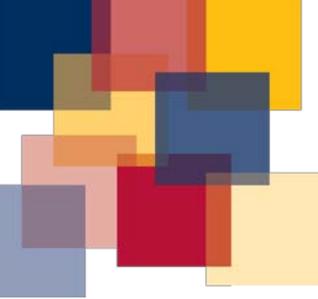


QUEEN'S UNIVERSITY LIBRARY

Elizabeth A. Lee and Corinne Laverty



Unravelling the Literature Review: Helping Graduate Students in Education Re-conceptualize the Research Process

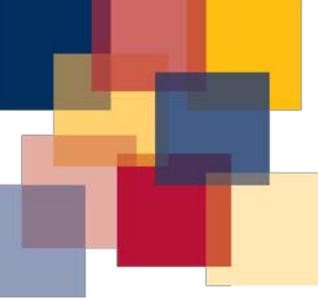


Research Question



How does collaborative dialogue between a graduate student and a librarian-faculty team extend student thinking while the student constructs a visual map of his or her literature review?

Co-construction of a visual map would enhance the initial conceptualization of the research topic and help focus the literature review.



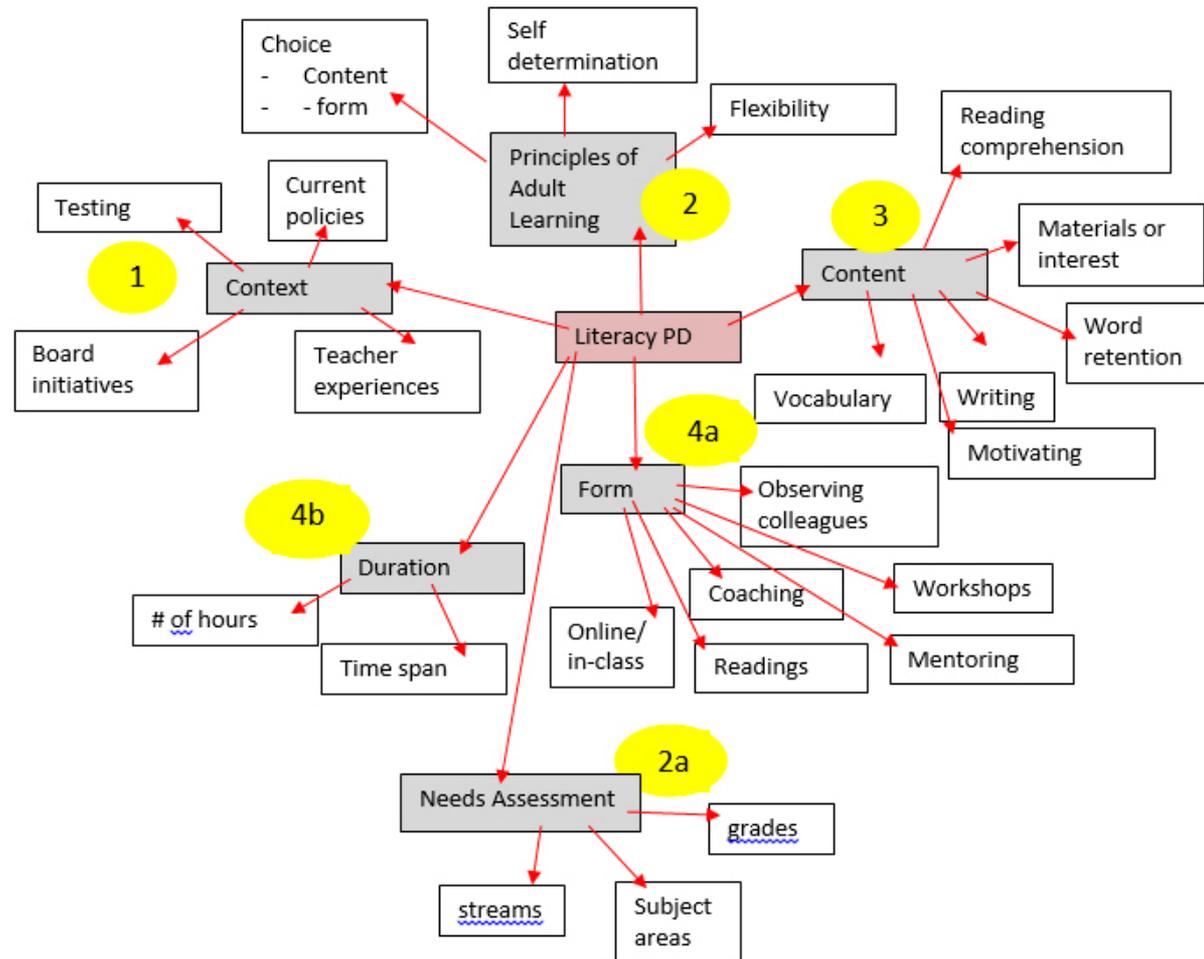
The Literature Review



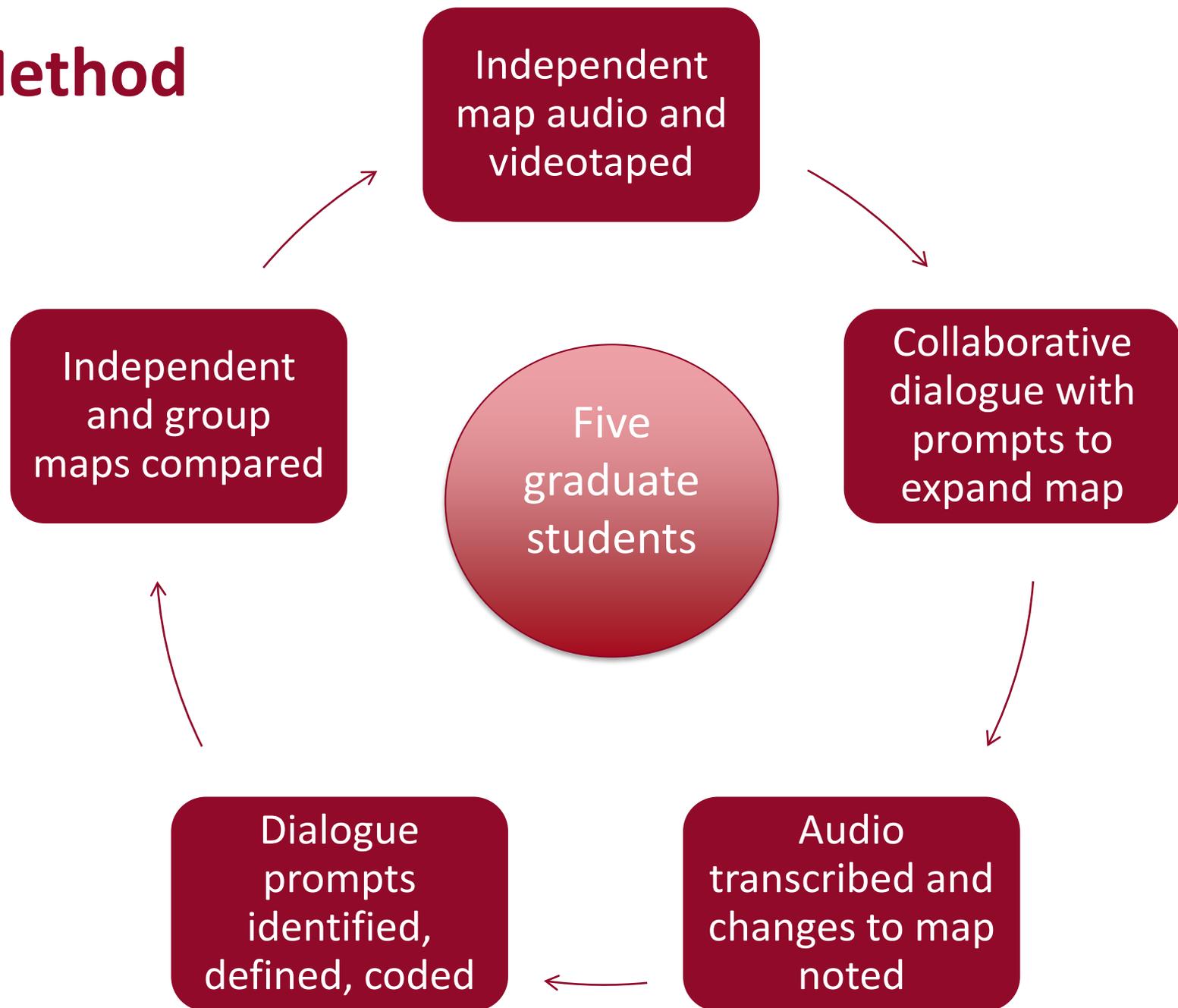
- Students approach writing a literature review without a clear understanding of the purpose and complexity of the task, of the ‘genre’.
- Students understand the review as “... constructing meaning rather than a process of accumulating”. (Green, R. & MaCauley, 2007)
- Need to shift from a ‘topical’ to a ‘psychological’ perspective (Bruce, 2001).

