

Evolution of Research Interests

Current Research statement

I am interested the ways in which network spaces facilitate knowledge transfer among teachers. Specifically, I plan to investigate how online network spaces, especially those spaces not originally intended for educational purposes, are utilized by teachers in order to facilitate their own learning through informal interactions with one another, and how communities of practice are formed in these spaces. Unrelated to this, I am also interested in how standardized assessments are developed, delivered, and interpreted, and how that process impacts education reform and the standards movement.

Initial Research statement

I am interested the ways in which network spaces facilitate knowledge transfer among teachers. Specifically, I am curious about how online network spaces, especially those spaces not originally intended for educational purposes, are utilized by teachers in order to facilitate their own learning through informal interactions with one another. I am also interested in how the transfer of knowledge impacts teachers' pedagogical, content, and technological knowledge. Finally, I am wondering about the ways teachers adjust their discourse practices in these spaces and how those discourse practices reflect the process of knowledge transfer within these networks and assimilation to these networks.

How has this research statement changed over the course of the semester?

In the beginning, I had one clear purpose in my research interest: identify the knowledge transfer that is going on in social media spaces. It seemed to me, from participating and observing social media spaces, that there was a great deal of knowledge transfer occurring in these spaces that was not being accurately described. On the one hand, vocal users were heralding in exuberant statements how Twitter or a Ning site HAD CHANGED THEIR LIVES. On the other hand were the teachers being introduced to these types of sites, venturing into the spaces, and then largely disappearing. I'm incredibly curious about the ways people are studying these spaces, and the ways that literacy, discourse, and learning are interacting.

The initial statement reflected these interests to some degree, but as I spoke with other students and incorporating feedback from Dr. Koehler and Dr. Roseth, I realized that I needed to refine the statement somewhat. In terms of the investigation of informal learning in network spaces, that aspect of the statement was merely refined in terms of the rhetorical construction of the statement. I moved some phrases around, and structured a more specific statement.

The addition of the second half of the research statement related to assessment and the standards movement came after a discussion with Dr. Roseth. I had been agonizing over the direction my current research and thinking was taking, most notably that I was loathe to leave behind the fact that I have spent a large amount of my time in recent months and years writing and thinking about the standards movement and high-stakes testing. Not wanting to lose that particular focus of my ongoing passion, I elected to amend my research statement to reflect this enthusiasm. To me, the purpose of the statement of research interests is to clearly articulate what those interests are, as briefly as possible. Currently, I would like to explore this idea of informal learning in social media spaces. That does not mean that I no longer have an interest in assessment and standards. I did not feel, as it stood in the beginning with the assessment/standards aspect elided, that my research statement was an honest accounting of my research interests. Granted, the two ideas are not easily related to one another, but I felt that to legitimately

communicate my interests, I needed to include the interest in standards and assessment. While my reading for this RDP has centered around my original statement, and my next steps remain focused on this area, making room for this other, seemingly unrelated curiosity, is beginning to spark connections that otherwise would have been stifled out of my original myopic vision. Although I have not coalesced these two interests into one, neatly defined question, by keeping both in view I am making associations that I wouldn't otherwise make. This, in my opinion, is a good thing. I am hoping that, in the future, I might return to my interest in standards and assessment in a more formal way (beyond frequently blogging on the topic), but, for now, I am satisfied by centering my reading and research on informal learning in social media network spaces.

Identification of Experts

In the process of identifying three experts to guide my initial foray into my research interest, I identified both theorists and researchers to provide a groundwork for, especially, methodologies I might employ in examining social media spaces.

