The Great American Cookie Experiment Updated for the Millennial Learner

The Great American Cookie Experiment was developed by Thiel (1987) as an experiential strategy for teaching basic research concepts to undergraduate students. This original strategy has been adapted for online learning by substituting music for cookies (Sternberger, 2002) and revised for use with graduate students, RN to baccalaureate nursing, and practicing nurses.

Current undergraduate nursing students are Millennial learners. These students are comfortable with technology and prefer interactive learning that provides immediate feedback. One effective method for engaging these learners is to use “clickers” in the classroom (Hunter Revell & McCurry, 2010). Clickers, or personal response system technology, are handheld devices that wirelessly record individual student responses, allowing for instantaneous summation and feedback.

The purpose of this learning activity was to update the Great American Cookie Experiment for the Millennial nursing student using clicker technology.

Activity Development

Sophomore nursing students (N = 33) in an introductory nursing research course participated in an experiential classroom activity that asked them to compare a brand name chocolate chip cookie with a store brand chocolate chip cookie. As in the classic strategy, students were asked to read and sign a consent form. When consent was obtained and anyone with allergies or restrictions self-selected out of the tasting, students were shown how to respond to the PowerPoint® questions using their clickers.

After a practice question to make sure the equipment was operating properly and students were confident using the technology, cookie A was distributed. Students inspected and sampled the cookie and then answered four questions, using the clickers to respond. Cookies were rated on texture, moistness, flavor, and appearance using a 5-point Likert scale, ranging from 1 (horrible) to 5 (excellent). Each question was asked individually, with students having 30 seconds to respond. Students then repeated the process with cookie B. The final question asked which cookie they preferred.

Unlike the classic strategy where faculty calculated the statistics after class, summative responses for each question were calculated instantly using the embedded clicker technology software. Results were displayed on the screen in both bar graph and percentage formats. This allowed students to see the results immediately, engaging the Millennial learners and facilitating discussion about basic statistical analysis, percentages, and visual representations of data. Results for several questions were also displayed in pie chart and histogram formats to demonstrate how data may be better represented in one format versus another. Faculty also addressed the advantages and disadvantages of using technology to collect and analyze data. Topics discussed included variations in participant and researcher comfort with using technology, as well as the efficiency and appropriateness of the technology.

Evaluation and Student Response

Students evaluated how effective this activity was for demonstrating the basic concepts of the research process using a 5-point Likert scale, with 5 as highly effective. The learning strategy was highly rated, with student scores averaging 4.12 of 5. Students commented that they enjoyed the activity and agreed that it was effective for both introducing research concepts and demonstrating basic statistics in a way that helped decrease their math anxiety.

For schools that do not have clicker technology available, newer Web-based personal response technology allows students to use their laptops, smartphones, or tablets to record their responses for this type of learning activity. Tablets also have the additional benefit of built-in features that provide adaptations for students with physical or learning disabilities.

The Great American Cookie Experiment is an effective experiential strategy for encouraging discussion and active learning. By updating this activity using the latest educational pedagogies, faculty are able to engage Millennial nursing students and enhance student learning.

References


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