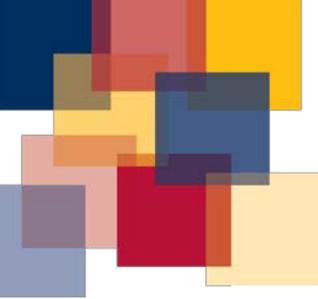
Visual Map

- Map provided method for capturing thinking, was objective and provided focus for discussion
- Dialogue is auditory, impermanent, and linear
- Map is visual, permanent, and multi-dimensional



Method



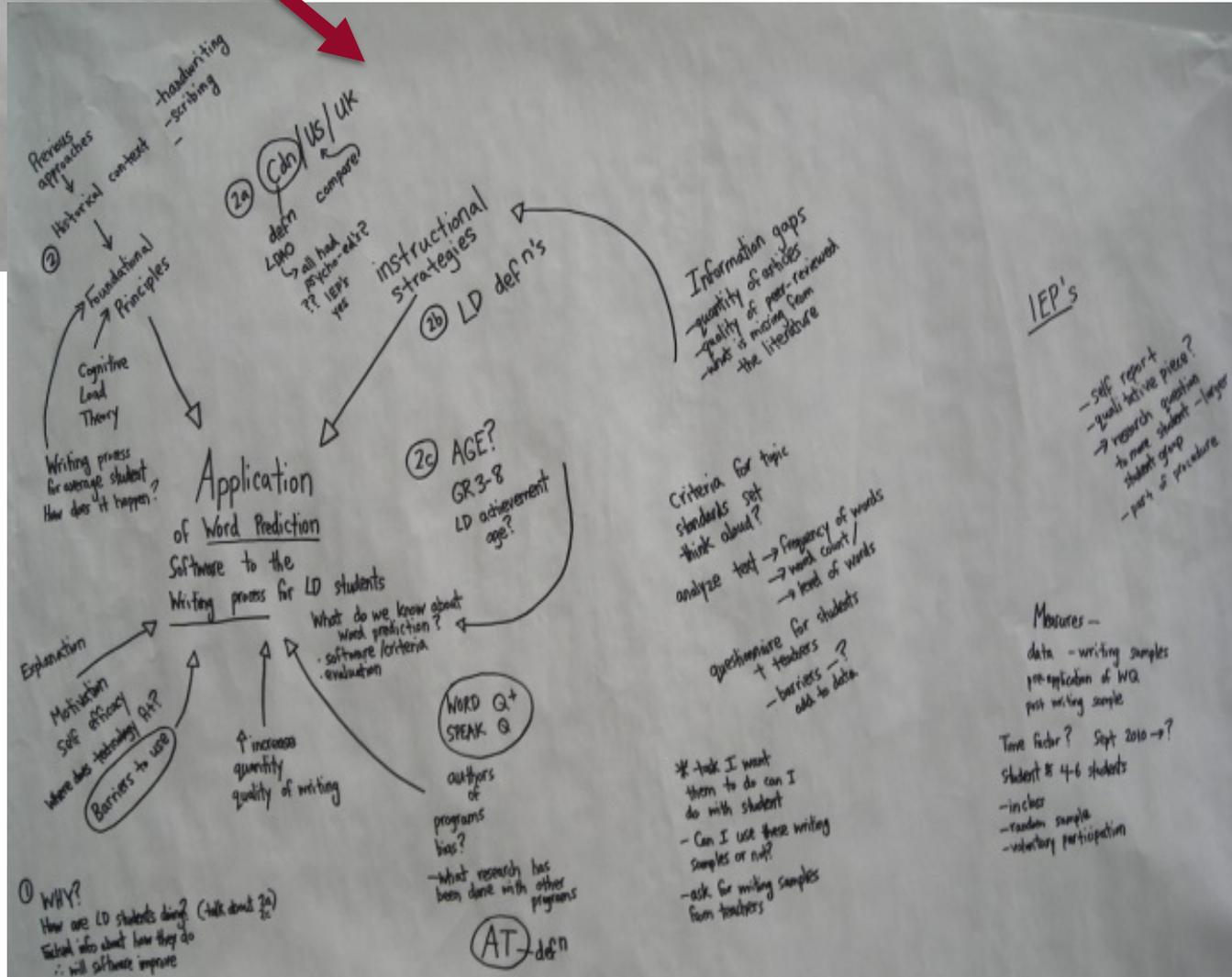
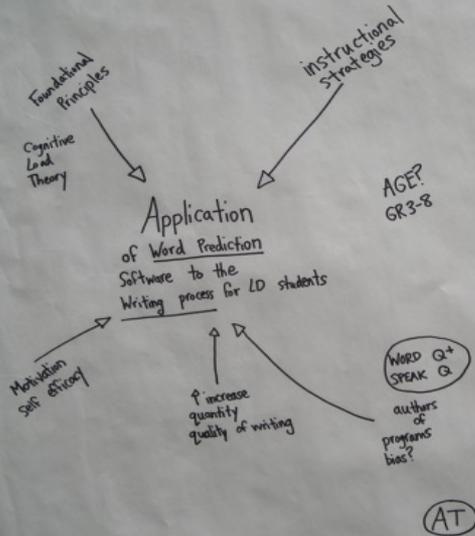