Discourse with a capital 'D': James Paul Gee

When I first was introduced to the field of Discourse Analysis, everyone referred to James Paul Gee. While Gee's writings do not necessarily provide an immediately useful strategy for examining turn-taking on Twitter, for example, his work in social linguistics and social literacies provide an theoretical lens by which to view interactions among teachers in networks. One way to unpack learning in informal contexts is by examining the language and utterances of the participants within those contexts and networks. In order to analyze learning in online networks, the utterances and interactions of the participants must be interpreted in a methodology situated in larger theoretical frameworks. Gee's thinking and theories in this area provide one

such theoretical framework. His writings about this topic are extensive and always thought-provoking. As I move into developing research studies, I find his understandings and theories around language instructive in critically evaluation different coding strategies and methodologies that might be applied the analysis of teacher conversations and networks in social media spaces.

Putting the New into New Literacies: Brian Street

I was first introduced to the work of Brian Street when he gave a lecture at the MSU College of Education in 2008. As a person interested in this idea of new literacies, Dr. Street's work was familiar to me and his lecture impressed me even more. As I consider researching knowledge transfer in online social networks, there is an inevitable intertwining of the social aspect of the network and the literacies employed in engaging with these spaces. In unpacking what is going on within online social networks, it is my contention (related to the work of Gee and others who have examined Discourse) that the text based interactions of many of these networks are informed by the new literacies of those individuals. Street's work in this area is highly instructive in unpacking what happens in the acquisition of new literacies: what are those literacies? How does one utilize them? What do they look like? All of these are important to understand if any conclusions are to be drawn from examining interactions in online environments.

Nodes and Ties: James Spillane

As I started to investigate the idea of a social network, and the notion of social capital within those networks, it seemed that everyone was citing the work of James Spillane. I occurs to me as I begin to read on these topics, that one can not draw conclusions about the nature of knowledge transfer within a network without isolating the factors that influence that network. How does social capital impact the transfer of knowledge in these spaces? In order to answer that question, a researcher must first be grounded in the language and theory around the nature of networks. Spillane's work on social capital within teacher networks provides critical frameworks by which one might examine online social networks of teachers. Additionally, Spillane's work around the

influence of leadership within a school on school reform movements certainly has implications for framing questions around learning within formal and informal professional teacher networks.

Annotated Bibliography of Relevant Research

Brennan, M., Wrazien, S., & Greenstadt, R. (2010). Learning to Extract Quality Discourse in Online Communities. *Artificial Intelligence*. Retrieved from http://www.cl.cam.ac.uk/~rja14/shb10/wikiai_brennan.pdf.

1. (2010) “ Learning to Extract Quality Discourse in Online Communities”

Brennan, Wrazien, and Greenstadt developed a study which examined both the human and computer-mediated curation of online content. Many content-sharing websites, from Delicious to Youtube, are overwhelmed by the content that is created by the users, and thus rely on the users themselves to rate and curate the content within the network. The ratings of user content by other users was theoretically positioned within the discussion of the “the wisdom of crowds (Surowiecki 2004)” or “the censoring mob (Newitz 2009).” In this study, the researchers examined a particular social network, and analyzed the shared features of highly rated content. While a number of lenses were employed, including filtering software, they additionally utilized an analysis of the linguistic features of the most highly rated postings.

The research hypothesis posited that the higher quality of the writing, the higher the ratings would be of that writing. The researchers considered a number of aspects of the comments: comment sentiment (the positive/negative word ratio within the posting), the use of first person pronouns, the number of words from the given post which appear in the comment, and the overall word count of the comment. All of these were used as proxies for the quality of the

writing. In the final analysis, although this was a minor aspect of the entire study, was that author reputation (the number of friends the author had, the number of new posts, the length of time the author had been on this particular site) was the greatest predictor of high ratings for content. We know from achievement research in education that prior high achievement shows the greatest correlation to continued high achievement-- a similarity that was striking in reading this article from a different discipline. Additionally, one of the other findings of note was the way other linguistic features correlated with high ratings: including grammar, the use of first person, and the density of the comments. The ways in which certain voices are privileged within online social networks is another question that relates to this researcher's potential future research.

