"INKE-cubating" Research Networks, Projects, and Partnerships: Reflections on INKE's Fifth Year

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Abstract

Humanists are participating in collaborations with others in the academy and beyond to explore increasingly complex research questions with technologically oriented methodologies and access to advice, mentoring, technology, knowledge, and funds. Although these projects have clear benefits for all those involved, these collaborations are not without their challenges. Such styles of partnership tend to be more common on the science side of campus. As a result, little is understood about the ways that they might work within the humanities and the range of benefits that can be available to members within a mature collaboration. To this end, this paper will examine the experiences of Implementing New Knowledge Environments (INKE) as a mature, large-scale collaboration working with academic and non-academic partners and will provide some insight into best practices.

Keywords

Collaboration; Networked scholarship; Research teams; Digital humanities; INKE

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Implementing New Knowledge Environments (INKE) is a collaborative research intervention exploring electronic text, digital humanities, and scholarly communication. The international team involves over 42 researchers, 53 GRAs, 4 staff, 19 postdocs, and 30 partners. Website: inke.ca

Introduction

As highlighted in other places (Chuk, Hoetzlein, Kim, & Panko, 2012; Hunter, 2014; Quan-Haase, Suarez, & Brown, 2014), humanists are participating in collaborations and research networks with others in the academy and beyond to explore increasingly complex research questions with technologically oriented methodologies and resources. Participating individuals welcome these endeavours to undertake projects that would not be otherwise possible and to provide access to advice, mentoring, technology, knowledge, and funds (Hayat & Mo, 2014; Lungeanu & Contractor, 2014; Philbin, 2008). Although these projects have clear benefits for all those involved, these collaborations are not without their challenges. Often coming from a multiplicity of disciplines, perspectives, and objectives, the partners must find ways to navigate their inherent cultural differences, which range from ways of working to reward structures and beyond (Dimitrova, Mok, & Wellman, 2014; Lind, Styhre, & Aaboen, 2013).

To date, though starting to change, such partnerships tend to be more common on the science side of campus (Philbin, 2008; Quan-Haase et al., 2014). Research on these science-oriented partnerships and networks suggests several factors that lead to success. These include generating trust and commitment to the collaboration, a foundation often created through previous projects; learning to speak the same language; creating common frames of reference with clear research outcomes, responsibilities, and reporting systems; ensuring ongoing communication through emails and face-to-face meetings; having a willingness to share information and knowledge; and finally aligning mutually beneficial goals and objectives. For many projects, a "collaboration agent," whose responsibility is the partnership and its outcomes and who works to coordinate activities and engagement between participants, can be necessary for effective results. From the perspective of academics, the ability to publish results remains paramount, regardless of others' interest in this activity (Barnes, Pashby, & Gibbons, 2002; Hayat & Mo, 2014; Philbin, 2008; Plewa & Quester, 2007; Quan-Haase et al., 2014; Thune, 2007). Finally, these partnerships support graduate student training in skills desired by the private sector, including communication, collaboration, flexibility, and the ability to work across organizations and intellectual communities of practice (Bilodeau, 2007; Carr, 2012; Maioni, 2015; Thune, 2010).

Despite increased calls for partnerships and networks, there are few examples of successful ones involving the humanities. Three notable exceptions are the Graphics, Animation and New Media (GRAND) Network of Centres of Excellence (Dimitrova et al., 2014); the Hispanic Baroque Project (Quan-Haase et al., 2014); and the University of California's Transliteracies Project (Chuk et al., 2012). Because of the paucity of successful humanities networks, little is understood about the ways that they might work within the humanities and the range of benefits that they can provide to members. To this end, this article will examine the experiences of Implementing New Knowledge Environments (INKE), a large-scale collaboration working with academic and non-academic partners that has been in existence for several years, and provide some insight into best practices for networked scholarship (Quan-Haase et al., 2014). It also builds on earlier papers about INKE and collaboration (L. Siemens & INKE Research Group, 2012a, 2012b, 2012e, 2013b, 2014).

