) by Aug. 1. You will have the opportunity to share more about your GIFT with those who attend the poster session at AEJMC in Minneapolis. An email to all finalists detailing the poster display will follow.

Visualizing Research Methods

Undergraduate JMC students often struggle in learning quantitative research methods. Preparing for such exams creates pressure and anxiety. I created a Facebook group entitled: Visualizing Research Methods, for research methods students to visualize their understandings of quantitative research concepts with visual images and drawings. This exercise was an additional way to help students learn through creating a class-wide visual study guide that developed an interactive online study community. The goal was to help the students better understand the class materials for their class project and the exam.

Learning quantitative research methods is not easy as students learn the unique language, terms, and procedures. Concepts such as validity, correlation and standard deviation are abstract. Technology can break the stressful structures of studying for tough subjects like research methods and make learning about research more relevant to students.

Using visuals as instructional tools is a useful teaching technique (Clark & Lyons, 2010). Studies have shown that people learn better from a mixture of text and visual illustrations –images, drawings, graphs, charts, etc. (Anglin, Vaez & Cunningham, 2004). Mayer (2005) also argues "People learn more from words and pictures than from words alone" (p. 32). New social media tools have made images and pictures a major part of many students' lives.

Heavy social media usage among students allows instructors to create interactive online learning environments at the toughest time of the semester on the toughest subjects. According to the cognitive theory of multimedia learning, in the multimedia environment, students learn through five cognitive procedures in their working memories: 1) "selecting relevant words", 2) "selecting relevant images," 3) "organizing" the words "into a verbal model," 4) "organizing" the images "into a pictorial model," and 5) "integrating the verbal and pictorial representations with each other and with prior knowledge" (Mayer, 2005, p. 38). Therefore, the Visualizing Research exercise provides students with a virtual education opportunity to conceptualize, operationalize, or exemplify research methods terms visually through images, drawings, models, etc.

Ten days before the mid-term exam, I created the Facebook group entitled, Visualizing Research Methods. In an email, I informed the class about the FB group and asked them to join. In that email invitation, the students were provided with a detailed guide sheet on how to participate in the exercise. Also, I explained the goal and criteria of the exercise at the top of the Facebook group alongside some examples of the exercise to help the students have a clear idea on how to successfully participate in the exercise.

- 55 students were asked to find a concept on the study guide that they wanted to know more about and then illustrate that concept.
- Students were required to cite the sources of their definitions with page number, which was mainly the textbook: *Investigating communication,* by Frey, Botan and Kreps (2000). The students also provided an example of the concept in a research setting.
- The students earned up to five extra points on the exam by posting five entries on the Facebook group.
- I corrected the students if they didn't define the concepts or terms properly
- Students responded to the posts with likes, comments and additional information thus creating an online learning community.
- Sample concepts on the study guide included:

Ways of knowing knowledge	research paradigms	variables
Quantitative research method	conceptualization	reliability
Qualitative research method	operationalization	validity
Relationship between variables	levels of measurement	replication
Open and closed questions	measurement scales	sampling
Funnel and tunnel designs	measurement methods	universe

Visualizing Research was a success. The impact of the exercise was observable in three different areas. First, students posted more visuals about more complex concepts and terms such as reliability, validity, sampling, and so forth compared to the easier topics.
Second, posts on the more complex topics had higher viewership and likes by the group members, which indicates they were informative for the students. The high number of likes, additions and comments on the more abstract terms suggest that a learning community formed as students helped each other understand the concepts.

Finally, the main outcome of the exercise was the students' performance on the exam. Students who took part in the exercise by posting, liking and commenting had higher grades compared to those who didn't participate.

As an assessment measure, after the exam, the students were asked to write evaluations about the exercise. Overall, their feedback was very positive with comments such as:

- "I really enjoyed the Facebook group. It made studying easier and simplified the definitions. I found it helpful! It was like we all filled out the study guide together."
- "Liking and commenting helped our confidence in our answers and study habits." "Great idea. Great way to help study."
- ♡ed it! Helps a lot to see pictures."
- "Thanks for such an awesome idea!" It was beneficial seeing photos with the definitions!☺ "
- "Seeing others responses helped my studying process."
- "It helped me remember the concepts better. It's also helpful to see the way other people learn and think. I would like to do this again."
- "*very effective as I am a visual learner. *Unique examples that reflect the text material to real world situations."
- "It made studying less mundane!"
- "We should do this for every test."

The week before final exam in the class, I could not moderate a similar exercise because of my other duties and deadlines as a graduate student. Interestingly, the students themselves took part in the exercise, and started posting images and discussing the study materials on the Facebook group. The examples noted above suggest that creating such online learning exercises can help the students better understand the materials and create their own learning communities.

The Visualizing Research Methods exercise generated nearly 400 visual images, drawings, charts, graphs, models, etc. These images can be used in the future class lectures to make abstract concepts more concrete.

References

Anglin, G. J., Vaez, H., & Cunningham, K. L. (2004). Visual representations and learning: The role of static and animated graphics. *Handbook of research on educational communications and technology*, *2*, 865-916.

Clark, R. C., & Lyons, C. (2010). *Graphics for learning: Proven guidelines for planning, designing, and evaluating visuals in training materials*. San Francisco: John Wiley & Sons.

Frey, L., Botan, C. H., & Kreps, G. (2000). *Investigating communication*. New York: Allyn & Bacon.

Mayer, R. E. (2005). Cognitive theory of multimedia learning. In R. Low & J. Sweller (Eds.), *The Cambridge handbook of multimedia learning* (pp. 31-48). New York: Cambridge University Press.