Article abstract

Social knowledge creation, citizen scholarship, interdisciplinary collaborations, and university-community partnerships have become more common and more visible in contemporary academia. The Electronic Textual Cultures Lab (ETCL) currently focuses on how to engage with such transformations in knowledge creation. In this paper we survey the intellectual foundation of social knowledge creation and major initiatives undertaken to pursue and enact this research in the ETCL. “Social Knowledge Creation: Three Annotated Bibliographies” (Arbuckle, Belojevic, Hiebert, Siemens, et al. 2014), and an updated iteration, “An Annotated Bibliography on Social Knowledge Creation,” (Arbuckle, El Hajj, El Khatib, Seatter, Siemens, et al, 2017), explore how academics collaborate to create knowledge, and how social knowledge creation can bridge the real or perceived gap between the academy and the public. This knowledgebase lays the foundation for the “Open Social Scholarship Annotated Bibliography” (El Hajj, El Khatib, Leibel, Seatter, et al. 2019), which draws on research that adopts and propagates social knowledge creation ideals and explores trends such as accessible research development and dissemination. Using these annotated bibliographies as a theoretical foundation for action, the ETCL began test-driving open social scholarship initiatives with the launch of the Open Knowledge Practicum (OKP). The OKP invites members of the community and the university to pursue their own research in the ETCL. Research output is published in open, public venues. Overall, we aim to acknowledge the expanding, social nature of knowledge production, and to detail how the ETCL utilizes in-person interaction and the digital medium to facilitate open social scholarship.
Social knowledge creation, citizen scholarship, interdisciplinary collaborations, and university-community partnerships have become more common and more visible in contemporary academia. The Electronic Textual Cultures Lab (ETCL) currently focuses on how to engage with such transformations in knowledge creation. In this paper we survey the intellectual foundation of social knowledge creation and major initiatives undertaken to pursue and enact this research in the ETCL. “Social Knowledge Creation: Three Annotated Bibliographies” (Arbuckle, Belojevic, Hiebert, Siemens, et al. 2014), and an updated iteration, “An Annotated Bibliography on Social Knowledge Creation,” (Arbuckle, El Hajj, El Khatib, Seatter, Siemens, et al, 2017), explore how academics collaborate to create knowledge, and how social knowledge creation can bridge the real or perceived gap between the academy and the public. This knowledgebase lays the foundation for the “Open Social Scholarship Annotated Bibliography” (El Hajj, El Khatib, Leibel, Seatter, et al. 2019), which draws on research that adopts and propagates social knowledge creation ideals and explores trends such as accessible research development and dissemination. Using these annotated bibliographies as a theoretical foundation for action, the ETCL began test-driving open social scholarship initiatives with the launch of the Open Knowledge Practicum (OKP). The OKP invites members of the community and the university to pursue their own research in the ETCL. Research output is published in open, public venues. Overall, we aim to acknowledge the expanding, social nature of knowledge production, and to detail how the ETCL utilizes in-person interaction and the digital medium to facilitate open social scholarship.

Keywords: social knowledge creation; open social scholarship; citizen scholar; scholarly communication; Wikipedia

Introduction
Digital environments house a considerable mass of cultural and scholarly knowledge. The Internet now serves as the primary network for academic and non-academic modes of communication and knowledge dissemination. This shift in medium over the last couple of decades has resulted in greater ease when pursuing collaborative modes of engagement. Social knowledge creation, citizen scholarship, interdisciplinary collaborations, and university-community partnerships have become more common and more visible. The discourse concerning access to knowledge has also evolved, and has become increasingly relevant with respect to the open structure of Internet protocols that facilitate information dissemination.

Engaging with such transformations in knowledge creation has been a significant research focus for the Electronic Textual Cultures Lab (ETCL) at the University of Victoria. Explorations in this area have cumulated in perspectives on how collaborative knowledge creation and engagement practices have been conceived of and carried out historically and in the present, as well as future opportunities for this sort of endeavour. Moreover, this research and development suggests how academic practice might be reimagined in order to effectively integrate collaborative, interdisciplinary, public-minded praxis. In Planned Obsolescence:
Increasingly, ETCL researchers found that their explorations into social knowledge creation led them to pursue and enact this research.

