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Understanding How Higher Education Students Read Images Across Disciplines

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UNDERSTANDING HOW STUDENTS ACROSS THE DISCIPLINES READ IMAGES: A MIXED METHODS APPROACH

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PRIOR TO MY EXPERIENCE WITH IRDL OR ANY FORMAL TRAINING IN RESEARCH METHODS...

- Spring of 2017:
 - Partnered with two colleagues in the Journalism department for an IVLA presentation that we (I) were able to turn into a book chapter as part of IVLA *Senses and Experiences: The Book of Selected Readings*
 - Studied undergraduate journalism students' understanding of the visual elements and textual content of infographics
 - Pre- and post-testing, intervention, control group = classic experimental design
- Spring of 2018
 - Created this survey and really had no idea what I was doing

BUT! THEN I WENT TO IRDL!

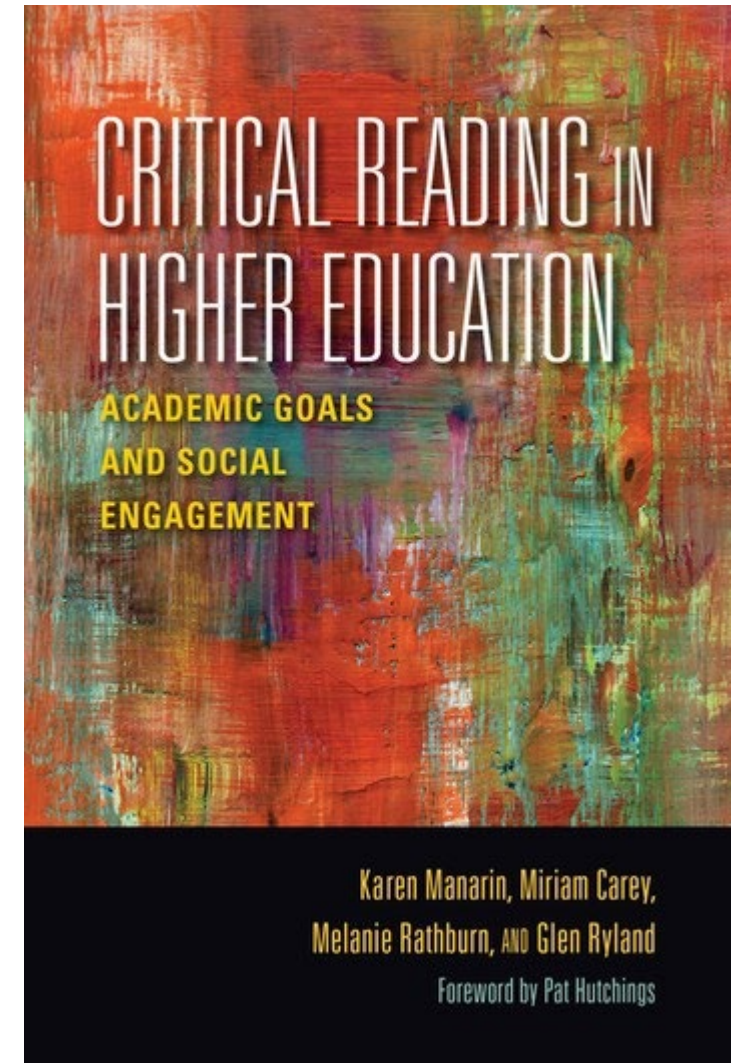
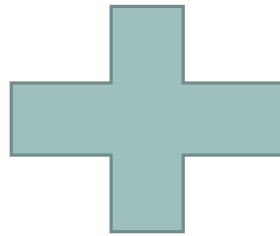
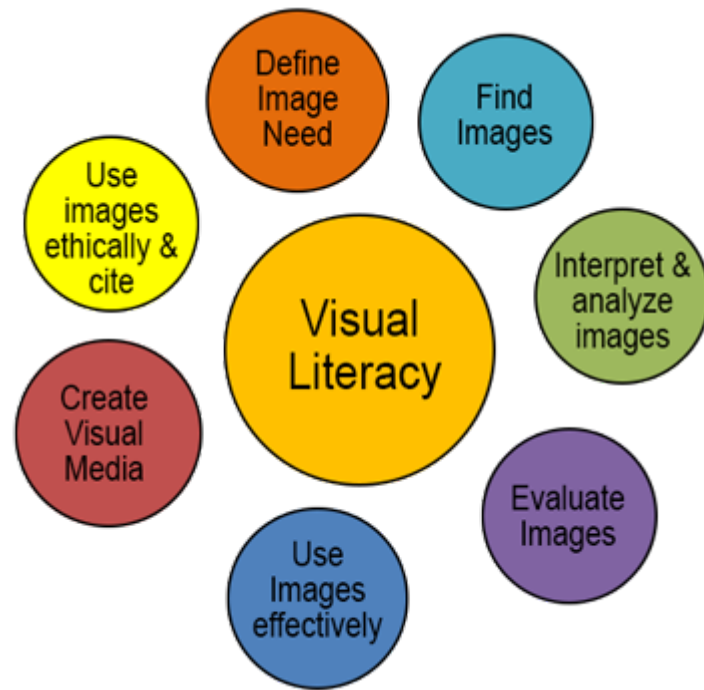
- And I figured out what to do with my survey



