

# Can Group Scenario Exercises in Fundamental Nursing Using Process Oriented Guided-Inquiry Learning (POGIL) Affect National Test Scores

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# DISCLOSURE SLIDE

## LEARNING OBJECTIVES

1. Describe the research results of group scenario work compared to students that did not participate in Process-Oriented Guided-Inquiry Learning (POGIL)
2. Discuss POGIL pedagogy as a method of increasing subject understanding and improving educational outcomes

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No Conflict of Interest

# TRADITIONAL UNIVERSITY CLASSROOM



# 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 skills

# POGIL STRATEGY: What is 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.
- Students working in a team environment are also more likely to acquire essential process skills such as critical and analytical thinking, problem solving, teamwork, and communication. (Johnson, Johnson and Smith, 1991).

# BACKGROUND

- Research indicates that traditional teaching by lecturing does not work for most students (Hanson, 2006).
- Studies have shown that traditional learning methods may not be meeting current student needs (Bransford, Brown & Cocking, 2000).
- Chemistry students who experienced POGIL instruction scored better on average than traditional instruction from the same institution (Lewis, & Lewis, 2005)

# INSTRUCTOR ROLE

- The instructor utilizes group scenario exercises in groups of four students each. Rather than the lecture method. The exercise is case study scenario of a client with a specific disease process of the course curriculum.
- Questions are attached to the class assignment to foster critical thinking. The initial question is open ended and then subsequent questions are more specific.
- The instructor facilitates and monitors the progress of the students by circulating in the class. The instructor intervenes when the group is having difficulty with the assignment to foster assistance in the process, not to give answers. The instructor acts as a coach in the learning process and fills in any gaps or discrepancy to clarify the lessons.

# STUDENTS in GROUPS of FOUR





# METHODS of POGIL IMPLEMENTATION

- Replace all lectures with group activities
- Replace one lecture per week with group activity
- Electronic application of group activity for part or all of class sessions
- Utilize group activities after lectures weekly
- Utilize group activities after topic lecture

# LEARNING PROCESS

- The skill of critical thinking in problem solving is an essential skill goal for our nursing students. Thus the need to explore the POGIL approach in nursing education is a valuable tool to improve test scores and understanding.
- As educators do we dare to utilize new approaches ????????

# 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
- Goal is exercise fosters critical thinking and understanding

# 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 nursing have the results reported by Science studies?
- The POGIL approach to learning has not been documented in the literature in nursing education.

# PURPOSE of STUDY

- The purpose of the study was to measure the effects of participation in the POGIL process in Fundamental Nursing classes on the final grades and ATi grades (Assessment Technologies Institute®, LLC., national exam) of groups of students who participated in group scenario work compared to students who did not participate in group scenario work in class.
- Research Plan: Test scores will be compared to evaluate the effectiveness of the POGIL approach in the nursing arena of students participating in group scenario exercises and students who complete the assignments on an individual basis

# POGIL NURSING RESEARCH

- Subjects: Purposive sample from 2 classes (students with same professor). Junior nursing baccalaureate first semester
- Setting: Fundamental class, Northeastern suburban private university in United States
- Statistics: SPSS 21 utilized
- Design: Descriptive comparative quantitative

# METHOD

- IRB obtained exempt status, Adelphi University
- Consents obtained from student subjects
- Groups divided: Participants and non-participants
- Demographics completed by both groups
- Participants (25 students) completed 6 group scenario non graded assignments in class
- Non-participants (25 students) were given the scenarios individually and had the opportunity to submit assignments to professor for non graded corrections

# 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
- Professor facilitates group scenarios



# BACKGROUND

- Gender Participants 22 females & 3 Males  
Age Range 19-49 years- Mean Age 23.4 years
- Gender Non-Participants 23 females & 2 Males  
Age Range 19-26 years- Mean Age 20.6 years
- GPA Range Onset 3.6 Participant students
- GPA Range Onset 3.5 Non participant subjects

# RESULTS

- Final Grade participant subjects' mean B
- Final Grade non- participant students' mean B-
- Participant group ATi standardized test mean C+
- Non Participant group ATi standardized test mean C
- 2-tailed t-test Ati test equality of means revealed a significance of  $p = 0.032$   $\alpha = 0.05$
- Mann-Whitney non-parametric test was 0.28, which the data revealed reject the null hypothesis, which demonstrates significance at 0.05.
- Final grade for the course between groups was not significant 2-tailed t- test = .199.

# Table 1. Course Final Grade

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
Final Grade Yes	25	76.9%	93.1%	83.8%
Final Grade No	25	76.7%	90.9%	82.3%
Valid N total	50			

# Table 2. Ati Fundamental Nursing National Exam

<b>Groups</b>	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
Ati participants	25	60%	100%	79.2%
ATI Non-Participants	25	60%	85%	74%
Valid TOTAL	50			

# LIMITATIONS OF STUDY

- Small sample size
- Participants were not randomly assigned
- One site utilized, Two classes
- Some students participated in five and some in six scenarios.
- One professor
- Not all students in control group participating in the online scenarios completed them.

# CONCLUSIONS

- POGIL approach revealed higher standardized test scores 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
- Future research is needed to examine larger groups

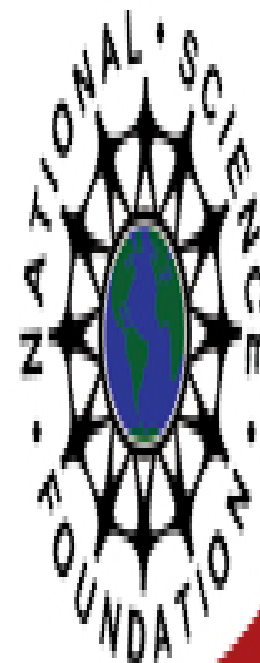
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# POGIL PROJECT

## Contact Us

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# GOAL



**SUCCESSFUL  
NURSING  
STUDENTS**



# Thank You

- QUESTIONS

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