Using Asynchronous Online Discussions in Blended Courses: Comparing Impacts Across Courses in Three Content Areas

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Today's Agenda

- Background
- Purdue project
- Study
- Results
- Conclusions and Implications
- Q&A

Background

Online and Hybrid Learning

- Nearly 4 million college students took at least one online course in Fall 2007*
- Online enrollments in 2007 grew 12.9% compared to the previous year
- Blended or hybrid courses, which combine face-to-face and online elements, are offered in proportions similar to online courses

*Data from Sloan Consortium national surveys

Asynchronous Online Discussions

- Common feature of many online and hybrid courses today
- In online courses, they substitute for traditional face-to-face discussions
- In blended courses, they extend student interaction with the content and one another beyond traditional class time

Asynchronous Online Discussions

- Provide opportunities for student content learning and higher-order thinking
- Provide time for reflection and response
- Maintain an archive of students' postings
- Are perceived to be egalitarian
- Contribute to a sense of community online
- Align with a constructivist perspective of learning

Purdue Project

Examining Peer Feedback

- Managing online discussions can be very labor intensive!
- With funding from FIPSE, we are investigating the efficacy of using peer feedback in online discussions.
- Process involves the use of peers in giving critical feedback in online discussions.

Peer Feedback Benefits

- Offers potential learning benefits both to those giving the feedback and those receiving it
- May offer a means of reducing instructor workload in online learning environments
- Used in courses in education, engineering, English, speech language and hearing sciences, and veterinary medicine to date

Discussion Question

Description (click to collapse)

Background: Before jumping into this discussion, you will need to watch and listen to the information provided at: Learning Theories - Online Discussion 1. Click on this link, turn on your ear phones, and take notes on what is being discussed. That presentation will explain what it is you are to do for this week's discussion.

Dividing you into small groups for the discussion: For this discussion you will be divided into three groups (one group for each of the major theoretical perspectives). Use this chart to determine which theoretical perspective you are to discuss.

If your last name begins with **A** through **H**	**Behaviorism**
If your last name begins with **I** through **Q**	**Cognitive Information Processing**
If your last name begins with **R** throught **Z**	**Constructivism**

What you need to do:

1. Read the following case:

Let's imagine that you work for an educational firm that develops learning curriculum for elementary school children. Your company adheres to a very behaviorally/information processing/constructivistically [use the one youhave been assigned] oriented viewpoint of learning. A large school district in Texas has come to your company and asked for you to develop a proposal for the development of a science unit of instruction for fifth grade students. Your unit will specifically be focused on "insects." This is a very important potential client for your company and your proposal will be in competition with two other companies.

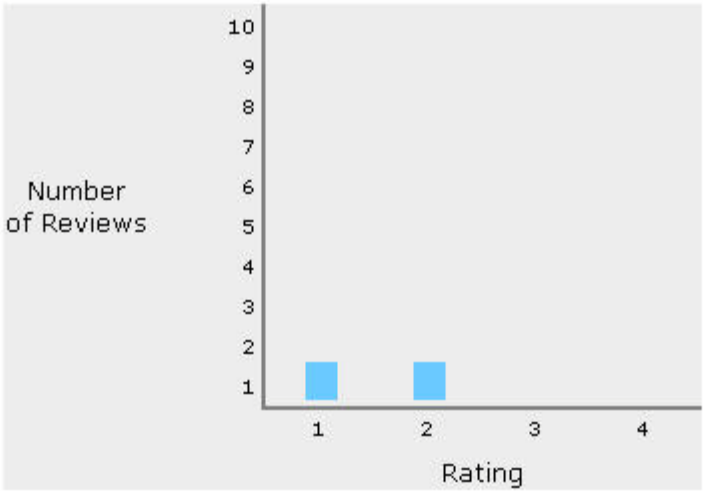
2. Discuss the following:

Part I: Identify two (or more) key elements based on your theoretical perspective that could be included within the learning materials in order for them to be effective. Explain how and why your elements are associated with your specific theoretical viewpoint. For example, if you are presenting key behavioral elements within your instruction, you might want to explain why reinforcement/rewards would play a critical role

Blackboard Tool Student View

Last Name	First Name	User Name	Role	Rating
Doyle	Meghan	mcdoyle	Student	**
Reason: Your ideas were great! I liked how you said matching the first letter tactic, that works well with me too..but you didnt mention about relating to the insects!				
Woerner	Robert	rwoerner	Student	*
Reason: Although you have a good grasp of what cognitive information processing is, you did not connect the key elements to the example of the fifth grade insect project.				

