Access to Communication for Deaf, Hard-of-Hearing and ESL Students in Blended Learning Courses

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Definition of Blended Learning at RIT
• 25-50% classroom lectures
• Other seat time replaced by instructor-guided online learning activities
  – Quizzes
  – Virtual projects (team and/or alone)
  – Synchronous chats
  – Asynchronous discussions

Traditional Classroom Challenges
• With Interpreters and Hearing Instructors
  – Lag Time
  – Difficulty in responding to Instructor Questions
  – Feel out of Sync
  – Not comfortable stopping flow to ask questions
  – Feel isolated or left out of interaction in mainstream settings

Online Learning
• Slows Synchronous pace
• Allows deaf, HH and ESL students more time to compose a response or ask a relevant question

Blended Learning
• Joins the best of traditional and online learning activities
• More universities involved using courseware management systems
• Academic leaders endorse active learning & use of instructional technology

Results from Other Studies with Other Student Populations
• University of Central Florida
• 2003-04 RIT survey without demographic information:
  – 95% course completion rates
  – 70% of students favored blended learning.
  – Faculty energized by redesigning for a blended format
RIT 2004-05 Study - Perception of Communication from 4 Groups

- Hearing
- Deaf
- Hard-of-Hearing
- English as a Second Language (ESL)

2004-05 Survey of All Blended Learning Students at RIT

- 3 quarters
- 582 students (53% response rate)
- 68% male, 32% female
- 96% full time, 4% part-time
- 85% undergraduate, 15% graduate
- 3% deaf, 4% hard of hearing, 93% hearing
- Within hearing group, 10% English second language

RIT Blended Survey, continued...

- 16 Likert items
- 2 open ended questions
- 4 demographic items

RIT Blended Survey, continued...

Two types of Likert Questions used:

1. Asked students to rate their agreement with specific statements using this five point scale:
   - 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly Disagree
   - Examples of these items include:
     - "I learned more about my fellow students because part of this course was online"
     - "I interacted more with fellow students because part of this course was online."

2. Asked students to compare their level of interaction in this blended course to more traditional courses that meet only in the classroom using this five point scale:
   - 5 = Increased, 4 = Somewhat Increased, 3 = No Difference, 2 = Somewhat Decreased, 1 = Decreased
   - Examples of these ratings include:
     - "The amount of interaction with other students"
     - "The quality of your interaction with the professor."

The two open-ended questions were:

- "If more courses were offered like this (ones that meet in the classroom and online) what changes would you recommend?"
- "What did you like best about this course?"
RIT Blended Survey, continued...

- Demographic Questions
- Finally, the survey asked four demographic questions:
  1. Student workload (full or part-time)
  2. Hearing status (hearing, hard-of-hearing or deaf)
  3. Level of program (graduate or undergraduate)
  4. If English is a second language (Yes, No)

Survey Results

Ease of Communication, “Agreed” or “Strongly Agreed”

<table>
<thead>
<tr>
<th>Question</th>
<th>Deaf</th>
<th>Hard-of-Hearing</th>
<th>ESL</th>
<th>Hearing</th>
</tr>
</thead>
<tbody>
<tr>
<td>I learned more about my fellow students because part of this class was online</td>
<td>60%</td>
<td>60%</td>
<td>30%</td>
<td>20%</td>
</tr>
</tbody>
</table>

Amount & Quality of Interaction, “Somewhat Increased” or “Increased”

<table>
<thead>
<tr>
<th>Question</th>
<th>Deaf</th>
<th>Hard-of-Hearing</th>
<th>ESL</th>
<th>Hearing</th>
</tr>
</thead>
<tbody>
<tr>
<td>The amount of your interaction with other students</td>
<td>60%</td>
<td>60%</td>
<td>45%</td>
<td>30%</td>
</tr>
<tr>
<td>The quality of your interaction with other students</td>
<td>60%</td>
<td>60%</td>
<td>45%</td>
<td>30%</td>
</tr>
</tbody>
</table>

Deaf and HH student Comments

- “I think the online discussion is the best (part of) this class.”
- “(I like) learning about other students who are in this class and their opinions and beliefs about the things we learn in class.”
- “I liked how I was able to interact more with other students, especially the hearing.”
- “At least I get to read about other students’ thoughts and opinions about the assigned readings and assignments. It allows room for learning and increased knowledge.”
- “Neutrality and respect regardless of race and disability. Only respect you receive is from knowledge and opinions not based on your appearances.”

Communication with Instructor, “somewhat increased” or “increased”

<table>
<thead>
<tr>
<th>Question</th>
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<th>Hard-of-Hearing</th>
<th>ESL</th>
<th>Hearing</th>
</tr>
</thead>
<tbody>
<tr>
<td>The amount of your interaction with the professor</td>
<td>60%</td>
<td>55%</td>
<td>55%</td>
<td>20%</td>
</tr>
<tr>
<td>The quality of your interaction with the professor</td>
<td>70%</td>
<td>40%</td>
<td>20%</td>
<td>30%</td>
</tr>
</tbody>
</table>
Deaf and HH Comments relating to Communication with the Instructor

- “Since no interpreters are on night class, it is more convenient for me to communicate with teacher and students online.”
- “I seemed to have a greater voice in lending my opinion and questions regarding the topics in which I have received a great amount of feedback.”
- “The study of cultural differences and applying it to my life was interesting, and the use of online postings was much more interactive for me.”
- “More availability with the instructor…”

Overall Satisfaction with Blended Experience, “Agreed or “Strongly Agreed”

<table>
<thead>
<tr>
<th>Table 4: Overall Satisfaction</th>
<th>Deaf</th>
<th>Hard of Hearing</th>
<th>ESL</th>
<th>Hearing</th>
</tr>
</thead>
<tbody>
<tr>
<td>I like learning part of the course online and part of it in the classroom</td>
<td>66%</td>
<td>70%</td>
<td>53%</td>
<td>40%</td>
</tr>
<tr>
<td>I like learning from online activities</td>
<td>61%</td>
<td>66%</td>
<td>49%</td>
<td>38%</td>
</tr>
<tr>
<td>Other students should have the opportunity to take a class like this in the future</td>
<td>70%</td>
<td>74%</td>
<td>60%</td>
<td>49%</td>
</tr>
</tbody>
</table>

Deaf and HH perceived Advantages of Blended Learning

- “I like the part where we can take part of the course in and out of the classroom.”
- “I would say that is fun to do project but I rather try online for credit because I live off campus and sick of go to class to learn something new, I would like to get online and learn something new that mean time is gonna be flexible which is much better.”
- “The fact that the course was combined with online time really allowed me to manage my time better. It is always a long day for me, so it takes a lot of stress away for me to be able to not go to class every time.”
- “Flexible time in when to meet for class and for on my own time.”
- “I can say this course is more independent for the students.”

Conclusion

- Most RIT students positive about blended format
- Deaf and HH most positive
  - Direct interaction with instructor and peers without interpreters
  - More level communication playing field

Questions?