Student Ratings, Teacher Standards, and Critical Thinking Skills

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Background for Study

- Misconceptions about student ratings
- Teacher standards
- Disciplinary differences
- Critical thinking skills
Instrumentation

Students rate frequency of 20 teaching methods and progress on 12 learning objectives.
### Progress on Relevant Objectives

#### Your Average Scores

<table>
<thead>
<tr>
<th>Comparison Category</th>
<th>Your Average (5-point scale)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Progress on Relevant Objectives</td>
<td>Raw: 4.2, Adj: 4.2</td>
</tr>
<tr>
<td>Four objectives were selected as relevant (Important or Essential – see page 2)</td>
<td></td>
</tr>
</tbody>
</table>

### Summary Evaluation (Average of A & D): 4.2

#### Your Converted Average When Compared to All Classes in the IDEA Database

<table>
<thead>
<tr>
<th>Comparison Category</th>
<th>A. Progress on Relevant Objectives</th>
<th>B. Excellent Teacher</th>
<th>C. Excellent Course</th>
<th>D. Average of B &amp; C</th>
<th>Summary Evaluation (Average of A &amp; D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Much Higher</td>
<td>Highest 10% (63 or higher)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher Next 20%</td>
<td>(56-62)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Similar Middle</td>
<td>40% (45-55)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower Next 20%</td>
<td>(38-44)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Much Lower</td>
<td>Lowest 10% (37 or lower)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Overall Ratings

<table>
<thead>
<tr>
<th>Overall Ratings</th>
<th>B. Excellent Teacher</th>
<th>C. Excellent Course</th>
<th>D. Average of B &amp; C</th>
</tr>
</thead>
<tbody>
<tr>
<td>56</td>
<td>54</td>
<td>57</td>
<td>57</td>
</tr>
</tbody>
</table>

### Summary Evaluation

<table>
<thead>
<tr>
<th>Summary Evaluation (Average of A &amp; D)</th>
<th>57</th>
</tr>
</thead>
</table>

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1. If you are comparing Progress on Relevant Objectives from one instructor to another, use the converted average.

2. The process for computing Progress on Relevant Objectives for the Discipline and Institution was modified on May 1, 2006. Do not compare these results with reports generated prior to this date.

**IDEA Discipline used for comparison:** Physics
### Progress on Relevant Objectives

<table>
<thead>
<tr>
<th>Importance Rating</th>
<th>Your Average (5-point scale)</th>
<th>Percent of Students Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essential</td>
<td>4.5</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>92%</td>
</tr>
<tr>
<td>Essential</td>
<td>4.4</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>92%</td>
</tr>
<tr>
<td>Essential</td>
<td>4.2</td>
<td>4%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>88%</td>
</tr>
</tbody>
</table>

- **Minor/None**
- **Important**
  - Your Average: 3.2
  - Percent of Students Rating: 29% (42% adjusted)

### Converted Average When Compared to Group Averages

<table>
<thead>
<tr>
<th>IDEA Database</th>
<th>IDEA Discipline</th>
<th>Your Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw</td>
<td>Adjusted</td>
<td>Raw</td>
</tr>
<tr>
<td>60 Higher</td>
<td>59</td>
<td>55</td>
</tr>
<tr>
<td>60 Higher</td>
<td>59</td>
<td>55</td>
</tr>
<tr>
<td>53 Similar</td>
<td>56</td>
<td>48</td>
</tr>
<tr>
<td>40 Lower</td>
<td>41</td>
<td>31</td>
</tr>
<tr>
<td>44 Lower</td>
<td>44</td>
<td>55</td>
</tr>
</tbody>
</table>

**Key:**
- **Higher**
- **Similar**
- **Lower**

**Notes:**
- 4.5 + 4.5
- 4.4 + 4.4
- 4.2 + 4.2
- 3.2
- 7
Research Question #1

Are student perceptions of teacher expectations/standards related to student progress on relevant objectives?

