Comparing the Effectiveness of a Modified Supplemental Instruction (SI) Model Across Two Entry-to-Practice Nursing Programs

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Abstract

A recent literature review on the effectiveness of supplemental instruction (SI) from 2001-2010 found that even when accounting for variables such as program size, self-selection bias, and methodology, SI programs had an overall positive impact on student course performance and persistence (Dawson, et al, 2014).

Students who participate in SI programs have demonstrated higher rates of high-risk course completion than those who do not participate in SI programs (Martin & Arendale, 1993, p. 26 citing US Department of Education, 1992).

The University of Maryland, Baltimore’s School of Nursing utilizes both Guided Study Sessions (GSS) (modified SI) and a peer tutoring program (1:1-1:3 students). The fall 2017 semester saw a rise in the utilization of peer tutoring over GSS. Research question: Is GSS effective for course completion as measured by attendance and final course grade?

Data Collection

- Calculated GSS attendance records for SP17 and FA17 semesters for the following courses:
  - N314 | Physiologic & Pharmacologic Considerations for Health Promotion (3 cr)
  - N317 | Fundamentals of Nursing Care in Older Adults (4 cr)
  - N324 | Pathopharmacology in Adults (3 cr)
  - N501 | Pathophysiological & Pharmacological Bases for Nursing Practice (5 cr)
  - N505 | Introduction to Professional Nursing Practice (4 cr)

- Final grades were inputted for all students in roster using Blackboard
- Control group established (no attendance (NA) = 0)
- Frequency groups established:
  - Low Attendance (LA) = 1-5 sessions/semester
  - Moderate Attendance (MA) = 6-10 sessions/semester
  - High Attendance (HA) = 11-15+ sessions/semester

Data Analysis

The relationship between GSS attendance and final course grade average was analyzed using a one-way analysis of variance (ANOVA).

No significant differences in final course grade averages existed among the frequency groups for the BSN courses analyzed (314, 317, and 324).

A significant difference in final course grade averages existed among frequency groups for two of the CNL courses (NURS 501 in Fall 2017: F(3, 60) = 3.14, p = .03 and NURS 505 in Spring 2017: F(3, 43) = 4.27, p = .01).

Results

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA</td>
<td>5</td>
<td>84.92</td>
</tr>
<tr>
<td>MA</td>
<td>17</td>
<td>86.76</td>
</tr>
<tr>
<td>HA</td>
<td>10</td>
<td>87.38</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA</td>
<td>20</td>
<td>84.13</td>
</tr>
<tr>
<td>MA</td>
<td>11</td>
<td>87.84</td>
</tr>
<tr>
<td>HA</td>
<td>6</td>
<td>90.18</td>
</tr>
</tbody>
</table>

Contributing factor(s) for difference between graduate and undergraduate levels:
- Quality of GSS leaders
- Smaller class size at graduate level = smaller GSS size
- Graduate GPA requirement higher than undergraduate GPA requirement
- More faculty support outside classroom at graduate level

Future Research

Continued research is underway. Data is being collected for SP18 semester to compare with SP17 in each course. Further evaluation of data includes:

- Is there a significant difference in final course grade averages among students who attend only peer tutoring?
- Do the findings mirror those seen with GSS attendance?
- Are students more inclined to attend GSS or 1:1 peer tutoring?
- Why is there an apparent difference in effectiveness of GSS for graduate level students versus undergraduate level students?

Definitions

- **SI**: Academic support program that employs successful later-year tertiary students to facilitate peer-learning sessions mostly attached to high-risk courses (Dawson, et al, 2014).

- **High-risk courses**: courses with “large amounts of weekly readings from difficult textbooks and secondary library reference works, infrequent examinations that focus on higher cognitive levels of Bloom’s taxonomy, voluntary and unrecorded class attendance, and large classes in which each student has little opportunity for interaction with the professor or the other students” (Arendale, 1994, pp. 11-12).

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