**From Social Knowledge Creation to Open Social Scholarship**

The ETCL is a digital humanities research lab directed by Dr. Ray Siemens. The lab serves as an intellectual center for the activities of approximately 20 local faculty, staff, students, and visiting scholars. Through a series of highly collaborative relationships, the ETCL’s international community comprises over 300 researchers. The ETCL welcomes more than 800 students per year through their organization of the annual Digital Humanities Summer Institute (DHSI). The lab also supports the activities of the multidisciplinary Implementing New Knowledge Environments (INKE) Partnership, which has involved over 42 researchers and consultants, 53 graduate research assistants, 4 staff members, 19 postdoctoral fellows, and 30 partners and associates.

Since inception in 2004, the ETCL has experimented with social ways of developing and sharing knowledge. In 2012 the ETCL began to concentrate even more explicitly on a concept called ‘social knowledge creation.’ We consider social knowledge creation to be ‘acts of collaboration in order to engage in or produce shared cultural data and knowledge products’ (Arbuckle et al. 2017). This necessarily broad definition cuts across disciplines and practices. The ETCL focuses on how academics collaborate to create knowledge, as well as how social knowledge creation can bridge the real or perceived gap between the academy and the public. Increasingly, this exploration has narrowed in on the relationship between scholarly communication and social knowledge creation.

The ETCL’s research into social knowledge creation has provided a basis for lab-based initiatives and projects. In 2012–13, a team of researchers led by Alyssa Arbuckle, Nina Belojevic, Matthew Hiebert, and Ray Siemens began amassing resources to collect into a tripartite annotated bibliography project. This work resulted in ‘Social Knowledge Creation: Three Annotated Bibliographies’ (Arbuckle et al. 2014), published in the online journal *Scholarly and Research Communication*. The annotated bibliography met with warm reception upon publication, and served an important function as a knowledgebase for ETCL and INKE researchers. Primary focus areas include the history of knowledge production, the role of society in shaping knowledge, and scholarly communication artifacts that embody or activate social knowledge creation. Arbuckle et al. also explore the implications of critical making, social media, game-based design, and digital tools for social knowledge creation in the humanities.

‘Social Knowledge Creation: Three Annotated Bibliographies’ provided a thorough snapshot of scholarship and initiatives related to social knowledge creation up to 2013, but this area of inquiry expanded rapidly post-publication. In 2015–16, an ETCL-based team comprised of Alyssa Arbuckle, Tracey El Hajj, Randa El Khatib, Lindsey Seatter, and Ray Siemens revisited and renewed the social knowledge creation research foundation. In doing so, the project transitioned into ‘An Annotated Bibliography on Social Knowledge Creation,’ published with the *New Technologies in Medieval and Renaissance Studies* stream in 2017. The revised material aims to broaden the conceptual scope of social knowledge creation as it was defined in the initial annotated bibliography, and makes notable subject additions and expansions—including in public humanities, crowdsourcing, collaborative games, spatial humanities, digital publishing, and open access. This renewed attention to social knowledge creation as a topic also led to an eponymous mini-conference prior to DHSI 2015, organized by Alyssa Arbuckle, Ray Siemens, and William R. Bowen.

The compilers enacted social knowledge creation practices in the very development of these reference documents. The authors engaged, reshaped, and built on previous work, collaborated on the intellectual direction of the projects, and worked together to compile resources. These endeavours were facilitated by electronic authoring platforms like Google Drive, and citation management systems like Zotero.

Increasingly, ETCL researchers found that their explorations into social knowledge creation led them to consider scholarly communication from both practical and conceptual angles. To pursue this trend, the
research team built on the social knowledge creation knowledgebase by explicitly exploring open social scholarship via another environmental scan. Open social scholarship involves the creation, dissemination, and engagement of research and research technologies that are accessible and significant to a broad audience. In 2016, an ETCL team began compiling the ‘Open Social Scholarship Annotated Bibliography’ (El Khatib, Seatter, El Hajj, and Leibel, with Arbuckle, Siemens, et al. 2019), drawing on research that adopts and propagates social knowledge creation ideals across movements, including open access, open source, public humanities, citizen scholarship, citizen science, and community outreach. Resources range from traditional, foundational forms of open knowledge to praxis-oriented projects. Historical publications, including the Philosophical Transactions of the Royal Society of London journal, exemplify how knowledge was discussed and debated previously. Advocacy for open access to information is a recurring theme, following the belief that publicly funded research should be accessible to all (Willinsky 2006). In addition, this annotated bibliography reflects the impact that open knowledge has had on social justice movements, and how Internet tools and social networks have been used to mobilize activism.