The use of filtering software is an interesting tool that might be utilized effectively to analyze teacher and student discourse in virtual and online environments. The idea of focusing on particular linguistic patterns as representative of larger ideas about the nature of online discussion and discourse is intriguing. In terms of this researcher's future studies, the use of filtering software might be one way methodology to employ to analyze discourse in online communities such as Twitter. I have used specific software in the past to analyze turn-taking, for example, in an online chat, and I wonder if looking towards computer science might be one way to analyze large amounts of data for different linguistic patterns, for example. Keying in on particular phrases within a Twitter conversation, for example, might give insight into what might be the most popular and why.

As cited by Brennan, Wrazien, and Greenstadt:

Newitz, A. 2009. The censoring mob : How social media destroy freedom of expression - and why that might be a good thing. In Hacking at Random (HAR).

Surowiecki, J. 2004. *The wisdom of crowds : why the many are smarter than the few and how collective wisdom shapes business, economies, societies, and nations.* Doubleday.

Howell-Richardson, C., & Mellar, H. (1996). A methodology for the analysis of patterns of participation within computer mediated communication courses. *Instructional Science*, 24(1), 47-69. doi: 10.1007/BF00156003.

2. (1996) “A methodology for the analysis of patterns of participation within computer mediated communication courses”

Howell-Richard and Mellar’s article examines the type and frequency of participation in online courses. They applied the Speech Act theory, which originally was developed for face-to-face, synchronous communication, to the online participation that occurred within the computer mediated communication courses. Their research question centered on whether or not course design and moderator behavior influenced participant interaction--the idea being that CMC interaction may be more sensitive to mood and discourse structure than face-to-face interactions in a course.

The methodology that they employed included analyzing message length, distribution of messages among the members of the course, the inter-referential links within the messages, and also an interaction analysis. One of the interesting discussions was of the ways in which various facilitators established norms for the online discussions and how those norms impacted the four aspects of the analysis.

This article raised a number of questions: how effective are the face-to-face pedagogical moves

that instructors use in an online environment? Indeed, some of those face-to-face methods are not even available to an instructor online; their pedagogical moves are limited by the asynchronous and text-based nature of the interactions. Additionally, their choice of the Speech Act as a basis of the methodology was interesting not in the choice, but for the argument for making that choice. It appears that, even in more recent research, there is still no theoretical basis for analyzing interactions and conversations online, and that there are many different methodological frameworks being applied in different studies based on informed decision-making. It is interesting to track the ways in which these methodological choices have evolved as research into these spaces proliferates. I would be interested in applying the Speech Act to a hashtagged twitter conversation or a discussion board on a Ning like The English Companion Ning to articulate the underlying knowledge transfer within those online spaces.

Jordan, B., & Henderson, A. (1995). Interaction analysis: Foundations and practice. *Journal of the Learning Sciences*, 4(1), 39–103. Routledge. Retrieved from <http://www.informaworld.com/index/785041073.pdf>.

3. “Interaction analysis: Foundations and practice.”

Jordan and Henderson’s primer on Interaction Analysis was an incredibly useful and informative introduction to this theory of learning. At the core of Interaction Analysis is this, “Knowledge and action are fundamentally social in origin, organization, and use and are situated in particular social and material ecologies. Thus, expert knowledge and practice are seen not so much as located in the heads of individuals but as situated in the interactions among members of a community engaged with the material world.” Additionally, the authors situate learning as evidenced by the social interactions of the actors within a network. “Interaction Analytic studies

see learning as distributed, ongoing social processes, in which evidence that learning is occurring or has occurred must be found in the ways in which people collaboratively do learning and do recognize learning as having occurred(p. 41).”

Interaction analysis utilizes video recordings that are then collaboratively viewed and coded. This framework also has its roots in ethnographic theory, but specifically relies upon the video tape to provide a critical primary source of the interaction in question. In this way, confirmation bias and human error can be avoided. This approach, combined with collaborative viewing and coding, has helped to establish a set of common characteristics of interaction that allow conclusions to be drawn about the nature of the interactions. Some aspects include: recognizing that events share beginnings and endings, negotiations of transitions, temporal organization of activities, turn-taking in conversation, and participation structures.