Study Method

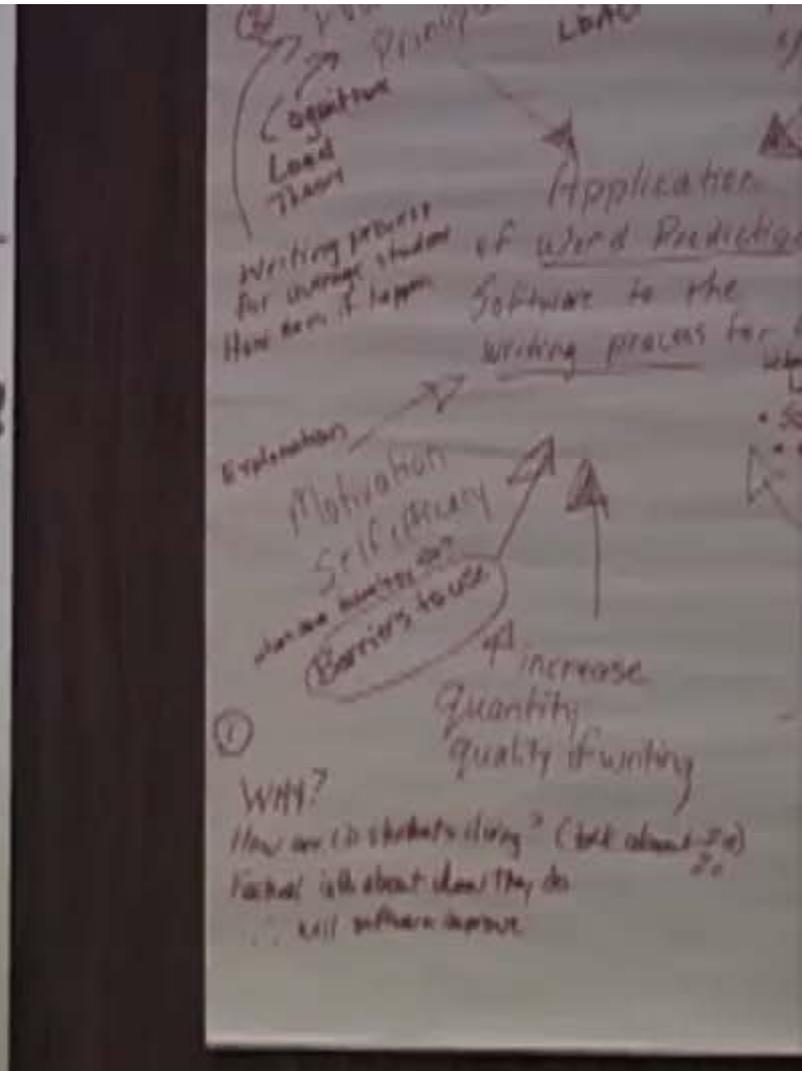