PURPOSE OF THE STUDY



CRITICALLY READING IMAGES



THE PROBLEM?

There are no current established criteria for evaluating digital images and it has yet to be determined which criteria students use to critically read images.



RESEARCH QUESTIONS

RQ1: Do students evaluate digital images (such as charts, graphs, illustrations, or photographs)?

RQ2: If students do evaluate digital images, what criteria do they use?



OUTLINE OF METHODS

- Quantitative analysis of 10 survey questions
- Qualitative analysis for the associated open-ended question for each survey question
- To recruit students for the survey, a nonprobability, convenience sampling technique was used. Informed consent was collected from participants when they started the survey.



THE SURVEY

Q1 When you encounter a digital image (such as a photograph, chart, graph, or illustration), do you “read” (interpret, analyze, evaluate, and/or comprehend) it?

Yes

No

- Please explain your answer.

Q2 On the following scale, how often do you notice the formal elements (color, line, balance, saturation, etc.) of a digital image?

Very often

Often

Not often

Never

- How do the formal elements inform your understanding of the digital image?

Q3 On the following scale, how often do you notice how digital images make you feel (happy, sad, amused, angry, joyous, uneasy, etc.)?

Very often

Often

Not often

Never

- How do your emotions inform your understanding of the digital image?

THE PARTICIPANTS

Arthur J. Bauernfeind College of Business			%
<i>Journalism and Mass Communication</i>		22	
<i>Organizational Communication</i>		10	
Management, Marketing, and Business Administration		9	
Accounting		1	
Total	42	55%	
College of Humanities and Fine Arts			
<i>Art and Design</i>		10	
English and Philosophy		2	
History		2	
Music		2	
<i>Political Science and Sociology</i>		2	
Liberal Arts		1	
Psychology		1	
Global Languages and Theater Arts		1	
Total	21	27%	
Jesse D. Jones College of Science, Engineering, and Technology			
Institute of Engineering		2	
Occupational Safety and Health		2	
Earth and Environmental Sciences		1	
Total	5	7%	

School of Nursing and Health Professions			
Applied Health Sciences	Total	4	5%
College of Education and Human Service			
Community Leadership and Human Services		2	
Early Childhood and Elementary Education		1	
		3	4%
Hutson School of Agriculture			
Pre-Veterinary Medicine	Total	1	1%
Center for Adult and Regional Education			
Integrated Studies	Total	1	1%
Overall Total		77*	100%
<i>Italics denotes departments in which students are double-majoring</i> <i>*six students double-majored, and two skipped the question</i>			