In terms of empirical evidence of learning within a network, this theory holds a great deal of promise. Thanks to the magic of Google Scholar, I was able to track multiple studies that employed this theoretical framework in order to analyze online learning communities. It is important to track the historical evolution of a theory, and this particular article was incredibly robust in that respect. This has proved a portal into looking at additional, more recent studies that have employed this methodological framework. To apply Interaction Analysis to social media spaces might be one way to track knowledge transfer within those places. I am not satisfied that this is the best methodological framework by which to study knowledge transfer, but I do think this will inform the framework I might employ as I study these spaces.

McCrary, R., Putnam, R., & Jansen, A. (2008). Interaction in online courses for teacher education: Subject matter and pedagogy. *Journal of Technology and Teacher*

Education, 16(2), 155-180. Retrieved from http://www.editlib.org/index.cfm?fuseaction=Reader.ViewFullText&paper_id=23570.

4. (2008) “Interaction in online courses for teacher education: Subject matter and pedagogy”

McCrary, Putnam, and Jansen describe the delivery of online instruction and the ways in which the structure of the two online course contribute to the interaction amongst the students within the course. The theoretical framework is situated within the idea that social interaction leads to knowledge building. The researchers were noting movement within the interaction that went beyond information sharing. The framework utilized originated from Gunawardena, Lowe, and Anderson (1997) which identified five levels of knowledge construction. The analysis centered around two questions: understanding what constitutes meaningful engagement and what explains the intermittent occurrences of meaningful engagement. The findings of the analysis noted that “students control how they participate and they can exercise that control regardless of what structures are in place or what assignments are given....The instructor can rely on few of the usual ways of influencing and impacting student norms and behaviors (p. 177).” The researchers also found that differing content representation (text-based, video, interactive websites) impacted the occurrences of meaningful engagement.

The idea of “movement beyond information sharing” is at the core of researching interactions online. In studying online communities, as was done here, questioning the depth of the interactions and utterances in addition to the quantity seems instrumental in drawing conclusions about the quality of the community itself. The model and coding scheme utilized here provide one way of highlighting the important aspects of the online interactions and allow conclusions about the mediation of knowledge creation within those interactions. In terms of

this researcher's potential future research, this coding scheme, while utilitarian, raises numerous other questions: in coding by this scheme, at what point does a comment tip exploration of dissonance to negotiation of meaning? what does a researcher make of comments/utterances that do not fit within the scheme yet seem to impact the online interactions? In terms of researching transfer in these spaces, the coding scheme needs to be both flexible and specific enough to capture and analyze the utterances in a way that allows for really visualizing what is going on in these online spaces.

As cited by the authors:

Gunawardena, C., Lowe, C., & Anderson, T. (1997). Analysis of a Global Online Debate and Development of Interaction Analysis Model for Examining Social Construction of Knowledge in Computer Conferencing. *Journal of Educational Computing Research, Vol 17(4)*, 397-432.

Penuel, K., Riel, M., Krause, A., & Frank, K. (2009). Analyzing Teachers' Professional Interactions in a School as Social Capital: A Social Network Approach. *Teachers College Record, 111(1)*, 124-163.

5. (2009) "Analyzing Teachers' Professional Interactions in a School as Social Capital: A Social Network Approach"

