The Impact of Process-Oriented Guided-Inquiry Learning (POGIL) in Fundamental
and Medical Surgical 11 Nursing Courses

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LEARNING OBJECTIVES

1. Describe the research results of group scenario work using Process-Oriented Guided-Inquiry Learning (POGIL)compared to students that did not participate in (POGIL) in Fundamentals and Medical-Surgical II nursing courses

2. Discuss POGIL pedagogy as a method of increasing subject understanding and improving educational outcomes in Fundamentals and Medical-Surgical II adult nursing courses

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Process-Oriented Guided-Inquiry Learning (POGIL) PURPOSE

- POGIL promotes student involvement in learning.

- POGIL is an interactive process of refining students' understanding and developing students' skills

- POGIL promotes teamwork and improves students' understanding

- POGIL is a process to develop analytical critical thinking skills (POGIL, 2016)

TRADITIONAL UNIVERSITY CLASSROOM

How is it Different?

- POGIL strategy provides a student centered methodology and structure that are consistent with the way students learn and achieve outcomes

- Learning environments can be competitive, individualized, or cooperative. Research has documented that relative to the other situations, students learn more, understand more, and remember more when they work together (POGIL, 2016).

- Students must develop critical thinking skills which can influence problem solving and decision making (Zori, 2016).

BACKGROUND

- Research indicates that traditional teaching by lecturing does not work for most students

- POGIL has been documented as a successful active learning pedagogy in multiple research studies conducted with science courses that revealed an improvement in grade performance (Hein, 2012)

- POGIL uses small groups of students to analyse problem based case studies (POGIL, 2016)

- Students reported better understanding of course material and improvement in final grades with POGIL pedagogy (Roller & Zori, 2017)

STUDENTS in GROUPS of FOUR

INSTRUCTOR ROLE

- Utilize POGIL to divide students into groups of 4

- Students analyse case studies and answer questions embedded in the case study

- Instructor role is facilitator, who circulates through the class, guiding students, clarifying concepts

- Instructor coaches but does not giving answers, this leads students to find the answer

GROUP SCENARIO EXERCISE

- Gather in groups of four with different roles

- Choose roles: leader, reflector, recorder & manager

- Review the scenario task: Group works together

- Share information 20 - 30 minutes

- Leaders present to entire class 10 - 15 minutes

- Faculty clarifies findings 5 minutes

- Exercise approximately 45 minutes

EVALUATION of POGIL PROCESS

- Evaluation of the process is by individual and teams response of the process and issues shared in class.

- Learning should be an interactive process.

- Research: Will multiple nursing courses have the results reported by Science studies?

- The POGIL approach to learning has been documented in the literature in nursing education in a pilot study (Roller, 2015).

PURPOSE of STUDY

- 1. Examine and compare the demographics, pre-study GPA, final course grades and standardized national test scores of students in 2 groups Fundamentals nursing courses, where one group experiences POGIL as a pedagogy and one group does not.

- 2. Examine and compare the demographics, pre-study GPA, final course grades and standardized national test scores of students in 2 groups of Medical Surgical II nursing courses, where one group experiences POGIL as a pedagogy and one group does not.

- 3. Describe the students' satisfaction with completing the case studies in a class that used POGIL with those who did not experience POGIL in Fundamentals and Medical Surgical II Nursing courses.

POGIL NURSING RESEACH

- Design: Descriptive comparative

- Subjects: Convenience sample of BSN students in either first semester of junior year in fundamentals or final semester of senior year in medical-surgical adult nursing II classes

- Setting: Fundamental and Medical Surgical II classes,   **urban** and suburban mid-size private university in Northeastern United States

- Statistics: t-test used to compare pre research GPA, final grades and national standardized test scores Percentages used for demographics and student satisfaction with POGIL roles

METHOD

- IRB exempt status Adelphi University & consents obtained

- Groups divided: Experimental and Control

- Demographics completed by both groups

- Fundamental Participants over 2 semesters, completed 6 group scenario, non-graded assignments in class. Non-participants were given the scenarios to voluntarily complete individually and submit to the professor for non-graded corrections.