Case study

Funded through Canada's Social Sciences and Humanities Research Council's Major Collaborative Research Initiative granting program (SSHRC, 2010), the INKE research project is a seven-year, multidisciplinary project with 35 active researchers plus postdoctoral fellows, graduate research assistants, and partner organizations across four countries, and with a budget of approximately $13 million in cash and in-kind funding (INKE, 2012b). This seven-year project is focused on studying "different elements of reading and texts, both digital and printed[,]" and contributing "to the development of new digital information/knowledge environments" (R. G. Siemens, Warwick, Cunningham, Dobson, Galey, Ruecker, Schreibman, & INKE Research Group, 2009; SSHRC, 2009, 2010). Originally structured into four sub-research areas, the team is now divided into two sub-research areas, with a focus on Modeling and Prototyping (MP) and Interface Design (ID). (For a discussion on reasons for reorganization, see L. Siemens & INKE Research Group, 2012a; L. Siemens & INKE Research Group, 2012d).)

In the fourth year of funded research, INKE also underwent a mid-term review in which those involved reported on its research outcomes relative to the grant application, initial project planning, and ongoing yearly plans. Beyond reading the report, the review panel interviewed the administrative team, researchers, partners, and past and present graduate research assistants and postdoctoral fellows to understand research outcomes and collaboration and administrative processes. Ultimately, this review determined whether INKE's research funding should continue for the remaining half of the grant application. Based on its demonstrated productivity and collaboration, the project was renewed. Now in its sixth year of funded research, the team is considering future research directions and partnerships with a focus on digital knowledge production within Canada (INKE, 2014b).

Methodology

Members of the administrative team, researchers, graduate research assistants, and others are asked about their experiences collaborating within INKE on an annual basis in order to understand the nature of collaboration and ways that it may change over a grant's long-term life. The interview questions focus on understanding the nature of collaboration and its associated advantages and challenges within INKE's context. These interviews allow the researcher to explore topics more fully and deeply with probing and follow-up questions while participants reflect on their own experiences and emphasize those issues that are important to them (L. Siemens & INKE Research Group, 2012b, 2012c). This article focuses on interviews that are centred on the project's fifth year.

Data analysis involves a grounded theory approach that focuses on the themes that emerge from the data. This analysis is broken into several steps. First, the data is organized, read, and coded to determine categories, themes, and patterns. These categories are tested for emergent and alternative understandings, both within a single interview and across all interviews. This is an iterative process, involving movement between the data, codes, and concepts, constantly comparing the data to itself and the developing themes (Marshall & Rossman, 1999; McCracken, 1988; Newell & Swan, 2000; Rubin & Rubin, 1995).

Findings

The findings focus on benefits, challenges, and partner relationships.

COLLABORATION BENEFITS

Overall, INKE continues to be a positive experience with clear advantages for the interviewed team members. Of note, these individuals viewed INKE as a supportive collaborative space. As expressed by a researcher (R1),[1] one benefit is the ability to talk and work very directly with peers on research. This is in contrast to their work with postdoctoral fellows and student research assistants, with whom a supervisory relationship exists. Others suggested that INKE provides an opportunity to pool intellectual resources and skills (R4) and a space where one could keep learning (AL3). INKE has also been successful in building networks and relationships that allow team members to collaborate and pursue research beyond this particular project's mandate. One interviewee (AL2) suggested that INKE is functioning like an incubator that fosters networks and partnerships that in turn enable other research, an impact that cannot be easily seen or measured.

The interviewees also referenced INKE's working culture, particularly as it relates to work patterns and accountability structures. As one researcher (R1) noted, in contrast to a single researcher's ability to let their own research "go dormant" for a period of time, team members in a large-scale research project such as this one do not have the same luxury. Here, given the annual planning and reporting cycles, the project has its own momentum that keeps the work moving forward, regardless of other work demands on team members (R1). Again, in contrast to research performed by a single individual, another researcher (R2) highlighted that INKE projects require multiple skill sets and a willingness to not be in control, especially in those cases where one might not understand the technology, methodology, and/or software being used by others within the project. Finally, participating in this scale of collaboration requires a level of personal responsibility to track one's own contributions to the research and interactions with others (R4).