In search of a model for open social scholarship in the humanities, the bibliography also looks to other disciplines and research centers. An example of this is the Center for Open Science, an American based technology organization that focuses on developing services and products to increase openness in research and scholarship, as well as to encourage reproducibility in scientific experiments. In the chapter ‘Opening Science,’ from Rajiv S. Jhangiani and Robert Biswas-Diener’s collection Open: The Philosophy and Practices that are Revolutionizing Education and Science (2017), Center for Open Science co-founder Brian A. Nosek sketches out how the center uses open practices to assess the scientific results of experiments. He argues that there is a gap between what scientists value and how they act. That is, scientists value open sharing and collaboration in theory, but in practice they are often not willing to share research results widely and will even hide, falsify, or skew results in order to claim a more groundbreaking research outcome. But Nosek has a handful of suggestions for tackling this issue:

One step is to show that the norms and values are actually shared, even if they are not rewarded in practice. A second step is to make it easy for people to behave according to their values, and particularly to not be punished for doing so. A third step is to surface when people are practicing the valued behaviors to signal to others that it is possible, practical, even prevalent. A fourth step is to show that the counternorms are having negative consequences on the quality of research, providing a means of reinforcing the normative behaviors. And, a final step is to shift the cultural incentives so that they actually support and reinforce the normative behaviors. (90–91)

Such an approach to realigning scientists’ values and practices could be adapted for the humanities as well. In our own discipline, we could focus on how to demonstrate commonality amongst the community; make open scholarship easy to do; draw public attention to open scholarship practices; acknowledge the pitfalls of resisting open scholarship; and incentivize open scholarship practices in tangible ways. As Nosek writes, ‘Researchers possess the values of transparency and reproducibility but if they do not have appropriate training, they may not be able to translate them into practice’ (93). By giving researchers the benefit of the doubt and then providing them with the tools and mechanisms to enact open scholarship, the humanities would be well on its way to becoming an even more socially-oriented community.

Social Knowledge Creation on Campus

‘Social Knowledge Creation: Three Annotated Bibliographies’ (2014), ‘An Annotated Bibliography on Social Knowledge Creation’ (2017), and ‘Open Social Scholarship Annotated Bibliography’ (2019) lay the foundation for on-campus social knowledge creation activities at the University of Victoria. One of these initiatives is the ongoing ETCL-based Open Knowledge Practicum Program that was launched in January 2017 has supported 24 fellows over the last six rounds, with three rounds planned for every academic year. The practicum puts open social scholarship into action by inviting faculty, staff, students, and members of the community to pursue their own research projects in the ETCL. Fellows are provided with access to resources, library materials, and archives; consultation and guidance from specialists in the field; and other project-specific assistance. The Open Knowledge Practicum is a step toward more publicly engaged scholarship that spans a wide array of topics, ranging from discipline-specific foci to research on local public history or the broader community. Practicum findings are published in online, public venues and made discoverable to both general and targeted communities. As a connecting thread, all fellows create, enrich, or revise Wikipedia pages that relate to their topic.
Although Open Knowledge Practicum projects have been thematically diverse, a number of conceptual clusters have formed, one of which focuses on social justice. For instance, Sara Humphreys, Assistant Teaching Professor of English at the University of Victoria, joined the practicum with a digital gaming edition of Okanagan author and activist Mourning Dove’s *Cogewea*. The project primarily attempts to correct the colonial ways in which *Cogewea* has been published and consumed in primarily settler classrooms. Indigenous and indigenized cyberspace can open up new ways of communicating the language of the land and the presence of Indigenous peoples,’ according to David Gaertner (2016), ‘[opening] up productive and challenging spaces to further investigate key principles in Critical Indigenous Studies and provid[ing] students with interactive ways to engage with Indigenous knowledges and methodologies’ (494). In the case of *Cogewea* and other texts by authors whose cultures have been oppressed and knowledge systems devalued by Eurocentric textual practices, Humphreys asks: how can the paratext empower rather than overlay western norms and values? How do we create a space in which the cultural integrity of the text is maintained? To answer to these questions, she develops an interactive companion edition to the print edition that incorporates Indigenous editing practices, and uses digital gaming paradigms to create an interactive text that actively engages the reader.