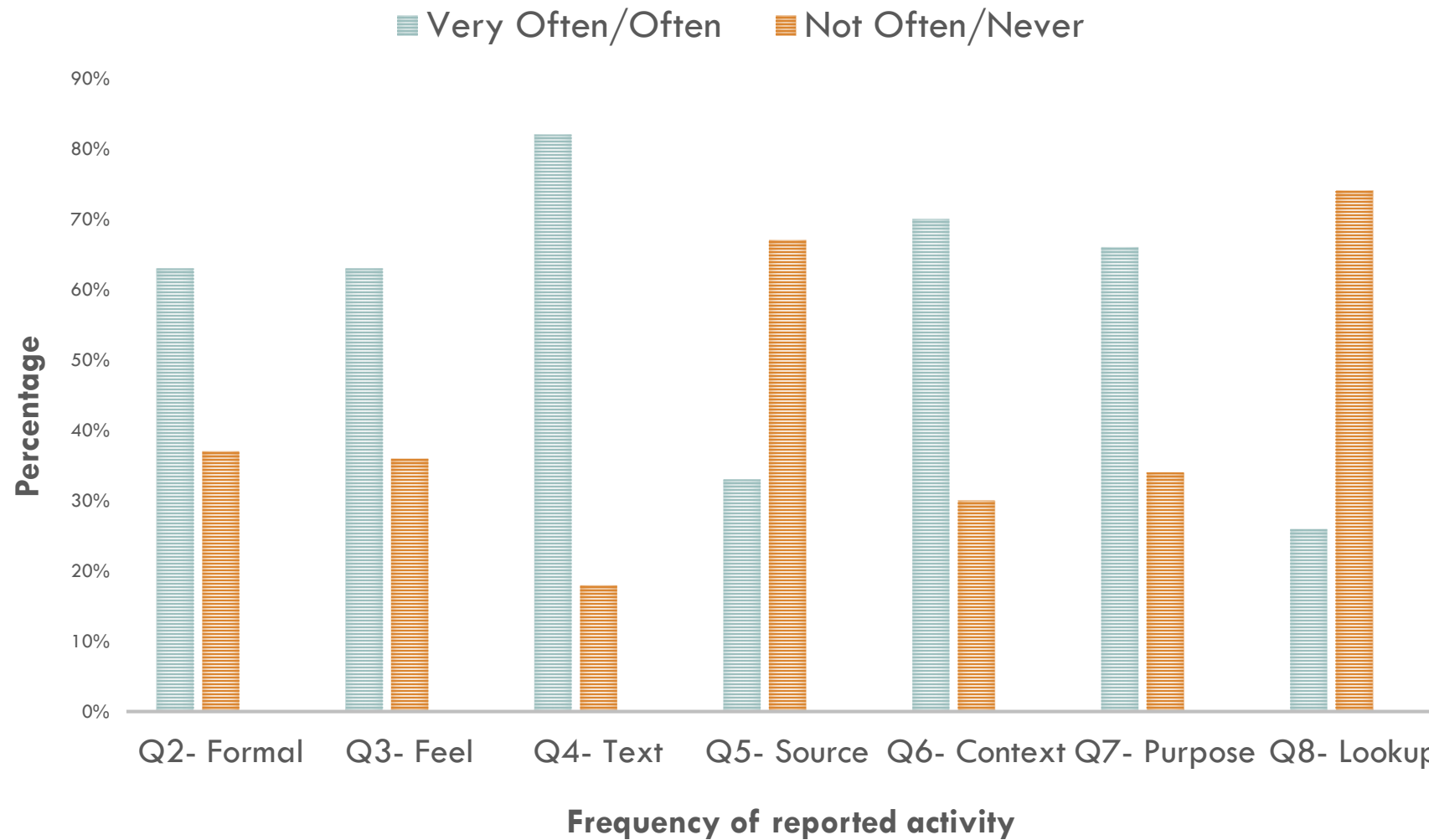
ORIGINAL QUANTITATIVE DATA COLLECTED

Responded "Yes" to Q1	Very Often	Percentage	Often	Percentage	Not Often	Percentage	Never	Percentage	# of students
Q2- Formal	17	26%	24	37%	22	34%	2	3%	65
Q3- Feel	13	20%	28	44%	23	36%	0	0%	64
Q4- Text	21	32%	35	54%	8	12%	1	2%	65
Q5- Source	4	6%	18	28%	35	54%	8	12%	65
Q6- Context	12	18%	35	54%	15	23%	3	5%	65
Q7- Purpose	16	24%	28	43%	18	28%	3	5%	65
Q8- Lookup	7	11%	10	15%	25	39%	23	35%	65
Responded "No" to Q1	Very Often	Percentage	Often	Percentage	Not Often	Percentage	Never	Percentage	# of students
Q2- Formal	3	50%	2	33%	1	17%	0	0%	6
Q3- Feel	2	33%	2	33%	2	33%	0	0%	6
Q4- Text	0	0%	2	33%	4	67%	0	0%	6
Q5- Source	1	17%	1	17%	3	50%	1	17%	6
Q6- Context	0	0%	4	67%	2	33%	0	0%	6
Q7- Purpose	2	33%	2	33%	1	17%	1	17%	6
Q8- Lookup	0	0%	2	33%	0	0%	4	67%	6
Responded "It depends" to Q1	Very Often	Percentage	Often	Percentage	Not Often	Percentage	Never	Percentage	# of students
Q2- Formal	0	0%	0	0%	1	50%	1	50%	2
Q3- Feel	0	0%	1	50%	1	50%	0	0%	2
Q4- Text	0	0%	2	100%	0	0%	0	0%	2
Q5- Source	0	0%	0	0%	2	100%	0	0%	2
Q6- Context	0	0%	0	0%	1	50%	1	50%	2
Q7- Purpose	0	0%	0	0%	0	0%	2	100%	2
Q8- Lookup	0	0%	0	0%	0	0%	2	100%	2