At the same time, interviewees acknowledged that this type and scale of organization and planning could be an adjustment for those who are not accustomed to it (R2). Given this, another researcher (R4) recognized that it could be challenging for someone to join INKE at this point in its life cycle because of the well-established culture. In response, a third interviewee (R3) highlighted the need and importance of learning about and understanding INKE's culture, by observing and participating in meetings and reading governance documents, in order to work effectively within the collaboration. To this end, the governance documents have been necessary to ensure that everyone is "on the same page" (AL3). Still, one interviewee (R4) acknowledged there are many moving parts in INKE with no "authoritative" record of roles, tasks, outcomes, and relationships, though the updated website, mid-term report, governance documents, and articles have been beneficial.

Finally, in terms of INKE's collaborative patterns, even after five years of working together with a level of familiarity that is created through ongoing interactions, face-to-face meetings continue to be important venues for discussions about research and

planning for the next stages. These encounters provide a different type of engagement around the research than is possible through document exchange and online collaborative writing spaces (R1). Another researcher (R3) commented that regular meetings between researchers and sub-area research teams remain key for accessing the knowledge and expertise needed for projects.

The interviewed graduate research assistants (GRAs) and postdoctoral fellows remain very positive about their experiences within INKE. One (GRA1) realized that their involvement in this project is a "unique experience," not available to all graduate students. They further articulated that their work in INKE is contributing to their own research, intellectual development, and professionalization through interactions with other team members, conference presentations, and exposure to the larger academic context. Others (GRA2, PDF1) echoed this by acknowledging the benefits associated with meeting various people within the larger digital humanities field and being exposed to different skills and perspectives. These individuals also advised graduate students and postdoctoral fellows who might become involved in similar collaborations to take advantage of opportunities to present, to meet and talk with people at conferences, and to publish. Finally, they also recommended finding that "space that lets you do things" where one has interest and capacity within the project's objectives and research focus (PDF1).

The researchers themselves also recognized the opportunities presented to postdoctoral fellows and students within INKE to gain important collaborative, project management, and other professional skills (AL2). However, they realized that they themselves are still learning how to be supervisors and mentors to these individuals (AL3) and experimenting with different models to ensure that work is completed as required. As one last point, those at smaller institutions continued to have difficulty in finding students to hire who have the necessary skills (R3, AL3).

ONGOING AND NEW CHALLENGES

At the same time as interviewees articulated the benefits of INKE, they identified both ongoing and new challenges. In terms of perennial issues, the annual distribution of funds in a timely manner remains a consistent challenge, as identified by several individuals (R1, AL2, AL3). Because it is not always clear when the funds will arrive, researchers often cannot hire research assistants until funds are in place at their institutions, thus potentially stalling work plans. Secondly, participation in INKE is always balanced against research, teaching, and other obligations, meaning that there were times when researchers were less able to participate fully in this project. One researcher (R1) noted that they felt they might miss important information if they could not attend a meeting due to other commitments. And, as highlighted by an administrative lead (AL3), these meetings are acknowledged to be very important to keeping everyone informed of research activity. Given everyone's level of commitment to INKE and other projects, it was sometimes difficult for researchers to get what they needed from others in a timely manner. As a result, good working relationships were very important. As one researcher expressed, they did not want to "feel bad when they have to ask for something" (R4).

Siemens, Lynne. (2015). "INKE-cubating" Research Networks, Projects, and Partnerships: Reflections on INKE's Fifth Year. *Scholarly and Research Communication, 6*(4): 040198, 11 pp.

5

Finally, several interviewees highlighted the challenges associated with working at a distance from team members, a situation that is in contrast to a lab setting where collaborators are co-located (R3). This reality can make it difficult to manage relationships among team members and resolve issues when face-to-face meetings cannot be easily held (AL2). Working at a distance also presents ongoing challenges of coordination and communication between the two sub-research area groups and their projects (AL3).

