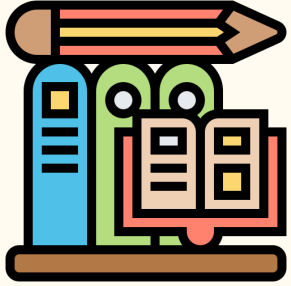


Beyond Content Knowledge: Best Approaches to Improve Student Application of Information Literacy Instruction

Kelly McDermott

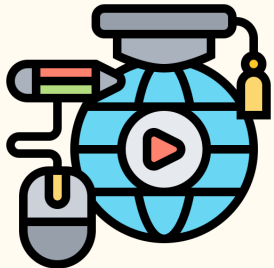
Michael-Brian Ogawa

Introduction



Information literacy instruction

Face-to-face instruction



Distance education

Research Questions



How did affordances of modality (face-to-face, online asynchronous, or online synchronous) impact the development of information literacy skills?



How did affordances of modality (face-to-face, online asynchronous, or online synchronous) impact students' ability to apply information literacy skills in subsequent projects?



How did students use information literacy skills when working on projects?

Literature Review



“No significant
difference”
(Lietzau and Mann,
2009; Silk et al.
2014)



Student
performance
(Zhang et al.,
2007)



Media comparison
studies
(Portmann and Roush,
2004; Walsh, 2009; Sobel
and Sugimoto, 2012; Head
et al., 2019)

Setting



100-level computer applications course with
lecture and lab component

Methodology



Research Question 1 and 2 Methods:

- Mixed methods approach to quantitative and qualitative data collection
- ANOVA performed on results of student end of unit projects
- Examination of student responses to open-ended survey

Research Question 3 Method:

- Qualitative data collected through student responses to “How has Boolean searching on search engines (like Google or Bing) helped you to develop and implement ideas on your projects?”



Findings



RQ1: How did affordances of modality (face-to-face, online asynchronous, or online synchronous) impact the development of information literacy skills?

- Students had higher performance in the development of their information literacy skills after receiving face-to-face instruction

Table 1. Summary Statistics for Boolean Searching Project for Different Modalities

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
F2F Boolean%	51	42	82.35%	0.081569
Async Boolean%	33	25.06667	75.95%	0.104983
Sync Boolean%	64	41.55556	64.93%	0.165969

Table 2. Single Factor ANOVA for Boolean Searching Project for Different Modalities

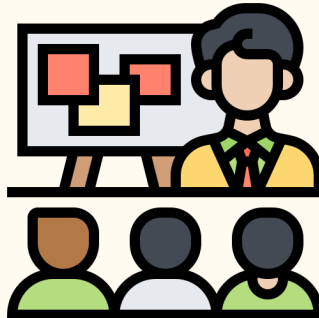
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0.889492	2	0.444746	3.603918	0.029682	3.058486
Within Groups	17.89391	145	0.123406			
Total	18.7834	147				

Findings for Research Question 1

Students able to ask questions and receive immediate feedback

Students able to maintain attention during instruction with fewer distractions

“Getting help from the TA and ATA during class was the most valuable part of the class. Even when I fell behind, I could get help and learn stuff.”



Findings

RQ2: How did affordances of modality (face-to-face, online asynchronous, or online synchronous) impact students' ability to apply information literacy skills in subsequent projects?

- Students had higher scores and improvement to their ability to apply information literacy skills in subsequent projects for the asynchronous online instruction group



Table 3. Summary Statistics for Word Project for Different Modalities

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
F2F Word	51	26	50.98%	0.124902
Async Word	33	17	51.52%	0.101326
Sync Word	64	29.5	46.09%	0.097656

Table 4. Summary Statistics for PowerPoint Project for Different Modalities

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
F2F PPT	51	34	66.67%	0.156667
Async PPT	33	22.5	68.18%	0.153409
Sync PPT	64	31	48.44%	0.158482

Table 5. Summary Statistics for Excel Project for Different Modalities

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
F2F Excel	51	36	70.59%	0.191765
Async Excel	33	29	87.88%	0.109848
Sync Excel	64	41	64.06%	0.210069

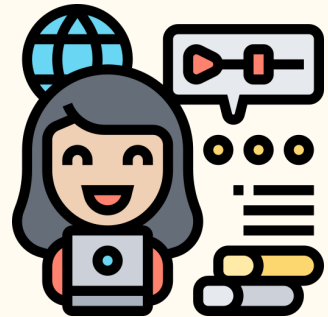
Findings for Research Question 2

Always available nature of content found in asynchronous online instruction

Students maintained attention during instruction with fewer distractions

“I watched the videos to get an idea of the things to learn for the week. But I had to rewatch them when doing my assignments since some things were very specific. I even had to watch older stuff when we had to use it in the current week. It was a lot.”

“My TA is pretty good at explaining concepts so I get it. But some of my friends weren’t lucky so they were mad when they didn’t get something and gave up.”



Findings

RQ3: How did students use information literacy skills when working on projects?

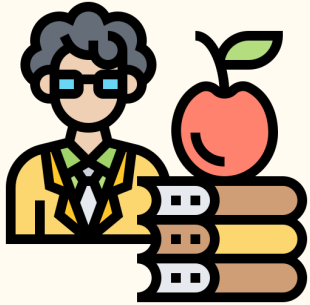
- Students were able to work more efficiently and apply their learning to other classes

“Its helped me get more specific results for content”

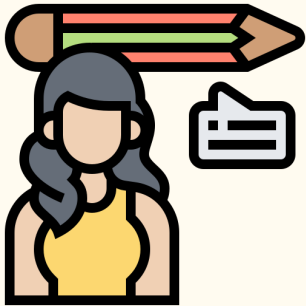
“It is helpful, but sometimes google didn’t implement it well. I used it for research on other classes”



Discussion and Future Research



- Librarians should continue to explore asynchronous and blended instruction for information literacy instruction
- Follow-up after instruction important to promote application of knowledge



- Future research is needed to confirm findings across multiple courses, disciplines, course types and academic career of students
- Examine application of other frames from the ACRL's *Framework for Information Literacy for Higher Education*

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Thank you for listening!
Any questions?