Writing, Engagement, and Successful Learning Outcomes in College

Bob Gonyea and Paul Anderson

Overview

- Literature Review
- Purpose/Conceptual Model
- Methods
- Results
- Limitations
- Conclusions/Implications

Literature Review

- Writing to learn
  - McLeod & Miraglia, 2001
  - Bangert-Drowns, Hurley, and Wilkinson, 2004
  - Klein, 1999
- Student engagement
  - Deep approaches to learning
  - Student-faculty interaction

Purpose

What are the direct, indirect, and total effects of the amount of writing on engagement in deep learning and student-faculty interaction, and on self-perceived learning outcomes?

Conceptual Model

Methods

- Structural Equation Modeling
- EQS 6.1
- Goodness of fit: CFI and RMSEA
Data

- National Survey of Student Engagement 2007
  - 231,000 full-time students, first-year and senior
  - 586 baccalaureate colleges and universities

Variables

- Writing Amount
  - Total number of pages written in academic year
- Deep Approaches to Learning
  - Higher-order learning activities
  - Integrative learning activities
  - Reflective learning activities
- Student-Faculty Interaction
  - Discussed grades, career plans, feedback on coursework, worked on projects outside of classroom

Self-Reported Gains in General Education
- General education learning
- Writing clearly and effectively
- Speaking clearly and effectively
- Thinking critically and analytically
Self-Reported Gains in Personal and Social Development
- Learning independently
- Understanding self and others
- Developing personal code of values and ethics
- Contributing to community

Covariates
- Gender
- Major
- Private institution
- Selectivity of institution

Results

Model Fit Indices

<table>
<thead>
<tr>
<th>Models</th>
<th>CFI</th>
<th>RMSEA</th>
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</thead>
<tbody>
<tr>
<td>Gains in General Education</td>
<td></td>
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<tr>
<td>First-Year</td>
<td>.97</td>
<td>.05</td>
</tr>
<tr>
<td>Senior</td>
<td>.96</td>
<td>.05</td>
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</tbody>
</table>

| Gains in Personal-Social Development |      |       |
| First-Year                           | .96  | .05   |
| Senior                               | .96  | .05   |

Direct, Indirect, and Total Effects

First-Year Students

<table>
<thead>
<tr>
<th>Mediator Variables</th>
<th>Direct Effects of Writing Amount on Mediators</th>
<th>General Education</th>
<th>General Personal-Social Development</th>
<th>General Education</th>
<th>General Personal-Social Development</th>
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<tbody>
<tr>
<td></td>
<td>Direct Effects on:</td>
<td></td>
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<td></td>
<td>Indirect Effects of Writing Amount on:</td>
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<td>.69</td>
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<td>.19</td>
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<td>Writing Amount</td>
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<td>-.05</td>
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<tr>
<td></td>
<td>Sum of Indirect Effects of Writing Amount</td>
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<td></td>
<td>.19</td>
<td>.17</td>
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<tr>
<td></td>
<td>Total Effects of Writing Amount (Direct + Indirect)</td>
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<td></td>
<td>.36</td>
<td>.12</td>
</tr>
</tbody>
</table>

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Results

FIRST-YEAR

Writing Amount

Deep Approaches to Learning

.28

Gains in General Education Learning

.69

Student-Faculty Interaction

-.03

-.04

Results

Deep Approaches to Learning

.28

Gains in Personal and Social Development

.52

Student-Faculty Interaction

-.05

-.12

Results

Direct, Indirect, and Total Effects

Seniors

Indirect Effects of Writing Amount on Mediators

Mediator Variables

Direct Effects of Writing Amount on Mediators

General Education Learning

Personal-Social Development

General Education Learning

Personal-Social Development

Student-Faculty Interaction

.21

.13

.00

.03

Deep Approaches to Learning

.32

.49

.21

.16

Writing Amount

-.03

-.04

-.03

-.04

Sum of Indirect Effects of Writing Amount

.21

.18

Total Effects of Writing Amount (Direct + Indirect)

.18

.14

Results

SENIORS

Writing Amount

Deep Approaches to Learning

.32

Gains in General Education Learning

.65

Student-Faculty Interaction

-.03

-.01

-.01

-.03

Results

SENIORS

Writing Amount

Deep Approaches to Learning

.22

Gains in Personal and Social Development

.49

Student-Faculty Interaction

-.04

.13

Limitations

- Self-reported data not a direct stand-in for objective outcomes
- Calculation of the writing amount contains error
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Conclusions
- Writing does enhance learning,
  - including higher-order thinking skills,
  - by driving student engagement
- Need another model of cognition of writing
- Writing is better viewed as a mode of student learning

Implications
- Basis for practical action by faculty and institutions:
  - . . . not more writing
  - . . . but writing fosters deep approaches to learning
  - Student engagement can be modeled in both direct and indirect ways

Thank you
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