As for new challenges, several interviewees identified the issues associated with academic credit and authorship conventions and implications for students and early career scholars in collaboration. Self-identified as an early career scholar, one researcher (R3) highlighted the need for balance between the monograph, often required for tenure and promotion in the humanities, and collaborative, multi-author digital humanities work. They also suggested that support from administrators was important as well as clarity for the ways multi-authorship outputs would be counted for advancement. This was echoed by another researcher (R2), who highlighted that students still need to undertake solo work in order to build their curriculum vitae, a step required by many disciplines within the humanities. This tension also extended to institutions that may not "buy into" the multiple author/collaborative model and conferences that may drop multiple authors from the program. This reality reinforces the need to be named the first author in order to get recognition (AL2). Consequently, one researcher (R3) advised students to talk with their supervisor to ensure that they understand the ways that academic credit will be allocated within collaborative projects. An administrative leader (AL2) echoed this with a caution to students who are considering whether to bring their own research into a team setting such as INKE.

Experiences with academic and non-academic partners

Drawing from their experiences, interviewees highlighted several advantages to partner involvement within INKE. First, one administrative lead (AL3) remarked that partners brought alternative viewpoints even when doing similar things. Further, others observed that a partner's financial contribution could allow resources to go further while smoothing cash flows.

The participants also described the different levels and types of partner involvement. For example, several partners are embedded directly in the research, planning, and reporting structures and co-fund several graduate research assistant and postdoctoral fellow positions. As one of these types of partners noted (R1), they have two roles, both researcher and partner, and can provide a "positive synergy." A second type of partner is one who assists with translating research results, prototypes, and models to a non-research setting with non-academic outputs. Articles and conference papers may not follow from this work, which may be a drawback for those who need publication (L. Siemens & INKE Research Group, 2014). Further, these partners' involvement tends to vary in timing and effort because the particular project may not be part of their key business activities (AL3).

While INKE's experience with partners is still in development, the interviewees reflected on several lessons that might inform next steps. First, their comments

suggested that existing relations, trust, and commitment with a partner developed through other activities are important as a foundation for a successful collaboration, which can in turn be supported in part by a liaison person. Further, researchers must be aware that partners may work on a project intensively in cycles. As a result, this context must be incorporated into the grant and subsequent work plans. To find interested partners, researchers must present at conferences beyond academia and use language that fits potential partners' focus and the type of curiosity that they may bring to the research.

Discussion

As discussed in the reflection on this collaboration's fourth year (L. Siemens & INKE Research Group, 2014), INKE is now a mature and productive team project as measured by presentations, publications, prototypes, gatherings, student training, and other factors (INKE, 2012c, 2013a, 2013b). Further, the project is acting as an "incubator," facilitating relationships and networks that extend research beyond this project's specific scope. Finally, while acknowledging ongoing challenges, team members remain positive about the collaborative experience and are looking forward to future research projects both within INKE and beyond with a possible new grant application. The graduate research assistants and postdoctoral fellows are especially positive given the opportunity to develop new skills and knowledge in this and other INKE-related projects.

As a mature collaboration, INKE has a clear working culture articulated both explicitly through its governance documents and planning and reporting processes (L. Siemens & INKE Research Group, 2012c) and implicitly through conduct in formal and informal meetings, emails, conference calls, and work patterns (Lawrence, 2006; Lingard, Schryer, Spafford, & Campbell, 2007). This culture has allowed the project to be highly productive. While newcomers to INKE may not always understand these patterns, as highlighted by the interviewees, this culture ensures that the overall research can continue even when individual researchers' time commitment ebbs and flows. An inherent trade-off exists between individual research, where a researcher is in control of all aspects of the project, and the team's focus, where that individual may not understand all parts of the research and methodologies. As a result, collaborators must trust each other and possess a willingness to "not be in control" (R2) as well as find ways to incorporate individual research interests into the larger INKE mandate (L. Siemens & INKE Research Group, 2014). Spiller, Ball, Daniel, Dibb, Meadows, and Canhoto (2014) describe collaboration within a research context as a process of "letting go" of the individual's focus and then a "coming together" of the team. They also introduce the idea of "researcher plasticity," where individuals must adapt to a team's way of working together, particularly in those cases where it might differ from one's own preferred working style. This observation echoes the need for flexibility, willingness to share information and knowledge, and readiness for collaboration (Bracken & Oughton, 2006; Hayat & Mo, 2014; Olson & Olson, 2000).