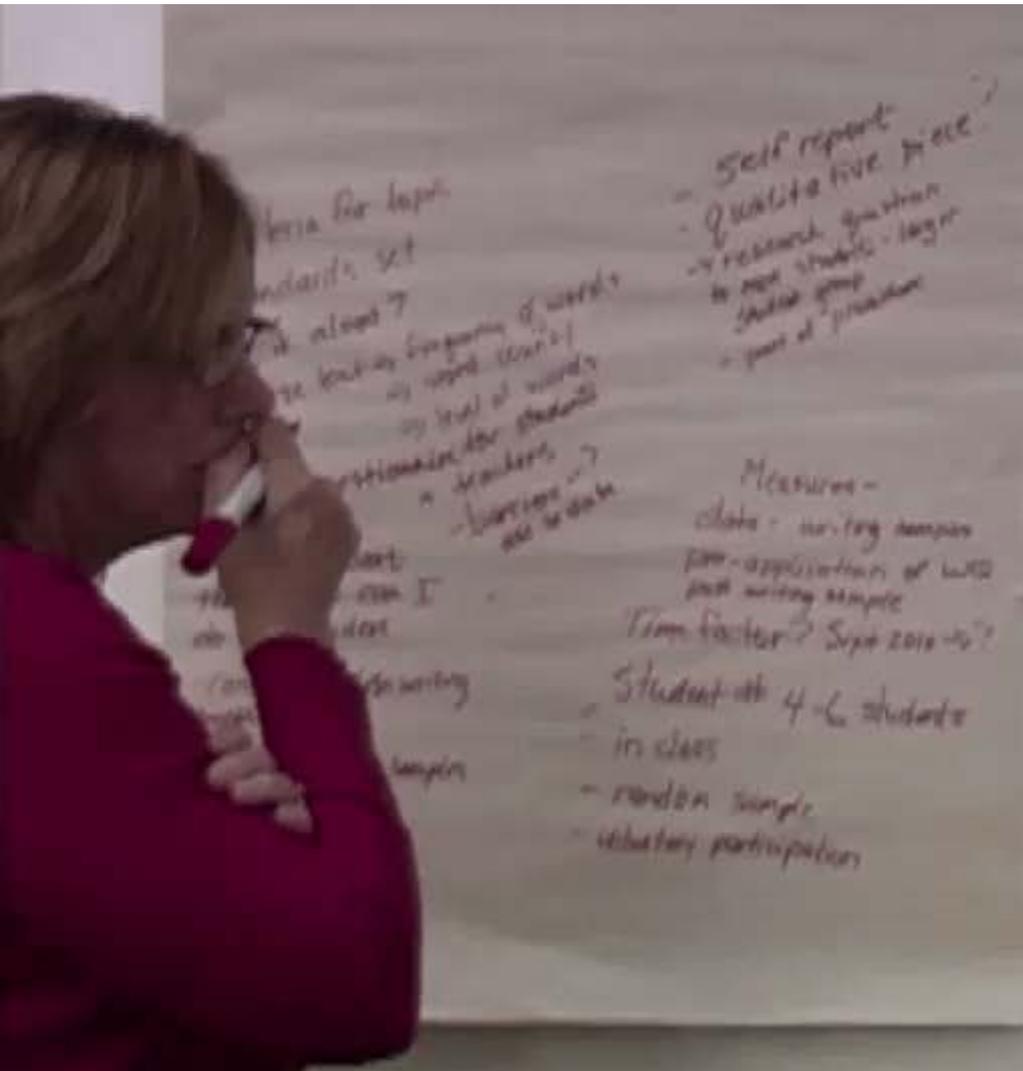