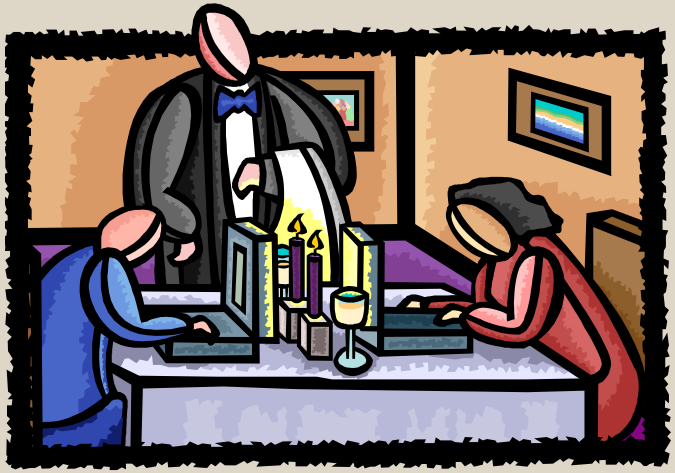
Ratings distribution



Student Summary

Last Name	First Name	User Name	Role	Rating
Ruby	Amanda	aruby	Student	★★★★
Reason: This response was extremely helpful! I like how you touched on sooo many different areas of constructivism, while using the same example to talk about each one. It really helped me learn about what constructivism is, and how to write a clear response. Good job! It was awesome!				
Muesing	Katelin	kmuesing	Student	★★★☆
Reason: This was very insightful in the way of learning using the environment and fellow students. I really liked how you thoroughly explained constructivism in the setting of the fifth grade classroom. Good detail:)				
Irvin	Kathy	irvink	Student	★★★★
Reason: I like the real life incorporation of the examples. This really shows what the theory is about.				
Richards	Korie	richarka	Student	★★★★
Reason: Very thorough answer! I like the study case because its a realistic problem and interesting project. Plus, students love mysteries and being detectives. It goes right along with the constructivist theory too!				
Weston	Kristy	knweston	Student	★★★★
Reason: I think he understood constructivist theory very well and he was able to explain it for the reader to understand what he was saying. Seemed very knowledgable.				

Study



Setting

- Study took place in fall 2008 in three, undergraduate blended courses:
  - Introduction to Educational Technology (EDUC)
  - Introduction to Digital System Design (ENG)
  - Teaching English in Secondary Schools (ENGL)

Online Discussions

- In addition to regular face-to-face class sessions, students participated in three online discussions augmenting class topics
  - EDUC: issues about technology in education
  - ENG: problem-solving and exam preparation
  - ENGL: pedagogy in English education

Data Collection

- At the conclusion of the course, students completed an online survey that included items on students' perceptions of the online discussions and their impact.
- In addition, to assess students' motivational orientations and use of learning strategies, the Motivated Strategies for Learning Questionnaire (MSLQ) was administered pre and post.

Results

Comfort/Confidence

Survey Item	EDU Mean (SD) (n=219)	ENG Mean (SD) (n=103)	ENGL Mean (SD) (n=18)
Comfort/Confidence			
Comfort using online discussion tool	3.80 (1.06)	3.32 (1.21)	4.39 (0.85)
Comfort contributing to online discussions	3.72 (1.07)	3.12 (1.11)	4.28 (0.75)
Comfort commenting on others' contributions	3.59 (1.11)	2.96 (1.06)	3.94 (1.00)
Confidence in ability to contribute relevant ideas	3.84 (0.97)	3.16 (1.14)	4.28 (0.83)
Confidence in ability to benefit from discussions	3.41 (1.05)	3.15 (1.14)	3.00 (0.91)

Collaboration and Feedback

Survey Item	EDU Mean (SD) (n=219)	ENG Mean (SD) (n=103)	ENGL Mean (SD) (n=18)
Collaboration/Teamwork†			
Level of collaboration with peers as a result of online discussions	3.11 (0.72)	3.35 (0.79)	2.94 (1.06)
Feeling of teamwork among peers	2.86 (0.83)	2.88 (0.86)	2.72 (0.96)
Feedback			
Usefulness of feedback received from peers	3.18 (0.87)	3.21 (0.75)	2.78 (1.00)
Helpfulness of TAs' participation in online discussions	3.36 (1.02)	3.06 (1.36)	2.11 (1.32)