It is important to recognize that a wide variety of partners, contributions, and engagement will be involved within a large project such as INKE. As is the present case with the Canadian Writing Research Collaboratory, the Modernist Versioning Project,

Siemens, Lynne. (2015). "INKE-cubating" Research Networks, Projects, and Partnerships: Reflections on INKE's Fifth Year. *Scholarly and Research Communication, 6*(4): 040198, 11 pp.

7

and others (INKE, 2014a), some partners will be involved in the research itself while others, like the University of Alberta,[2] will be more involved in knowledge mobilization, translation, and production activities. Finally, other partners may only consult and/or provide technical infrastructure, data, new research contexts, and other resources (INKE, 2014b). Ultimately, mutual interest and benefit for both researchers and partners must be found.

However, several points of tension between researchers and partners may be present. First, the collaboration must find a balance between the researchers' intellectual curiosity and desire for academic papers and the often more "practical" production orientation of industry partners. Further, the work flows of industry and other non-academic partners will vary from those of researchers. The engagement between the two will likely be cyclical, and this will need to be taken into consideration in project timeframes.

As INKE has found with interactions between researchers, graduate research assistants, postdoctoral fellows, sub-research groups, and partners over the life of the project thus far (L. Siemens & INKE Research Group, 2012a, 2012b, 2012e, 2013b, 2014), ongoing and regular communication is important for exchanging ideas, building trust, and establishing mutual agreed-upon collaboration processes, plus evaluating interest and commitment to working together on projects within the larger grant objectives. The annual partner gatherings are one way this can occur (INKE, 2014c, 2014d), with further, ongoing communication through the project website and online collaborative spaces (INKE, 2012a, 2014b). This reflects the experience of the Hispanic Baroque Project, GRAND, and other successful networks (Dimitrova, Mok, & Wellman, 2014; Hayat & Mo, 2014; Quan-Haase et al., 2014).

As INKE reflects on its past while looking forward to new research directions, the team has identified many issues that present challenges to large-scale academic collaborations distributed across distance, disciplines, stages of academic career, institutions, and other factors. Although no easy answers exist for some of these issues, such as distribution of funds in a timely fashion (Cummings & Kiesler, 2005), disciplinary practices around authorship conventions, and acceptability of multiple authors (Choi & Pak, 2007; Kraut & Galegher, 1990; L. Siemens, Smith, & Liu, 2014), just knowing about potential problems is "half the battle" and ensures that the team discusses these in advance, drawing upon established and successful processes for managing these issues and others that may be encountered in future projects (L. Siemens & INKE Research Group, 2013a, 2013b, 2014; L. Siemens, Siemens, Cunningham, Dobson, Galey, Ruecker, & Warwick, 2009).

Finally, to date, INKE has developed well-established working patterns and relationships that have been beneficial to the collaboration as a whole, the individual collaborator, and partners alike. This presents challenges for the team as it nears the completion of this project and contemplates next steps in the research. As explored in earlier papers (L. Siemens & INKE Research Group, 2012a, 2012b, 2012e, 2013b, 2014), what of the present articulation of culture and processes will be carried forward to the proposed next project? And what does this mean for new partners and their

incorporation into the established relationships, a process that can be time-consuming and full of potential confusion, as INKE participants have already found (L. Siemens & INKE Research Group, 2013b)? Or will new working patterns, governance documents, planning and reporting processes, and/or authorship convention be negotiated to reflect deeper engagement of partners who may not want to participate in academic papers and presentations? And how will the research reflect partners' needs, interests, and their particular contexts and realities? As INKE has found, the opportunity to meet face-to-face in formal meetings and informal interactions will be key to establishing next directions (L. Siemens & INKE Research Group, 2013b).

Notes

1. Individuals will be identified by abbreviation for the group that they represent. For example, a graduate research assistant will be named as GRA1.

2. More information about the joint INKE, CWRC, and University of Alberta Press project to implement the Dynamic Table of Contexts in a scholarly publishing environment can be found at http://www.cwrc.ca/cwrc_news/dtoc .

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9

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11