Writing Transfer as a Framework for Big Data and Writing Analytics Research

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ABSTRACT
In this poster presentation, the author will use the frame of writing transfer to explore how researchers can transfer strategies, approaches, and knowledge about writing gained from big-data writing analytics to other writing pedagogy contexts. Comer will share methods and results from the following four big-data research projects stemming from research in her writing based Massive Open Online Course: 1. Big data and writing assessment; 2. Big-data, writing, and peer-to-peer interactions; 3. Big-data, writing, and negativity; and 4. Big data, peer-review and transfer. These project overviews will be presented as a means of exploring the affordances and limitations of using big-data writing analytics to improve the teaching and learning of writing.

Keywords
Big data; MOOCs; Writing Research; Writing Assessment; Writing Transfer

1. INTRODUCTION
Big data has become increasingly valuable across many domains and industries, from social media [1] and science [2] to healthcare [3] and the oil and gas sector [4]. The potential value of big data in relation to writing studies is at the frontier of research inquiry, an emerging area of inquiry. One area where big data and writing studies intersect is Massive Open Online Courses [5]. In 2013, Denise Comer, with a team of colleagues and with funding through the Bill & Melinda Gates Foundation, designed a MOOC titled English Composition I. It has recently completed its fourth iteration and has now enrolled over 270,000 people from around the world. Comer and colleagues adapted the course in 2016 to fit Coursera's On-Demand platform, wherein the course will be continually available for weekly enrollment rather than one session-based beginning. Since 2013, Comer, with several research collaborators, has embarked on four distinct research projects using writing analytics and big data from this MOOC (see citations in sub-sections below). The time is now opportune to take stock and consider how those invested in writing studies might meaningfully transfer the methods and insights gleaned from this research to other writing pedagogy contexts. This work requires a reframing and adaptation of writing transfer knowledge. Most writing-transfer research is predominately focused on how writing instructors can incorporate transfer-based pedagogy into writing pedagogy [6, 7] and/or how we can better understand student capacities with writing transfer [8, 9]. To date, writing transfer research has not often been applied to considerations about how writing studies scholars can transfer writing-studies research methods and insights. Using a transfer-based framework to explore big-data writing analytics will help illustrate the ways in which writing-studies scholars can adapt, extend, challenge, and otherwise make use of this research for other teaching occasions.

2. BIG DATA, WRITING ANALYTICS AND WRITING RESEARCH IN MOOCS: RESEARCH PROJECT SNAPSHOTS

2.1 Big Data & Writing Assessment
In "Adventuring into MOOC Writing Assessment: Challenges, Results, and Possibilities," Denise Comer and Edward M. White researched correlations between peer evaluators and expert evaluators, and assessed the quality of formative peer feedback. Research included a sample size of 100 participants, each of whom had completed four drafts, four final versions, sixteen peer reviews, and three extended self-reflections. Demographic data included approximately 9,000 survey respondents from course participants.

2.2 Big Data & Peer-to-Peer Interactions
In "Writing to Learn and Learning to Write Across the Disciplines: Peer-to-Peer Writing in Introductory MOOCs," Denise Comer, Charlotte R. Clark, and Dorian A. Canelas conducted qualitative coding analysis on peer interactions in discussion forums to understand how peer interactions impacted student learning. The study was multidisciplinary, examining peer interactions in a writing-based course and in an introductory chemistry course. Over 6,800 separate posts were coded. Factors considered included affect, attitude and emotion, learning gains, post length, and word frequency. [11]

2.3 Big Data, Writing, & Negativity
In "Negativity in Massive Open Online Courses: Impacts on Learning and Teaching, and How Instructional Teams May Be Able to Address It," Denise Comer, Ryan Baker, and Yuan Wang conducted research into the forms and impacts of negativity across a writing-based MOOC and an education MOOC. Research methods included two case studies, drawing qualitative and quantitative data from both course platforms. [12]

2.4 Big Data, Peer Review and Transfer
In "Providing Peer Feedback as a Site of Writing Transfer," Denise Comer is conducting qualitative coding on over 6,000 individual comments by students about what they learned about

their own writing and writing projects from having provided peer feedback to others. [13]

3. AFFORDANCES & LIMITATIONS

Transferring the concept of affordances from social network sites [14] to understanding big data and writing analytics enables a nuanced understanding of the role of such research in writing studies. Examining social networking sites, danah boyd argues that the following four affordances play a significant role: persistence, replicability, scalability, and searchability. These affordances can be usefully extended and adapted to understanding big data and writing analytics in writing studies. Limitations of big data in writing studies might be considered in the context of limitations of big data in other contexts. In social science research, for instance, big data harbors certain assumptions about representative sampling, which may not be accurate, and researchers must challenge a tendency to position big data as a panacea research method for all research questions [15]. Research has also illustrated that big data is limited by amorphous definitions and the elision of small patterns of significance [16]. Moreover, another significant limitation of big data research is its potential to instantiate and deepen gaps of privilege and access among scholars in writing studies.

4. BIG DATA, WRITING ANALYTICS RESEARCH, & WRITING TRANSFER

It is important to consider how and whether researchers and teachers can meaningfully transfer big data and writing analytics among different contexts for writing pedagogy. Any attempts to do so would need to examine opportunities for high-road and low-road transfer, as well as positive and negative transfer. Reflection and meta-awareness also provide key components of the possibilities for transfer related to big data and writing analytic research. Researcher and teacher disposition are also integrally connected to the ways in which such research might be transferred. And, finally, conceptualizing a vocabulary for understanding the core strategies and skills involved with big-data research and writing analytics would also be a key component of transfer in this area.

5. REFERENCES

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