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Various Forms of Student Engagement and Student Learning

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Various Forms of Student Engagement and Student Learning

Dan Richard
Melissa Newberry
University of North Florida

Presented at the SoTL Commons Conference
Statesboro, GA, March 11, 2009

Outline

• Introduction
• The Traditional Classroom
• Model of Student Engagement
• Social Psychology
• Method
• Activities
• Results
• Conclusion
Assumptions of the Traditional Classroom

NSSE SCHEMA

Active & Collaborative Learning

Level of Academic Challenge
Supportive Campus Environment
Enriching Educational Experiences
Student Faculty Interaction

http://nsse.iub.edu/index.cfm
Handelsman, et al. 2005

Student Course Engagement Questionnaire

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor 1 (Skills)</th>
<th>Factor 2 (Emotional)</th>
<th>Factor 3 (Participation)</th>
<th>Factor 4 (Performance)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Making sure to study on a regular basis</td>
<td>.64</td>
<td>.39</td>
<td>.35</td>
<td>.55</td>
</tr>
<tr>
<td>Putting forth effort</td>
<td>.59</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doing all the homework problems</td>
<td>.57</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staying up on the readings</td>
<td>.55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Looking over class notes between classes to make sure I understand the material</td>
<td>.55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Being organized</td>
<td>.55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taking good notes in class</td>
<td>.55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Listening carefully in class</td>
<td>.51</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coming to class every day</td>
<td>.47</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finding ways to make the course material relevant to my life</td>
<td>.46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applying course material to my life</td>
<td>.36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finding ways to make the course interesting to me</td>
<td>.36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thinking about the course between class meetings</td>
<td>.54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Really desiring to learn the material</td>
<td>.43</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using my hand in class</td>
<td>.82</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asking questions when I don’t understand the instructor</td>
<td>.64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Having fun in class</td>
<td>.57</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participating actively in small group discussions</td>
<td>.55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Going to the professor’s office hours to review assignments or tests or to ask questions</td>
<td>.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helping fellow students</td>
<td>.45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Getting a good grade</td>
<td>.37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doing well on the tests</td>
<td>.68</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Being confident that I can learn and do well in the class</td>
<td>.64</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Psychology of Engagement

Positive Emotion
Seeking Motive
Attention
Participation (Elaboration)
LEARNING
Why Does It Work?

Skill Learning Repetition
- John Watson
- Edward Thorndike
- Clark Hull

Elaboration and Motivation
- Craik and Lockhart
- Deci & Ryan

Memory and Attention
- Richard Hall
- Herbert Simon
- John Anderson

Information about the Course

- Three sections of undergraduate Social Psychology
- Spring 2007
- 268 Students
  - 70-80% Business Majors
- 2 day classes (Tues/Thurs) and one evening class (Monday)
- One instructor ensured consistency
Method

- Archival Review
- Question Unit of Analysis
- Coverage of topics by:
  - Textbook
  - Lecture
  - Jeopardy
  - In-class Activities
  - Discussion Board

Lecture - Close Relationships

- Need for Others
- Attraction
- Mate Selection
- Maintenance
Mate Selection

- **Matching Hypothesis** – people tend to become involved romantically with others who are equivalent in their physical attractiveness

- People avoid rejection by seeking mates that match their perception of their own attractiveness
3. An Attractive Pair

Research has shown that the hypothesis called THIS is correct, that people pair up with others who are as attractive as they are.

What is the matching hypothesis?
Choose your Poison!

- How Hot Am I?
- J-Lo and Homer Have Hips
- It’s Over!
- Your Cheatin’ Heart
- I Like You Like Me
- Ask?
- Go!

In-Class Activity- Close Relationships

- Need for Others
- Attraction
- Mate Selection
- Maintenance
Which would upset you more?

1. Imagine that you discover that the person with whom you have been seriously involved became interested in someone else. What would distress or upset you more:
   A. Imagining your partner forming a deep emotional attachment to that person.
   B. Imagining your partner enjoying passionate sexual intercourse with that other person.

Sex Differences in Jealousy

Buunk, Angleitner, Oubaid, & Buss, 1996

Distressed by Sexual Infidelity

<table>
<thead>
<tr>
<th></th>
<th>USA</th>
<th>Germany</th>
<th>Netherlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>70</td>
<td>50</td>
<td>60</td>
</tr>
<tr>
<td>Women</td>
<td>20</td>
<td>30</td>
<td>40</td>
</tr>
</tbody>
</table>

USA Germany Netherlands
Sternberg’s Triangular Theory of Love

Discussion Forum

Subject: Resolving Relationship Conflict

Author: Anonymous
Posted date: Friday, August 25, 2008 12:51:11 PM EDT
Last modified date: Wednesday, May 9, 2007 5:36:30 PM EDT
Total views: 345
Your views: 2

In class, we discussed Rubak's 4 conflict resolution strategies (Exit, Voice, Loyalty, and Neglect). Which type of conflict resolution strategy do you find yourself using most often? Which strategy do you think would be most successful in close relationships? Why?