†4-point scale

Student Perceptions of Outcomes

Learning Outcome	**EDUC** (n=219)			**ENG** (n=103)			**ENGL** (n=18)		
Perceived differences in learning	**Yes 34.7%**	**No 36.5%**	**Unsure 28.8%**	**Yes 32.0%**	**No 46.6%**	**Unsure 21.4%**	**Yes 11.1%**	**No 72.2%**	**Unsure 16.7%**
Attitudes toward peer learning	**Pos 45.2%**	**Neg 20.6%**	**Neut 34.3%**	**Pos 37.9%**	**Neg 11.6%**	**Neut 50.5%**	**Pos 33.3%**	**Neg 11.1%**	**Neut 55.6%**
Better acquainted with classmates	**Yes 18.7%**	**No 68.0%**	**Unsure 13.2%**	**Yes 14.6%**	**No 69.9%**	**Unsure 15.5%**	**Yes 33.3%**	**No 61.1%**	**Unsure 5.6%**
Met with classmates outside class	**Yes 18.9%**	**No 81.1%**		**Yes 40.8%**	**No 59.2%**		**Yes 66.7%**	**No 33.3%**	

Perceived Advantages

Advantages	EDUC (n=219)	ENG (n=103)	ENGL (n=18)
Helped me understand the content better	50.2%	52.4%	11.1%
Motivated me to study the course materials or other related topics/content	44.3%	34.0%	11.1%
Motivated me to spend time studying course materials *consistently* throughout the course (rather than cramming for the exam)	32.0%	26.2%	5.5%
Made it easier to express opinions and to participate in class discussions	61.2%	41.7%	72.2%
Helped me get better acquainted with my classmates	18.7%	14.6%	50.0%
Other	7.7%	13.6%	16.7%

Perceived Limitations

Limitations	EDUC (n=219)	ENG (n=103)	ENGL (n=18)
It took too much time	25.1%	22.3%	27.8
It was hard to remember to do it	47.5%	48.5%	72.2%
It was hard to ask questions or get help	16.4%	18.4%	5.5%
I was unsure about *how* to post	7.3%	7.8%	0.0%
I was unsure about *what* to post	26.9%	48.5%	11.1%
I didn't know how to respond to others' postings	28.3%	14.6%	27.8%
I didn't know who was right/correct	25.6%	40.8%	5.5%
It was hard deciding what score to give my peers	28.8%	9.7%	44.4%
Other	10.5%	12.6%	11.1%

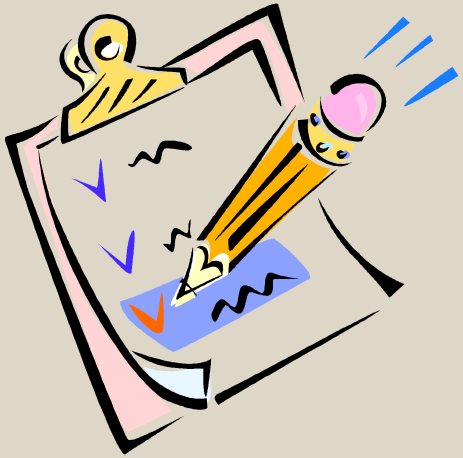
Student Recommendations for Future Online Discussions in Course

Recommendation	**EDUC** (n=219)	**ENG** (n=103)	**ENGL** (n=18)
Continue as is	41.1%	27.2%	47.1%
Continue with changes	42.0%	54.3%	29.4%
Do not continue	16.9%	18.5%	23.5%

MSLQ

- EDU students showed a mixture of gains and declines in MSLQ scales (+ self-efficacy, intrinsic motivation, peer learning)
- ENG students showed declines in most scales
- ENGL students showed little change (+ self-efficacy)
- Changes may be related to nature of courses but probably unrelated to online discussions

Conclusions and Implications



Conclusions

- Students quickly became comfortable with the online discussion format and confident in their ability to contribute.
- Educational technology and English Education students seemed more likely to participate and liked the ability to express opinions.
- Engineering students were more likely to perceive the discussions as beneficial for content learning and to promote collaboration.
- Large lecture course students saw greater value in online discussions as a way to connect with peers.

Implications

- However, learning benefits were not clear.
- Using online discussions in blended courses is a challenge because they are not essential for students' communication and learning.
- To maximize the potential for impact, design online discussions that provide relevance and value to the students so that it is not "just one more thing to do."

Implications

- Align discussions with course content and goals, i.e. make sure they are relevant.
- Reward students for participation; assess both quantity and quality.
- Use peer feedback, but continue to provide some instructor participation and scaffolding.
- Design engaging discussion formats such as case studies and debates.

Questions or Comments?

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