



The Cookie Experiment: A Creative Strategy for Teaching Nursing Research in Taiwan

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Background

- Students view research as complex and difficult to comprehend and, therefore, express difficulty in the practical application of research content.
- Stimulate students' interest; promote involvement; develop positive attitudes; and foster practical application is important for teaching nursing research.
- Various techniques have been applied to increase students' experiential learning and to augment students' comprehension and utilization of research methods .

Purpose

- To examine the effects of a teaching strategy, the Cookie Experiment, on nursing students' understanding of research procedures, confidence in participating in research, and attitudes toward research.



Design

- A pre-post interventional design
- 95 nursing students, who were in a two-year RN-to-BSN program and enrolled in the Nursing Research course, participated.
- Thiel's (1987) Cookie Experiment, which allows students to experience research designs and procedure, was applied as a teaching strategy in the class.

The Experiment

- Two kinds of chocolate sandwich cookies
 - A: filled with vanilla cream
 - B: filled with peanut butter
- Taste one kind of cookies, clean palates with a cup of water, taste the other kind of cookies.
- Compare differences between the cookies.

The Experiment

- Complete the Cookie Assessment Tool
 - 4 demographic data
 - age, sex, weight, height, and gender
 - 3 analogue scale (from 0 to 10)
 - degree of hunger, interest or concern about the number of cookies and amount of calories, and interest or concern about healthy eating
 - 8-item 5-point Likert scale
 - feel about texture, moistness, flavor, and appearance of the cookies
 - 2 nominal scale
 - “Do you like cookies?” and “Which cookie do you like better?”

The Experiment

- Discuss
 - Conflict variables in the experiment that may affect the results
 - Strength and limitation
 - Cost of the research
- Review the use of various types of scale.
- Present and review descriptive statistics.

Sample

- Students had completed a 5-year, diploma nursing program before entering the 2-year program.
- Mean age was 21.23 (range 20–24, $SD=.56$) and 96.8% were females.
- 74.7% took the nursing research course for the first time.
- 92.6% had no experience of being a nurse.

Procedure

- Two weeks before the Experiment, students filled out a questionnaire measuring their attitudes toward nursing research (pretest).
- On the day of the Experiment, students were asked to taste cookies by following a standard procedure and complete the 17-item Cookie Assessment Tool.
- After the Experiment, students shared how they related the Experiment to research procedure in the class and completed the questionnaire they did in pretest (posttest).

Instrument

- The 7-item, 5-point Attitudes Toward Research (ATR) scale developed by the authors was used.
- Higher score indicates more positive attitude toward research.
- Content validity was confirmed.
- Cronbach's α was .70.

Instrument

- Items includes
 - Perceived stress from the research course
 - Acceptance of the research course
 - Familiarization of research procedures
 - Understanding of the practical application of research procedures
 - Interest in engaging in research
 - Confidence in participating in research
 - Willingness to participate in research after graduation

Results

- Before the Cookie Experiment
 - Felt they were not familiar with research procedure or interested in doing research.
 - Had low confidence in participating in research.



Results

- After the Experiment
 - More familiar with and understanding of research procedure
 - Acceptance of the course were improved.
 - The Experiment helped in learning especially in research purposes, questions, designs, sampling, ethics, and presenting results.
 - Thought Nursing Research was a course worth taking.
 - The Experiment should be applied in the class.

	Pretest		Posttest			
	N	M±SD	N	M±SD	Z	P
Familiarization of research procedures	100	2.82±.77	98	3.33±.59	6.33	<.001
Understanding the practical application of research procedures	100	2.82±.78	100	3.70±.61	6.81	<.001
Perceived stress from the research course	100	3.93±.69	100	3.97±.58	.59	.55
Acceptance of the research course	100	3.59±.65	99	3.76±.57	2.27	.02
Interest in engaging in research	100	3.21±.73	98	3.32±.65	1.30	.19
Confidence in participating in research	99	3.16±.60	100	3.22±.60	1.06	.29
Willingness to participate in research after graduation	100	3.37±.66	100	3.49±.67	1.61	.11

Conclusion

- Nursing Research can be an interesting and practical course if appropriate and creative teaching strategies are applied.
- More teaching strategies and activities like the Cookie Experiment can be developed to improve student learning nursing research.



Thank you.