Although I find myself using all 4 at different times, perhaps the one I use the most is Voice. I hate to let disagreements sit without resolution. I do not mind having a heated discussion if at least we have things out in the open.

I agree with you greatly. I believe Voice is the most important, since communication is so key in a healthy relationship. I use it for every aspect in both my professional and personal relationships. It helps get all voices heard and decreases the chance for neglect to take place. Loyalty is also very important, it allows trust and comfort to take place. My ex-boyfriend took the exit approach for most of our relationship which is one of the main reasons he is my ex, hahaha.
Your Ratings?

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Attention</th>
<th>Participation</th>
<th>Elaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>4.5</td>
<td>3</td>
<td>4.5</td>
</tr>
<tr>
<td>Jeopardy</td>
<td>6</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>In-Class Activity</td>
<td>5.5</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Group Activity</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Discussion Forum</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Outcome Measure

- **Total Percentage Correct** for:
- 10 Multiple-Choice Quizzes
- 20-questions per quiz
- 2 Forms per quiz
- 400 separate measures of accuracy
- Topics covered
  - 14 Chapters in Social Psychology
  - Persuasion, Social Influence, Leadership, Stereotypes, Group Behavior, etc.
Types of Questions

Higher Order Thinking Skills
- Evaluation
- Synthesis
- Analysis
- Application
- Comprehension
- Knowledge

Lower Order Thinking Skills

Results

- **Overall Accuracy**: 72%
- Students performed worse on items that were addressed with only one strategy (67%, $N=54$) than on items covered with more than one strategy (73%, $N=337$), $d = .32$
Students performed better on Applied items, not so well on Integration
\( (\eta_{\text{partial}} = .17) \)

Jeopardy Game May Buffer Poor Performance on Integration Questions
### Relationships between Activity Qualities and Question Depth

<table>
<thead>
<tr>
<th>Activity Quality</th>
<th>Knowledge</th>
<th>Application</th>
<th>Integration</th>
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</thead>
<tbody>
<tr>
<td>Attention</td>
<td>-.04</td>
<td>.13</td>
<td>.30*</td>
</tr>
<tr>
<td>Participation</td>
<td>-.05</td>
<td>.13</td>
<td>.27*</td>
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<tr>
<td>Elaboration</td>
<td>-.03</td>
<td>.14</td>
<td>.27*</td>
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</table>

* \( p < .01 \)

### Conclusion

- Different Learning Activities have differential effects on learning
- Lectures (engaged) and Jeopardy Game seem particularly effective
- Activities that involve Attention, Participation, and Elaboration predict “deep” learning (Integration)
Future Research

- Variety of Activities, Instructors
- More systematic comparison of Topics and Activities
- Engagement at the Student Level
- Interaction Effects
  - Attention the “gatekeeper”?
  - Elaboration and Participation
- Other Levels of Bloom’s Taxonomy?
- Other Aspects of Engagement

Engaging Activities?

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
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</thead>
<tbody>
<tr>
<td>Memory: Lecture</td>
<td>4.54</td>
<td>1.172</td>
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<tr>
<td>Memory: Group</td>
<td>3.91</td>
<td>1.321</td>
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<tr>
<td>Memory: In-Class</td>
<td>4.60</td>
<td>1.252</td>
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<tr>
<td>Memory: Jeopardy</td>
<td>4.46</td>
<td>1.282</td>
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<tr>
<td>Enjoyment: Lecture</td>
<td>4.31</td>
<td>.979</td>
</tr>
<tr>
<td>Enjoyment: Group</td>
<td>4.18</td>
<td>1.466</td>
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<td>Enjoyment: In-Class</td>
<td>4.81</td>
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<td>Enjoyment: Jeopardy</td>
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<td>1.348</td>
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<tr>
<td>Recommend: Lecture</td>
<td>4.97</td>
<td>1.116</td>
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<tr>
<td>Recommend: Group</td>
<td>4.42</td>
<td>1.382</td>
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<tr>
<td>Recommend: In-Class</td>
<td>5.00</td>
<td>1.171</td>
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<tr>
<td>Recommend: Jeopardy</td>
<td>4.84</td>
<td>1.235</td>
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</table>