- Five graduate students audio and videotaped mapping literature review for thesis topic while thinking aloud.
- Collaborative dialogue followed where student was prompted to explain and expand their map.
- Audio transcribed and changes to the map as seen on the video were annotated on the transcript.
- Dialogue prompts were identified, defined and coded in relation to research journey, including literature review.
- Initial student maps were compared to maps resulting from dialogue with the researchers.
- Students were asked for feedback on the process.

From initial to co-constructed map



Adding to the Map



	Individual Map			Collaborative Map		
Student	Key topics	Sub-topics	Links	New key topics	New sub-topics	New links
Student A	8	3	5	15	26	8
Student B	4	2	0	6	19	8
Student C	4	11	15	9	23	32
Student D	5	3	9	13	15	12
Student E	8	0	2	7	10	3

Clarifying prompts:

Asking for more information

What are your research questions?
What is the context for this study?
What is a suitable research method?
What do you know about this research method?
What terms are used to identify ...
How does concept X relate to concept Y?
What is the relationship between ...
How will you include this in the literature review?
What other types of information do you need for the literature review?
How will you order sections in the literature review?

Knowledge prompts:

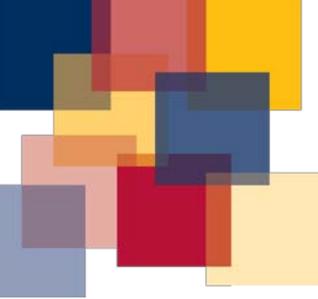
Providing information

Offering advice on more specific things:
Is X also one of your research questions?
Would knowing more about X help with the context of the study?
Did you think of gathering data on ...
Did you think of connecting ...
Did you think of including X in the literature review?
Did you think of gathering information or data on this aspect?
You need to include X in the ethical review process.
Did you think of comparing information from other disciplines?

Student	Clarifying prompts	Knowledge prompts
Student A	16	16
Student B	6	8
Student C	3	14
Student D	3	8
Student E	5	11
Total	33 (37%)	57 (63%)

Research journey was coded in three categories: purpose and questions (Q); research design and methods (M); and literature review (LR)

Student	Research journey: Clarifying Prompts			Research journey: Knowledge Prompts			Research journey: Totals		
Student A	0Q	6M	10LR	1Q	7M	8LR	1Q	13M	18LR
Student B	3Q	3M	0LR	0Q	4M	4LR	3Q	7M	4LR
Student C	2Q	0M	1LR	3Q	8M	3LR	5Q	8M	4LR
Student D	0Q	2M	1LR	1Q	4M	3LR	1Q	6M	4LR
Student E	0Q	3M	2LR	3Q	8M	0LR	3Q	11M	2LR
Total	5Q	14M	14LR	8Q	31M	18LR	13Q (14%)	45M (50%)	32LR (36%)



