Timing of Student Evaluations of Teaching in a Veterinary Medical Education Setting

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Outline

- The problem
- Theoretical framework
- Research questions
- Methodology
- Results
- Discussion & future directions
THE PROBLEM

Student Evaluations of Instruction

> 30 mean evaluations per student per semester

Why 30?
What do students evaluate?

• Semester curriculum
• 9 – 11 Courses
  – Specialty team taught

• Instructors
  – 4 lectures/labs taught
    • Minimum for evaluation

Ex: VMD 846–Multispecies Medicine

Dr. Greenacre

Dr. Ramsay

Dr. Anderson

Dr. Cushing

Dr. Jones
Low Evaluation Response Rates

- Survey fatigue\(^1\)
  - 11 or more = lower response rate
- Validity of results

1. Adams & Umbach, 2010

Evaluations of Instructors: Response Rates by Cohort

Timing of Evaluations

- *After final exams?*
  - Knowledge of grade\(^1,2\)
  - Negative bias\(^3\)
  - Fewer substantial comments\(^4\)

1. Arnold, 2009
2. Hoefer, Yurkiewicz, & Byrne, 2012
4. McNulty, et al., 2010
THEORETICAL FRAMEWORK

Study Theoretical Framework

• Self-serving bias¹
  – Internalize success
  – Externalize failure

• Revenge theory¹,²
  – Enact revenge due to poor performance³
  – Provide poor evaluation scores, negative, non-constructive comments

1. Arnold, 2009
2. Cho & Cho, 2017
3. Maurer, 2006
Research Questions

Does the timing of veterinary students’ evaluations (before or after final exams) of instructors affect the following, as related to self-serving bias and revenge theories:

1. Completion rate?
2. Numerical scores on evaluations?
3. Number and substance of comments?
METHODOLOGY

Student Evaluation Methods

Fall 2017 & Spring 2018

- Random Assignment
  - Microsoft Excel
- Emails from
  - Associate Dean for Academic Affairs
  - Curriculum & Assessment Coordinator
- 2-wk completion window
  - Before finals
  - After finals
- Bulk e-mail reminders
  - 1 week remaining
  - 1 day remaining
Research Site & Population

- UT College of Veterinary Medicine
  - All veterinary students in first 3 years of study
    - 264 students
    - 2,483 evaluations
    - 4th-year students excluded

- IRB Approved

Quantitative Data CLEANING\(^1\)–Evaluation Items

- Non-normal distribution
  - Robust with large sample size, Likert scale, \(t\) test, conservative alpha\(^2\)

- Missing data
  - Most items <5%
  - Large sample size
  - Pairwise deletion

1. Morrow & Skolits, 2017
2. Garson, 2012
Quantitative Data CLEANING

- Quantitative comment data
  - Non-normal distribution
    - Kurtosis = 3.10
  - Robust with independent t test


Quantitative Data ANALYSIS (SPSS 24)

- Completion Rate
  - 2016/17 & 2017/18
  - Chi-square
- Evaluation Items
  - Independent t tests

- Comments
  - Word Count
    - Independent t test
  - Comments Provided/ Evaluations Completed
    - Chi-square
Qualitative Data ANALYSIS\(^1\) (NVivo 12)

- Team eclectic **coding**
  - Descriptive (exploratory)
  - Magnitude
- Developed **categories** from 1\(^{st}\)-round descriptive coding
- Identified **themes**

1. Saldaña, 2013

RESULTS
1. Completion rate

- Instructors only
- $\chi^2(1) = 129.95$
- $p < .001$
- Significantly lower completion rate in 2017/18

<table>
<thead>
<tr>
<th>Semester</th>
<th>Completion Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2016</td>
<td>47%</td>
</tr>
<tr>
<td>Spring 2017</td>
<td>23%</td>
</tr>
<tr>
<td>Fall 2017</td>
<td>36%</td>
</tr>
<tr>
<td>Spring 2018</td>
<td>23%</td>
</tr>
</tbody>
</table>

2. Item numerical ratings

- Instructors only
- No statistical differences in any item before vs after finals

<table>
<thead>
<tr>
<th>Item #</th>
<th>Increased means before</th>
<th>Item #</th>
<th>Increased means after</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Lectures/labs organized, clear objectives (+.05)</td>
<td>1</td>
<td>Instructor concerned with facilitating learning (+.01)</td>
</tr>
<tr>
<td>3</td>
<td>Instructor willing to discuss material outside class (+.01)</td>
<td>8</td>
<td>Instructor covered material at pace reasonable for me (+.06)</td>
</tr>
<tr>
<td>4</td>
<td>Instructor encouraged interaction, answered questions in class (+.03)</td>
<td>9</td>
<td>Directions for assignments clear, specific (+.01)</td>
</tr>
</tbody>
</table>
3. Percent of Evaluations with Comments*

- $\chi^2(1) = 10.00$
- $p = .002$

- Overall
  - Before: 30%
  - After: 40%

3. Mean word count per comment*

- $t(258) = 2.33$
- $d = .26$
- $p = .02$

- Overall:
  - Before: 49.59 ± 39.06
  - After: 40.47 ± 30.59

*Year 3 cohort ONLY
3. Student comments – Categories*

- Before Finals
  - “Entertaining” instructor
  - Satisfactory delivery pace
  - Slides lack detail

- After Finals
  - Interesting & enthusiastic instructor
  - Slow delivery pace
  - Slides & notes lack coordination
  - Slides & notes overwhelming

*Year 3 cohort ONLY
3. Student Comments – ASSESSMENT Themes*

<table>
<thead>
<tr>
<th>Before Finals</th>
<th>After Finals</th>
</tr>
</thead>
<tbody>
<tr>
<td>– Material presented in too much detail to study</td>
<td>– Information tested incongruent with material given in class</td>
</tr>
<tr>
<td></td>
<td>– Low-stakes assessments appreciated</td>
</tr>
<tr>
<td></td>
<td>– Exams challenging but fair</td>
</tr>
</tbody>
</table>

*Year 3 cohort ONLY

DISCUSSION & FUTURE DIRECTIONS
Limitations

- Same (anonymous) participants filled out multiple evaluations for certain instructors who taught in more than one course
- Restricted to one veterinary school

Practical Uses

- Can we use results to:
  - Inform change
  - Alter current practices
  - Increase the value of student evaluations to instructors
  - Reduce student stress
Future Directions

- Analysis of 1st & 2nd-yr student comments
- Examine other higher education student populations

Questions?

Advice?

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Dr. Sonya McNeely
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References


