The Impact of Supplemental Recorded Lectures on Student Satisfaction, Attendance, and Performance

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Traditional Classroom Environment
Course Accessibility

- Traditional face-to-face
- Face-to-face in addition to online course management system
- Face-to-face with audio/visual recorded lectures
- Live videoconferencing/videostreaming
- Pure distance learning
Recorded Lectures

• Use has increased significantly over the past several years

• Allows for flexibility for students  Williams et al., 2012

• Provides a better “fit” for generation Y (Skene et al., 2007)
Perceptions

**Students**
- Positively impacts learning (Williams & Fardon, 2005)
- Enhances the course (McElroy & Blount, 2006)
- Makes it easier to learn
- Helps achieve better results
- Appreciate additional study tool
- Still appreciate face-to-face lectures (Preston et al., 2010)

**Instructors**
- Encourages students to give preference to other commitments (Preston et al., 2010)
- Decreases attendance (Preston et al., 2010)
- Lack of immediate feedback to students (Preston et al., 2010)
Effects of Using Recorded Lectures

- Makes learning uninteresting  
  (Bennett and Maniar, 2007)
- Decreases the development of independent learners  
  (Bennett and Maniar, 2007)
- Performed in a microeconomics course  
  (Williams et al., 2012)
  
  - Attendance determined benefit
    - Complete substitution – disadvantage
    - Attended most lectures – added benefit
  
  - Recorded lectures work better as a complement to face-to-face lectures
Rationale and Significance: Current Study

• To evaluate the impact of recorded lectures on student satisfaction, attendance, and performance in a senior level nutrition science course.

• Not previously performed in field.

• Results may elicit a change in practice based on performance, satisfaction, and attendance.
Participant Description

- Junior and senior students in nutritional biochemistry course
- N = 47
- Fall 2013
- Class performance based on:
  - 3 Exams
  - 9 Quizzes
  - Group project
Methods

• Professor recorded every lecture using Camtasia software.

• Lectures were uploaded immediately after class.

• Anonymous surveys were collected at mid-point and semester end to measure satisfaction.
Methods

• UF Video Services provided all usage data from students.
• Performance was assessed using individual exam scores and total points (excluding project).
• Usage divided into tertiles for each exam and total points.
• Attendance was calculated based on seven randomly selected days during fall 2013 and compared to fall 2012.
Performance Results

<table>
<thead>
<tr>
<th>Performance Point</th>
<th>Grade Highest Users</th>
<th>Grade Lowest Users</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>86.9±8.6</td>
<td>83.2±10.4</td>
<td>p = 0.032*</td>
</tr>
<tr>
<td>Exam 2</td>
<td>85.8±11</td>
<td>83.3±13.1</td>
<td>p &gt; 0.05</td>
</tr>
<tr>
<td>Exam 3</td>
<td>76.7±11.3</td>
<td>72.9±14.8</td>
<td>p &gt; 0.05</td>
</tr>
<tr>
<td>Total points</td>
<td>328.9±34.7</td>
<td>322.5±32.8</td>
<td>p &gt; 0.05</td>
</tr>
</tbody>
</table>

• Significant difference in performance on exam 1 between highest and lowest tertile of video users (p=0.032).
• No significant differences between highest and lowest users for exams 2, 3, or total points.
Student Survey

Have you used the video tools? __ Yes __ No
If you have used the video tools, please answer the following questions:
How helpful have you found the video tools? (please indicate below)

<table>
<thead>
<tr>
<th>It was a hindrance</th>
<th>Not helpful</th>
<th>Neutral</th>
<th>Somewhat helpful</th>
<th>Very helpful</th>
<th>I don’t know what I would have done without them</th>
</tr>
</thead>
<tbody>
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<td></td>
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</tbody>
</table>

__To study for quizzes
__To study for tests
__To review for difficult material
__To review material I missed in class
__So that I can actively listen in class and take notes using the videos
__So that I can actively listen in class and take notes using the videos
__So that I don’t have to come to class
__Other (please specify)

Should we do this again next year? __ Yes __ No
Survey Results

<table>
<thead>
<tr>
<th>Reasons for utilizing recorded lectures</th>
<th>Mid-point (%) n = 44</th>
<th>Semester end (%) n = 39</th>
</tr>
</thead>
<tbody>
<tr>
<td>To review material missed in class</td>
<td>100</td>
<td>68</td>
</tr>
<tr>
<td>To review difficult material</td>
<td>91</td>
<td>68</td>
</tr>
<tr>
<td>To study for quizzes</td>
<td>73</td>
<td>79</td>
</tr>
<tr>
<td>To study for tests</td>
<td>64</td>
<td>79</td>
</tr>
<tr>
<td>To actively listen in class and take notes using videos</td>
<td>64</td>
<td>37</td>
</tr>
</tbody>
</table>

- Only one student reported using the videos to skip class.
- No difference in attendance between fall 2012 and 2013 (82% and 84.5%).
Student Responses

“I didn’t use the videos, but you should do it again. Other people really used them.”

“...really helps ESE students!”

Used videos because “I missed class to have a baby.”

“Make sure that the microphone and other technical things are working before you record...”
Conclusions

• Recorded lectures were very well received.
• High satisfaction with recorded lectures.
• Students developed a sense of reliance on videos.
• Performance was improved on one exam.
• Attendance was not affected.
Other Observations...

• Results dependent on several factors:
  – Size of class
  – Type of students
  – Instructor immediacy
Questions??
References