Penuel, Riel, Krause, and Frank developed a study in which they analyzed similar reform initiatives in similarly situation schools in order to determine the ways in which teachers' social capital impacted the effectiveness of the initiatives. Blending a social network approach with qualitative methods allowed for the elucidation of the inner workings of the schools and the ways the reform effort was either enhanced or hindered in part due to the social capital of teachers

within the network of the school. By situating the research within the theoretical framework of the social network and social capital, it was revealed that one school's more efficacious implementation of the reform initiative was in part due to the social capital of the teachers within the particular school's social network. In terms of the reform movement, it was not just the amount of time set aside for meetings that correlated to improvement, but rather the access to expertise (or lack thereof) in each of the schools. The authors note the lack of research which focuses on this idea of social capital: "These studies tend to focus more on learning that takes place as part of formal meetings rather than on discussions that take place in hallways, lunchrooms, or staff workrooms (p. 128)." Through the mapping of the internal structure of the school, identifying the positions of mentors and coaches, and the value of teachers' interactions, the authors make larger conclusions about the often unseen and informal learning taking places within each school. Analyzing the network, and the nodes and ties within that network, instead of focusing on the school as the unit of analysis allows the informal learning to be noted and benefited from. The researchers encourage the analysis of social capital in order to better facilitate reform movements within schools.

The discussions that take place in hallways, lunchrooms, or staff workrooms are often unseen and undervalued. Additionally, large numbers of educational dollars are devoted to reform movements that are enhanced or undermined by these hidden interactions. Finally, teacher-to-teacher knowledge creation can languish as a potential source of powerful reform and improved student learning. Online social networks have provided another space, akin to the hallway conversation, where teachers are more consciously developing and refining their thoughts about pedagogy, content, and technology integration to support learning. What is going on to facilitate this learning online? What is meant by substantive conversation within these networks? How are voice privileged? These are largely unresolved questions. Utilizing frameworks developed for similarly situation face-to-face networks is one way to move towards answering those questions.

Spillane, J., Halverson, R., & Diamond, J. (2001). Investigating school leadership practice: A distributed perspective. *Educational Researcher*, 30(3), 23. Retrieved from <http://edr.sagepub.com/cgi/reprint/30/3/23.pdf>.

6. “Investigating school leadership practice: A distributed perspective.”

(The idea of distributed leadership was cited by the [Penuel, et. al](#) article on social capital in school networks.)

Distributed leadership advocates for a shared leadership model among teachers, administrators, and coaches, basically among the professional stakeholders within a school. As described by the authors of the study, “a distributed perspective can help leaders identify dimensions of their practice, articulate relations among their dimensions, and think about changing their practice(p.27).” In this case, the authors were discussing the distributed leadership model in terms of school reform initiatives.

One of the oft-cited arguments for encouraging teachers to engage with social networking spaces is this idea of the shared leadership that develops in these spaces. Largely (in my own observations), in these spaces, teachers are interacting with teachers, and the hierarchy of schools and districts is not relevant to the purpose of the community. The model of distributed leadership may be applicable to understanding the ways in which the community develops and nurtures learning among the members. I am thinking that analyzing online network spaces, like Twitter, with the proper coding methodology along with informing that analysis with the idea of who has social capital will really make it obvious who has the knowledge and where it is going within these networks. Also, one other question that occurs to me is: what are the barriers to

knowledge transfer in these spaces? Is it the technology (finding those with social capital and knowledge on Twitter, for example)? or is it the social capital of the person themselves? This raises different lenses that might be used in a future research study.

Agenda of Next Steps

My agenda for the future of this Research Development Portfolio centers around methodologies for analyzing online interactions. From my reading, it seems that there is some coalescing around what might work best, but I am still unclear about underlying theories in this work. It seems, from this brief reading I have done, that there is still a great deal of diversity in terms of explanations about what is going on and how best to analyze whatever it is that is happening. One of the most promising, however, is the idea of Interaction Analysis, a theory of analyzing learning within the social ecology of human interaction. The progenitor of Interaction Analysis was our very own Michigan State University, and in my readings I came across Jordan and Henderson's 1995 work on Interaction Analysis cited repeatedly.

First of all, in thinking about how writing is an expression of thought and knowledge, I'm curious as to different and better methodologies for the analysis of tracking knowledge as it moves through a social network. For instance, how might a person's tweet or facebook status demonstrate an acquisition of knowledge?