SYNTHESIZED QUANTITATIVE DATA

Questions	Very Often/Often	Percentage	Not Often/Never	Percentage	# of students
Q2- Formal	46	63%	27	37%	73
Q3- Feel	46	63%	26	36%	72
Q4- Text	60	82%	13	18%	73
Q5- Source	24	33%	49	67%	73
Q6- Context	51	70%	22	30%	73
Q7- Purpose	48	66%	25	34%	73
Q8- Lookup	19	26%	54	74%	73

QUANTITATIVE DATA RESULTS





QUALITATIVE DATA COLLECTION

- Two hundred and seventy-one total open-ended responses within the 73 completed surveys were analyzed with an average of 30 responses per question.
- After three iterations, the final codebook contained 4 major themes: aspects of images, genre of images, distribution of images, and teaching of images.



THEMES

1. Aspect of images contained 6 subthemes: advertising, credibility, explanatory, mood/tone, negative emotion, and political
2. Genre of images contained 8 subthemes: art, chart, graph, illustration, infographic, meme, photograph, and political cartoon
3. Distribution of images contained one subtheme: social media
4. Teaching of images contained seven subthemes: Journalism, Art & Design, English, Statistics, Science (the student was not more specific), Organizational Communication, and Information Studies

QUALITATIVE DATA RESULTS (EXAMPLE)

Exploring the theme ‘aspects of images,’ it became apparent that several subthemes were most likely to be associated with a particular question. Included below are selections from the open-ended questions included in the survey.

The subtheme “mood/tone” was most likely to be associated with the open-ended question of Q2, “How do the formal elements inform your understanding of the digital image?” For example, students commented:

- “These elements, in different combinations, form the mood or tone of an image, which conveys a lot about the content of the image and/or the person who created the graphic.”
- “The color sets the tone of the photo. For example orange is enthusiastic and bright whereas brown is natural and warm.”
- “Determines ‘feel’ or emotion related to that picture (i.e. lots of yellow would be a happier tone).”



DISCUSSION (PRELIMINARY)

This study shows that although most students (89%) reported that they do evaluate digital images, they do not use all criteria with the same frequency.

Text (including caption, date, and headline) and context (including social, cultural, historical, political context) appear to be the criteria students are most likely to use to evaluate digital images.



COOLEST FINDINGS (SO FAR)

1. Students are least likely to evaluate the source of the image (67% reported not often/never do this) or look up the image (74% reported that they not often/never do this). However, the qualitative data of those same questions (Q5 and Q8, respectively), showed that students cite credibility as a main concern when considered the source of an image or whether or not to look up an image. This finding could mean that students understand that they should be exhibiting these behaviors, yet have not put these behaviors into practice
2. Students also frequently referenced one genre of an image when providing short answers (photographs). This indicates that students use different criteria depending on the type of digital image they are evaluating (charts, graphs, illustrations, or photographs).

FUTURE AREAS OF STUDY

- Developing specific evaluative criteria for different genres seems a worthy endeavor, especially as it realizes that how students evaluate images might depend on what type of an image is being evaluated.
- Exploring how different students in particular majors explain how they evaluate images and if those students use genre specific terms: i.e. are art students more likely mention art; are statistics students more likely to mention graphs, are journalism students more likely to mention photographs, etc.

CONCLUSION

- To encourage students to critically read images independently, it is imperative to teach them how to do so in the classroom.
- Teaching students how to critically read images should happen in introductory courses, starting with the basic criteria of affective elements, context, formal elements, purpose, source, and text.
- As students move through the curriculum, the process of critical reading can become more discipline specific and may privilege certain criteria over others, depending on the discipline.
- By learning how to critically read digital images, students will be able to encounter images that are complicated, demanding, and problematic and to evaluate them as a “critical consumer of visual media and a competent contributor to a body of shared knowledge and culture” (ACRL 2011).