“The instructor expected students to take their share of responsibility for learning.”

“The instructor had high achievement standards in this class.”
Research Question #2

Are student perceptions of teacher expectations/standards related to overall ratings of the teacher?

“Overall, I rate this instructor an excellent teacher”

“The instructor expected students to take their share of responsibility for learning.”

“The instructor had high achievement standards in this class.”
Research Question #3

Are student perceptions of teacher expectations/standards related to overall ratings of the course?

“Overall, I rate this course as excellent”
“The instructor expected students to take their share of responsibility for learning.”
“The instructor had high achievement standards in this class.”
Research Question #4

Which teaching methods are most strongly associated with student progress on critical thinking skills?

“Learning to analyze and critically evaluate ideas, arguments, and points of view”
Teaching Methods

• Found ways to help student answer their own questions
• Explained the reasons for criticisms of students’ academic performance
• Stimulated students to intellectual effort beyond that required by most courses
• Introduced stimulating ideas about the subject
• Inspired students to set and achieve goals which really challenged them
• Asked student to share ideas and experiences with others whose backgrounds and viewpoints differ from their own
• Gave projects, tests, or assignments that required original or creative thinking
Method

• Instrumentation
  • IDEA Online
  • Faculty Information Form
  • Student Ratings Diagnostic Form (paper and online forms)

• Data source
  • Student ratings for approximately 300 institutions, 2006-2010
  • 297,180 classes (online and F2F)
  • 78% response rate

• Coding of disciplines
  • 95.4% agreement
RQ1: Are student perceptions of teacher expectations/standards related to student progress on relevant course objectives?

- Instructor had high achievement standards ($\beta = .45$)
- Instructor expected students to take their share of responsibility for learning ($\beta = .26$)
- Structure (hard, soft), $\beta = -.04$
- Application (pure, applied), $\beta = -.04$
- $R^2 = .47$
RQ2: Are student perceptions of teacher expectations/standards related to overall ratings of the teacher?

- Instructor expected students to take their share of responsibility for learning ($\beta = .35$)

- Instructor had high achievement standards ($\beta = .32$)

- Structure (hard, soft), $\beta = -.06$

- Application (pure, applied), $\beta = .05$

- $R^2 = .40$
RQ3: Are student perceptions of teacher expectations/standards related to overall ratings of the course?

- Instructor expected students to take their share of responsibility for learning ($\beta = .36$)

- Instructor had high achievement standards ($\beta = .31$)

- Structure (hard, soft), $\beta = -.08$

- Application (pure, applied), $\beta = -.06$

- $R^2 = .43$
RQ4: Which teaching methods are most strongly associated with student progress on critical thinking skills?

- “Asking students to share ideas and experiences with others whose backgrounds are different from their own” \( R^2 = .61 \)

- “Stimulating students to intellectual effort beyond that required by most courses” Partial \( R^2 = .11 \)

- “Giving projects, tests or assignments that required original or creative thinking” Partial \( R^2 = .01 \)
Limitations of the Study

• Limited to classes that use IDEA
• Limited to questions on the IDEA instrument
• Strictly quantitative approach
• Single-item measure of critical thinking skills
Key Findings

- Student progress is positively related to:
  - High instructor achievement standards
  - Expectation that students share responsibility for learning

- Overall rating of instruction is positively related to:
  - Expectation that students share responsibility for learning
  - High instructor achievement standards
Key Findings

• Overall rating of course is positively related to:
  • Expectation that students share responsibility for learning
  • High instructor achievement standards
Key Findings

Student progress on critical thinking skills most strongly associated with how frequently the instructor:

- Asks students to share ideas and experiences with others whose backgrounds are different from their own
- Stimulates students to intellectual effort
- Gives projects, tests or assignments that require original or creative thinking
Questions ?

www.theideacenter.org

Visit our IDEA Help Community!