Blended learning: Is there an optimal mix of online and face-to-face instruction?

AACE World Conference on Conference on E-Learning
October 20, 2017

Ron Owston, PhD
Faculty of Education
<table>
<thead>
<tr>
<th>Proportion of Content Delivered Online</th>
<th>Type of Course</th>
<th>Typical Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>Traditional</td>
<td>Course with no online technology used — content is delivered in writing or orally.</td>
</tr>
<tr>
<td>1 to 29%</td>
<td>Web Facilitated</td>
<td>Course which uses web-based technology to facilitate what is essentially a face-to-face course. Uses a course management system (CMS) or web pages to post the syllabus and assignments, for example.</td>
</tr>
<tr>
<td>30 to 79%</td>
<td>Blended/Hybrid</td>
<td>Course that blends online and face-to-face delivery. Substantial proportion of the content is delivered online, typically uses online discussions, and typically has some face-to-face meetings.</td>
</tr>
<tr>
<td>80+%</td>
<td>Online</td>
<td>A course where most or all of the content is delivered online. Typically have no face-to-face meetings.</td>
</tr>
</tbody>
</table>

Source: Sloan-C report Blending-In
Todaysmeet.com/Blend

TodaysMeet

Blind

Listen

Welcome and post your comments/questions here.

7 minutes ago by Ron

Talk

Nickname:

Join
Quality of experience in my course

Student satisfaction

Proportion online
Blended learning clearly provides students with choice

Allows for flexibility in students’ study, work, and life balance
Our full-time students are working!

% full time students working

<table>
<thead>
<tr>
<th></th>
<th>USA</th>
<th>Canada</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>% working</td>
<td>41</td>
<td>52</td>
<td>61</td>
</tr>
</tbody>
</table>
University of Central Florida (Moskal et al 2013)

My course was excellent n=913,688

- Blended: Excellent
- Online: Excellent
- Lecture: Excellent
Preference for blended course format at York University

N = 2121

- Fully online: 12%
- Blended: 48%
- Face-to-face: 40%
I would take another course in the future that has both online and face-to-face components [at York U]

- 24% Disagree/Strongly Disagree
- 20% Neutral
- 56% Agree/Strongly Agree

N = 2121, 34 courses
Many blends are possible

- Weekly replacement
- Alternating week replacement
- Beginning or end replacement
- Tutorials/online lectures
- Others ???
Taking this blended course increased my interest in the material [at York U]
Students don’t want “all tech, all the time”

Brooks (2016) ECAR report
But what about performance with different blends?
Success and withdrawal rates by modality (Moskal et al. 2013)

<table>
<thead>
<tr>
<th>Success by modality</th>
<th>Modality</th>
<th>n</th>
<th>Success (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Blended</td>
<td>69,436</td>
<td>90.8</td>
</tr>
<tr>
<td></td>
<td>Fully online</td>
<td>188,776</td>
<td>88.3</td>
</tr>
<tr>
<td></td>
<td>Face-to-face</td>
<td>839,028</td>
<td>87.7</td>
</tr>
<tr>
<td></td>
<td>Lecture capture</td>
<td>16,354</td>
<td>83.9</td>
</tr>
<tr>
<td></td>
<td>Blended lecture capture</td>
<td>45,213</td>
<td>84.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Withdrawal by modality</th>
<th>Modality</th>
<th>n</th>
<th>Withdrawal (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lecture capture</td>
<td>18,037</td>
<td>5.3</td>
</tr>
<tr>
<td></td>
<td>Fully online</td>
<td>188,916</td>
<td>4.3</td>
</tr>
<tr>
<td></td>
<td>Face-to-face</td>
<td>933,846</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>Blended lecture capture</td>
<td>55,665</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>Blended</td>
<td>70,045</td>
<td>2.8</td>
</tr>
</tbody>
</table>
Cochrane Database of Systematic Reviews

The Cochrane Database of Systematic Reviews (CDSR) is the leading resource for systematic reviews in health care. The CDSR includes Cochrane Reviews (the systematic reviews) and protocols for Cochrane Reviews as well as editorials. The CDSR also has occasional supplements. The CDSR is updated regularly as Cochrane Reviews are published ‘when ready’ and form monthly issues; see publication schedule.

To explore Cochrane Reviews you can use the advanced search or you can browse by topic or by Cochrane Review Group (CRG).
Five meta-analyses show BL students higher than F2F

Average Effect Size = 0.38
Zhao et al. (2007) meta-analysis

- 100% Online = face-to-face
- 90 – 100% Online > face-to-face
- 60 – 80% online >> face-to-face
<table>
<thead>
<tr>
<th>Study</th>
<th>Percentage Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Means et al.</td>
<td>&gt;50%</td>
</tr>
<tr>
<td>Bernard et al</td>
<td>30% - 50%</td>
</tr>
<tr>
<td>Zhao et al.</td>
<td>60% - 80%</td>
</tr>
</tbody>
</table>
Students attend 50% of classes when given the choice

Asarta & Schmidt 2015
Now to my study...
The nagging question when designing blended courses: Does the proportion of time devoted to online activities matter?

Ron Owston*, Dennis N. York

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Low blend (27-30% online)

Medium blend (36-40% online)

High blend (50% online)

Supplemental (F-2-F classes/online tutorials)

1010 students in 20 different courses
What blends do students prefer most?

High, medium, low → Supplemental

High & medium → Low

All questions
What about performance?

Grade point difference

<table>
<thead>
<tr>
<th>Grade</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOW</td>
<td>-0.2</td>
</tr>
<tr>
<td>MEDIUM</td>
<td>0.58</td>
</tr>
<tr>
<td>HIGH</td>
<td>0.68</td>
</tr>
<tr>
<td>SUPPLEMENTAL</td>
<td>-0.2</td>
</tr>
</tbody>
</table>
50% preferred

33% less preferred
So what can we conclude about proportion of online time in blended courses?
Quality of experience in my course

Student satisfaction

Proportion online

0 % 100%
Ideal blend???

Student satisfaction/performance

Proportion online

0 % 100%

50 %
Student ↔ Student

QUALITY OF INTERACTION IS KEY

Instructor ↔ Student
Class discussions flow into online

Instructor presence essential

Synthesize online discussions in class

Collaborative projects

FAQs – where students and instructors respond

Give frequent, focused feedback

Grade online activities appropriately
In summary...

Blended learning can lead to greater student satisfaction and learning

BUT

Consideration must be given to amount of time online and how that time is used

Questions/comments?
Follow up ...

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