I'm also recognizing that I have a great deal of curiosity about how voices are privileged in social networks: what are the common characteristics of those who have more control over the conversations in these spaces, such as twitter, where norms are still developing? I recently became aware of a service called klout.com, which has partnered with HootSuite, in which each member of twitter is given a klout score to identify influential users within the network. This

is data-mining for particular purposes, often commercial, but I wonder what aspects of social networks can be better understood by what is playing out online. How might this be applicable to the social network of the school? How does this facilitate or hinder knowledge transfer among users, particularly teachers within a network like Twitter?

Finally, I find myself continually thinking about how assessment intersects with these questions. For example, in Penuel, Krause, Riel, and Frank's (2009) look at the social networks of schools implementing reform movements, they indicated that previous studies "...tend to focus more on learning that takes place as part of formal meetings rather than on discussions that take place in hallways, lunchrooms, or staff workrooms (p. 128)." When a great deal of the assessment conversation is focused on standardized tests, I have deep concerns about the learning that is going on that we are missing. Might there be a quantifiable measure that might illuminate this learning? Could teachers and students point to their contributions online? As literacy evolves in light of these social media spaces, how does that impact standards and accountability? These are larger questions that I may not tackle in the immediate future, but still rumble about in my brain as I consider the question of knowledge transfer in social media spaces.

I am hoping that my continued work with Red Cedar Writing Project and the National Writing Project will provide fruitful ground in which I can cultivate some of these ideas. The National Writing Project is on the verge of launching new web spaces to help the different sites across the nation converge in one place. I'm interested in the ways this organization, which prizes the fierce individuality of the independent sites, utilizes social media practices to unite around what we hold in common: our beliefs about valuing teachers and impacting literacy. Our director at the Red Cedar Writing Project, Janet Swenson, would often say to me when I was discussing this or that online service, "But where is the commons?" I am wondering about that myself—where is the place we come together as educators to share and push our thinking? Taking this back to my research interests: can an organization facilitate knowledge transfer in a

particular web space? Does it work better when it arises from the masses as seems to be the case with Twitter?

In terms of conceptualizing a potential research study based on my RDP work, I have envisioned looking at the hashtag #edchat on Twitter. The #edchat conversations have proved immensely popular on Twitter and is often the first foray for most educators into the world of conversational Twitter (which I am differentiating from the one-way, broadcast use of Twitter). The #edchat conversations are organized through a blog, with people on Twitter voting each week on the particular topic. The #edchat is a weekly, synchronous conversation, but people also tag their relevant tweets at other points in time. Recognizing that the conversations are now being archived by the Library of Congress, and that these are public utterances, it would be relatively easy to do an analysis of the conversations without having to gain permission of the individual participants. While I have not identified the right coding methodology I would use to examine the conversations, I would like to examine, at minimum, an early #edchat, and more recent #edchats to try to see if they have changed over time. I would like to look at who is participating, who is getting @replies and who is getting Re-tweets(RT). Both @replies and RTs occur because the original tweet is worthy of extra attention, thus indicating some measure of social capital. I would like to see what linguistic feature those tweets share that gain @replies and RTs and also try to discern whether or not it is related to the linguistic features of the tweet or the social capital of the tweeter that leads to the particular tweet/utterances garnering the attention of the @reply and RT within the #edchat conversation. I believe that this type of analysis would start to articulate the type of networks being created on social media spaces.

And so I leave this experience of my first semester in EPET with a great many questions. While some of these questions circle in orbits that vary in distance from my core research question, the gravitational pull of that central question will keep me from spinning into space. There is certainly work to be done.

Jordan, B., & Henderson, A. (1995). Interaction analysis: Foundations and practice. *Journal of the Learning Sciences*. Retrieved from <http://www.informaworld.com/index/785041073.pdf>.

Penuel, K., Riel, M., Krause, A., & Frank, K. (2009). Analyzing Teachers ' Professional Interactions in a School as Social Capital : A Social Network Approach. *Teachers College Record*. 111(1), 124-163.