

## Faculty Use of Collaborative Learning and Approaches to Learning

### Examining Social Aspects of Online Learning

Stephen Hiller  
Thomas Nelson Laird

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## Background

- Due to the COVID-19 pandemic, the potential increase of faculty creating and teaching online courses highlights **a need to further consider what online teaching looks like compared to traditional in-person teaching**
- Research on online learning has identified **collaborative learning (CL)** as a **challenge, but impactful area for intentional development**
- Research has not addressed how CL relates to how faculty emphasize **students' deep approaches to learning (DAL)** in online environments

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## Purpose and Research Questions

- Understanding differences in teaching practices in online and in-person, on-campus instruction, focusing on CL and DAL
- 1 How does faculty use of CL vary by course format, classroom instruction on campus or distance education (online, live or pre-recorded video or audio, correspondence, etc.)?
  - 2 How does the faculty emphasis on DAL vary by course format?
  - 3 How does the relationship between faculty use of CL and faculty emphasis on DAL vary by course format?

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## Data and Respondents



- 2019 administration
- 6,844 faculty
- 86 four-year institutions where 1+ faculty taught online and in-person

*Select faculty individual and course characteristics (%)*

	%		%
Woman	48.6	Arts & Humanities	26.6
Straight	83.0	STEM	24.0
White	73.1	Social Sciences	12.8
Holds doctoral degree	65.7	Upper division (juniors/seniors)	53.4
<i>Mean</i> years of teaching experience	17	Large course (30+ students)	34.4
<i>Mean</i> number of courses taught	5.6	General education course	47.9
Full or Associate Professor	49.4	Distance education course	10.3

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## Measures

- **DAL** = average of **HO** and **RI** variables
- **HO** and **RI** item responses are scaled to 0-60 and averaged for each composite variable

<b>Higher-Order Learning (HO)</b>	In your selected course section, how much does the coursework emphasize the following? Response options: Very much, Quite a bit, Some, Very little
	a. Applying facts, theories, or methods to practical problems or new situations
	b. Analyzing an idea, experience, or line of reasoning in depth by examining its parts
	c. Evaluating a point of view, decision, or information source
	d. Forming a new idea or understanding from various pieces of information

### Reflective & Integrative Learning (RI)

In your selected course section, how important is it to you that the typical student do the following? Response options: Very important, Important, Somewhat important, Not important
a. Combine ideas from difference courses when completing assignments
b. Connect their learning to societal problems or issues
c. Include diverse perspectives (political, religious, racial/ethnic, gender, etc.) in course discussions
d. Examine the strengths and weaknesses of their own views on a topic or issue
e. Try to better understand someone else's views by imagining how an issue looks from their perspective
f. Learn something that changes the way they understand an issue or concept
g. Connect ideas from your course to their prior experiences and knowledge

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## Measures (cont.)

<b>Collaborative Learning (CL)</b>	In your selected course section, how important is it to you that the typical student do the following? Response options: Very much, Quite a bit, Some, Very little
	a. Ask other students for help understanding course material
	b. Explain course material to other students
	c. Prepare for exams by discussing or working through course material with other students
	d. Work with other students on course projects or assignments

- CL item responses scaled 0-69 and averaged

- **CL** and **DAL** variables are standardized as Z-scores so that model estimates function as effect sizes
- Control variables include individual and course characteristics: gender identity, sexual orientation, race/ethnicity, citizenship or residency status, holds a doctoral degree, years of teaching experience, rank/title, number of courses taught, discipline, course division, course size, whether course meets a general education requirement
- Control variables are the same for all statistical models

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## Analyses

- Four multiple regression models, outlined by research question:

Research Question

Modeling

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- Model 1 regresses **CL** on distance course format to examine how **CL** varies by course format

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- Model 2 regresses **DAL** on distance course format to examine how **DAL** varies by course format

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- Two nested models:
  - Model 3 regresses **DAL** on distance course format and **CL**, to examine the relationship between **CL** and **DAL**
  - Model 4 adds an interaction term between distance course format and **CL** to examine how the **CL-DAL** relationship varies by course format

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## Findings

- 1) How does faculty use of CL vary by course format?

Controlling for individual and course characteristics, *faculty teaching distance courses use CL LESS* than faculty teaching in-person

	Model 1 (CL)		
Adjusted R <sup>2</sup>	0.086		
	B	SE	Sig.
Distance course	-0.56	0.04	***

\*p<.05, \*\*p<.01, \*\*\*p<.001

- 2) How does the faculty emphasis on DAL vary by course format?

Controlling for individual and course characteristics, *faculty teaching distance courses emphasize DAL MORE* than faculty teaching in-person

	Model 2 (DAL)		
Adjusted R <sup>2</sup>	0.175		
	B	SE	Sig.
Distance course	0.23	0.04	***

\*p<.05, \*\*p<.01, \*\*\*p<.001

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## Findings (cont.)

3) How does the relationship between faculty use of CL and faculty emphasis on DAL vary by course format?

(Model 3) Controlling for CL differences by course format, **faculty teaching distance courses emphasize DAL even MORE** than faculty teaching in-person than suggested in Model 2

(Model 4) The relationship between CL and DAL is **not as strong for distance courses than in-person**

	Model 3 (DAL)			Model 4 (DAL)		
Adjusted R <sup>2</sup>	0.241			0.243		
	B	SE	Sig.	B	SE	Sig.
Distance course	0.39	0.04	***	0.32	0.04	***
Collaborative Learning (CL)	0.27	0.01	***	0.27	0.01	***
CL x Distance course				-0.14	0.03	***


\*p<.05, \*\*p<.01, \*\*\*p<.001

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## Differences in Teaching – Online vs. In-Person

- Less use of CL by faculty teaching distance courses aligns with research suggesting this is a particular challenge. This highlights the **need for these faculty to be more intentional about CL**
- Since CL is not the only way to improve student engagement and learning, distance faculty's greater emphasis on DAL could be **one way they compensate for potential difficulties in fostering CL**
- With the CL-DAL relationship stronger for in-person teaching, faculty teaching distance courses **may use or need strategies/practices other than CL to foster DAL**

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Thanks so much for joining us!

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Stephen Hiller: [schiller@indiana.edu](mailto:schiller@indiana.edu)

Blog: [NSSE sightings.indiana.edu](https://nsse sightings.indiana.edu)  
@NSSEsurvey 