Reading a quantitative study

APA citation: Moore, R. L., Oliver, K. M., & Wang, C. (2019). Setting the pace: Examining cognitive processing in MOOC discussion forums with automatic text analysis. *Interactive Learning Environments*, *27*(5–6), 655–669. https://doi.org/10.1080/10494820.2019.1610453

Word count: 5166 words.

Reference list: 63.

Introduction and literature review: 2315 words (45% of the whole manuscript).

Problem: Students' cognitive processing in MOOCs may be lopsided in two pacing conditions: instructor-paced courses seem to better support cognitive processing than self-paced MOOCs.

Phenomenon of investigation: Cognitive processing.

Research questions: (1) Is there a *difference* in cognitive processing between students who participate in different pacing conditions of a MOOC? (2) What characteristics (e.g., learner demographics and engagement with course content, linguistic qualities of post, post classification) *predict* cognitive processing in discussion forum posts?

Research design: Post-hoc correlational analysis. There was no access to the course instructors or students. The same HarvardX MOOC course on Japanese history in two pacing conditions (self- vs. instructor-paced) was studied. The courses were compared based on the pacing conditions.

Theoretical framework: Community of Inquiry (Garrison, Anderson, & Archer, 2001).

IV: (1) gender, (2) education, (3) type of class (self-paced, instructor-paced), (4) type of posting (initial, reply, comment), LIWC three summary variables ([5] *analytical thinking*—logical thinking patterns, [6] *clout*—confidence/certainty, [7] *authenticity*—honest/personal writing), (8) use of dictionary words (formal language, six-letter words), (9) engagement with course content (viewed, explored, completed). "LIWC also generated values for tone, authenticity, number of six-letter words, word count, and words per sentence" (p. 661).

DV: (1) cognitive processing (calculated by LIWC), operationalized as "the length of a post or specific types of words being used" (pp. 660–661). "For example, a score of 8.3 for a post's cognitive processing means that 8.3 percent of the words used in the post were in the cognitive processing dictionary" (p. 658).

Sampling: Convenience sampling.

Sample size (no. of participants): $n = 671$.

Dataset volume (no. of analyzed postings): $n = 2,423$.

Data collection method: Extant data obtained by researchers through a data use agreement between their university and the Harvard VPAL Research Team [Office of the Vice Provost for Advances in Learning] who ran the course.

Data analysis method: A random intercept two-level Hierarchical Linear Modeling. Reason: the students have multiple postings that are not independent from each other but are nested within each student.

Software used: (1) LIWC 2015 text analysis tool. (2) Unspecified statistical software.

Results: "The HLM explained 15% of the variance in the cognitive processing of the postings. The results of a HLM showed that the strongest predictor of cognitive processing were the number of words that appeared in the dictionary" (p. 663). RQ1: No difference in students' cognitive processing depending on course pacing condition (self- vs. instructor-paced). RQ2: No statistically significant relations were observed between cognitive processing (DV) and any of the IVs except one—use of dictionary words (indication of using formal language in the discussion).

Discussion: "If the content and discussion prompts are well designed, it can create opportunities for students to make substantive posts in the forum [within a self-paced course]" (p. 665). "[S]tudents' decision to post, and their demonstration of cognitive processing, is more predicted by factors other than the pacing condition. These factors can be their interest in the topic, motivation to complete the assignments, and peer interactions" (p. 665).

Conclusion: "[I]t does not appear that cognitive processing is influenced by whether a course is self-paced or instructor-paced" (p. 666). Unanswered question: How come analytical thinking (logic) and clout (confidence/certainty) showed negative correlations with cognitive processing?

Recommendations: (1) "[I]nstructors interested in fostering cognitive processing, should encourage students to more formal language in their writing" (p. 664), (2) "Course designers should carefully consider how the discussion forum is structured through pre-determined threads or categories and compelling prompts that can foster critical thinking even in a self-paced course" (p. 665).

Reading a qualitative study

APA Citation: Shelden, D. L., Angell, M. E., Stoner, J. B., & Roseland, B. D. (2010). School principals' influence on trust: Perspectives of mothers of children with disabilities. *The Journal of Educational Research*, *103*(3), 159–170. https://doi.org/10.1080/00220670903382921

Word count: 7700 words.

Reference list: 49.

Introduction and literature review: 1750 words (23% of the whole manuscript).

Problem: When trusting relationships between school principals and parents of SpecialEd kids are bad, conflict and tension are afoot. Principals, therefore, must invest in building and improving trust with parents.

Phenomenon of investigation: trust towards educationists

Research question: "What are the perspectives of mothers of children with disabilities on trust in school principals?"

Research design: collective case study, one case = one mother.

Theoretical framework: Tschannen–Moran's 5 facets of trust in the trustworthy leadership matrix: benevolence, honesty, openness, reliability, competence (Tschannen-Moran, 2004).

Sampling: purposive sampling; snowball sampling.

Sample size: 16 mothers.

Data collection method: semi-structured interviews, 60–90 minutes each.

Data analysis method: cross-case analysis; comparative case analysis (=mothers). I also think that they initially did a thematic analysis of transcribed interviews

Validation of results: respondent analysis; member checking. I.e., preliminary results were sent to the mothers for validation, and mothers were asked to confirm the use of all direct quotations for the final report.

Results: Principal attributes and principal actions influence mothers' trust. (1) *Personal attributes*. Those principals who mothers perceive as approachable (= make connection) and who authentically cared for the children (e.g., sit down and talk with their child) yield more trust from the mothers. Principal accessibility is important (when mothers can get an appointment with the principal despite the principal's tough schedule) as well as principal's knowledge of their children's disabilities. So approachability, authentic caring, accessibility, knowledge of students' disabilities increase mothers' trust to principals. (2) *Principal's actions*. Trust increases when mothers see that principals ask teachers about their children's progress and well-being, if they attend parent meetings whose children have disability, if they listen to parents and help with advice or just words of encouragement. If none of this is present, mothers' trust to principals decreases. In general, mothers want to be able to trust to principals.

Discussion: The study confirmed findings of the previous studies: people believe that trust is often facilitated by school leaders and can be promoted by them. Using Tschannen-Moran's framework, three aspects of trust are most important: benevolence, openness, and competence. Benevolence was relevant for mothers in that principals should accept their children as they are. Openness is related to mothers' vulnerability and communication, they value when they can talk to principals and see that principals are not indifferent to their children. Competence is related to principals' knowledge of a student's disability and the desire to learn about that particular disability. Leadership affects mothers' trust to principals. If principals are role models for teachers and administration (come to parent meetings), are ready to be mentors for teachers (by encouraging teachers to attend parent meetings), are ready to be mediators in conflicts between teachers and mothers instead of delegating these issues unto other teachers, then mothers will be more likely to trust principals.

Conclusion: Principals should engage personally into working with students and their children in order to increase parents' trust toward the school and those who work there. If principals do not know how to build trust with parents, they should learn it.