- Medical- Surgical II Participants over 2 semesters completed 6 group scenario non-graded assignments in class. Non-participants were given

GROUP SCENARIOS

- 6 different topics of group scenario exercises

- Each exercise is case study of a client with a specific disease process of the course curriculum

- 4-5 students assigned to each group

- Change groups of students each scenario

- Different leader for each group and in each scenario

- Leaders answer questions of scenario in each class

Fundamentals

	N POGIL	POGIL %	N COMPARISON	Comparison %
WHITE	89	57.8%	42	73.7%
AFRICAN AMERICAN BLACK	12	7.8%	1	1.8%
ASIAN	26	16.9%	8	14%
HISPANIC LATINO	13	8.4%	3	5.3%
NATIVE AMERICAN	0	0%	0	0%
NON HISPANIC/ LATINO	0	0%	0	0%
OTHER	14	9.1%	3	5.3%

Demographics Medical- Surgical II

	N POGIL	POGIL %	N Comparison	Comparison %
WHITE	43	70.5%	34	64.2%
AFRICAN AMERICAN BLACK	2	3.3%	4	7.5%
ASIAN	6	9.8%	7	13.2%
HISPANIC LATINO	1	1.6%	1	1.9%
NATIVE AMERICAN	0	0%	0	0%
NON HISPANIC/ LATINO	0	0%	1	1.9%
OTHER	9	14.8%	6	11.3%

RESULTS FUNDAMENTALS

	N	Age Mean	Pre-research GPA Mean	Pre-research GPA Standard. Deviation (SD)	National Standardized Exam Mean	National Standardized Exam (SD)	Final Grade Mean	Final Grade (SD)
POGIL Group	153	21.97	3.60	.277	75.69	12.288	88.19	4.428
Comparison Group	109	21.86	3.61	.277	70.41	12.155	87.34	4.403
2 tail *t*-test significance		p=.874 Not Significant (NS)	P=.657 (NS)		p= .001		p=.124 (NS)	

RESULTS MEDICAL-SURGICAL II

	N	Age Mean	Pre-research GPA Mean	Pre-research GPA (SD)	**National Standardized Exam Mean**	**National Standardized Exam (SD)**	Final Grade Mean	Final Grade (SD)
POGIL Group	61	22.9	3.48	.275	72.00	10.504	85.31	.639
Comparison Group	54	25.6	3.46	.266	72.78	12.726	87.01	.776
2 tail *t*-test significance		p = .001	p=.756		p = .722 (NS)		p = .090 (NS)	

LIMITATIONS OF STUDY

- One baccalaureate RN (BSN) program in a private university in urban and suburban settings

- Participants were not randomly assigned over 2 semesters

- Learning styles, study habits and how students achieve mastery of the subject content as well as teaching styles of professors involved in the study could not be controlled for and could influence the final grades achieved by students.

- Not all students in control group completed scenarios

- Professors that volunteered in experimental Medical-Surgical II group had limited training which could have influenced outcomes

CONCLUSIONS

- Fundamentals nursing courses using POGIL approach revealed improved grades. Satisfaction scores were positive in participating subjects

- Medical-surgical II nursing courses using POGIL approach did not reveal improved grades. Satisfaction scores were positive in participating subjects

- Exploring POGIL as a teaching strategy is in alignment with goals to promote evidence-based teaching

- POGIL pedagogy enhances the use of teamwork, which may help prepare students to meet an essential competency for professional nursing

- Replicating research with additional nursing courses may be beneficial

POGIL PROJECT

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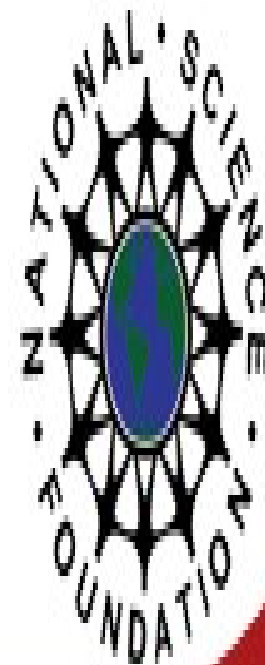
GOAL

**SUCCESSFUL
NURSING
STUDENTS**

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Thank You

- QUESTIONS

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