Stages of Thinking Processes in the Literature Review

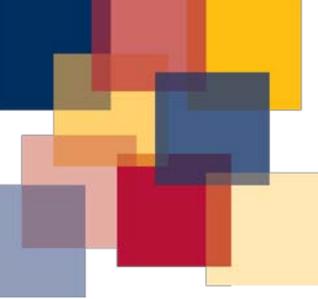


Coded instances of discussion around literature review and identified three stages:

Stage One: clarification of ideas around the research topic including definitions of words, principles, or concepts.

Stage Two: connection of ideas including addition of topics, subtopics, and links demonstrating new relationships and organization of ideas.

Stage Three: extension of ideas, when more information was needed to fill in gaps in the literature review, “aha” statements, and big-picture thinking.



Findings

- **Visualization** assists shared understanding. Relationships on paper reveals connections, gaps, and themes. Provides **a record** of the scope of topic and research process and evidence of impact of reference service.
- **Dialogue** where students are partners in the conversation allows for the free flow of questions and ideas. Specific prompts trigger new ideas.
- Collaborative dialogue and visual mapping broadened students' understanding of information literacy and highlighted the literature review as a '**genre**'. Prompts increased additions to the map addressing the three stages of the literature review.
- Students may need to target the **research design** as much as finding information sources because it is a new area for them. Discussion about methods helped to sculpt the research questions and narrow the sources for the literature review.

Student Feedback on the Process

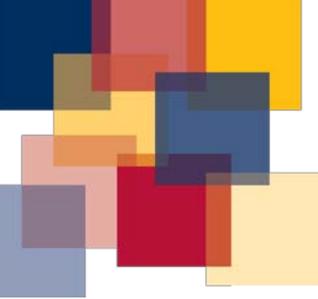


- “The visualization helped me to group major concepts, and finally create an outline of how the research should feed into my literature review.”
- “It also helped in generating new search criteria to find literature I had previously had trouble finding.”
- “Thinking through the possible research questions out loud. Answering the questions posed to me from both of you was helpful in forcing me to be concise, something I struggle with often in my thought processes. De-mystified the [literature review] process and made it seem attainable rather than a mammoth task!”

Student Feedback on Process



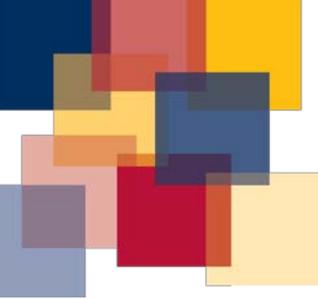
“Having an opportunity to **reflect and map** out with professors (critical friends) the understandings which were foundational to my research was much needed at this point in my research. Yes this session was helpful because I could see **how the ideas fit together**. ... time was spent reviewing the purpose, method etc. ... I will take the concept map and look at the research questions to further refine my ideas and understandings. Just **explaining my ideas out loud** to someone else helped me to clarify things. Explaining them to two academics who understand the research process was very helpful to **force me to choose my research focus question and to tie the question/method/data analysis together**. Critical questions from other academics really forced me to hone my thinking and to move my research forward. This dialogue would be helpful at key points throughout the research. I can see the benefit in meeting with your supervisor or another academic on a regular basis. This would hold me accountable and help me to keep learning and growing.”



Faculty Perspective



- Enhanced awareness of the role that librarian plays in supporting graduate students in developing their **information literacy** skills, especially during the literature review process.
- Learned more about the range and scope of education research tools and the **difficulties that graduate students experience** in finding and using them to develop their literature review.
- Triggered consistent use of **visual maps** during meetings with graduate students when discussing their research needs.



Librarian Perspective



- Explore the **subject domain** of the topic as much as the information resources to explore resources for the literature review.
- The **map is a scaffold** for understanding and learning for both the librarian and the student.
- Don't assume that graduate students understand the literature review as a **genre**.

Questions