Sanjana Ramesh, who is now pursuing graduate studies at Simon Fraser University, focuses on the banishment of homosexuality in India that was abolished in 2018, and traces its roots to a colonial law that was imposed by the British in 1860. Ramesh also focuses on the portrayal of homosexuality in film (primarily Bollywood), and celebrity influence on support for LGBTQ rights. She contributed to a number of relevant Wikipedia pages and created a website “No Going Back: LGBT Rights in India” where she addresses the issues and challenges surrounding LGBTQ rights in India. Tatiana Bryant and Jonathan Cain of the University of Oregon, who joined the ETCL for a pre-DHSI practicum, worked on Oregon Black Pioneers, an organization that researches Oregon’s African-American History, including the accomplishments of African-American communities and their contributions to Oregon’s history. During the practicum, they established an open access virtual museum in *Omeka* and published four exhibitions on the topic. Kate Siemens’ research focused on the letters sent by Captain V.C. Best, a Salt Spring Island resident and WWI veteran, to government officials between 1941–1943, in which he relates the internment and dispossession of Japanese citizens during the WWII period. Siemens contributed to the ‘Japanese–Canadian Internment’ Wikipedia page and launched a website ‘Witnessing Internment’ on the topic, which serves as a prototype for studying history through dynamic user interaction.

The ETCL supports other Wikipedia-related activities; we consider Wikipedia to be a prime example of social knowledge creation, as it is an online encyclopedia comprised, maintained, and expanded by thousands of citizen scholars. In partnership with the University of Victoria Libraries, the ETCL announced the University of Victoria’s first Honorary Resident Wikipedia, Dr. Christian Vandendorpe (2014–16). Vandendorpe recognizes the central role of Wikipedia in contemporary scholarship and open knowledge production and dissemination. Field experts, according to Vandendorpe, should direct their efforts towards making Wikipedia as complete and reliable as possible. In 2017, Dr. Constance Crompton assumed the 2017–18 Honorary Resident Wikipedia role, and she began her tenure by coordinating a Wikipedia edit-a-thon at the University of British Columbia Okanagan that sought to increase content on marginalized groups, as well as speaking at the University of Victoria’s 2017 edit-a-thon on ‘From Curation to Creation: Wikipedia’s Contribution to Open Knowledge.’ Crompton lead a second edit-a-thon in October 2018 at U Victoria during the international Open Access Week.

During Wikipedia edit-a-thons (hosted by the ETCL and University of Victoria Libraries), participants contribute to Wikipedia by revisiting and creating entries on topics of their choosing or else on material from Special Collections and Archives. This activity trains participants in how to add, edit, and update entries. It also enables them to share their expertise in digital public venues in easily discoverable and networked ways through content development and linking to related material. So far, Wikipedia edit-a-thons have largely oriented toward social justice themes, including working with the Transgender Archives housed at the University of Victoria.

Moreover, the ETCL runs campus-based digital skills training initiatives. DHSI takes place annually at the University of Victoria and will run for the 19th consecutive year in June 2019. Participants from different fields and locations attend DHSI for two weeks of workshops, seminars, and other conference activities. Courses range from more foundational and technical skills to theoretical engagement with various disciplines and their intersection with digital humanities. Beginning in 2017, DHSI hosted a course stream that brings the various open knowledge and scholarly communication oriented research foundations discussed here into a pedagogical setting. So far, courses have included: ‘Open Access and Open Social Scholarship,’ by
Alyssa Arbuckle (University of Victoria), ‘Digital Public Humanities’ by Mia Toothill (Cornell University), ‘Accessibility and Digital Environments,’ by Erin E. Templeton (Converse College) and George H. Williams (University of South Carolina Upstate), ‘Ethical Collaboration in the Digital Humanities,’ by Daniel Powell (King’s College London), ‘Feminist Digital Humanities: Theoretical, Social, and Material Engagements,’ by Elizabeth Losh (College of William and Mary) and Jessica M. Johnson (Johns Hopkins University), ‘Digital Games as Interactive Tools for Scholarly Research, Communication & Pedagogy,’ by Jon Saklofske (Acadia University), ‘Race, Social Justice, and DH: Applied Theories and Methods’ by Dorothy Kim (Vassar College) and Angel David Nieves (Hamilton College), ‘Queer Digital Humanities: Intersections, Interrogations, Iterations’ by Jason Ryerson University) and James Howe (Rutgers University), ‘Digital Publishing in the Humanities,’ by Sarah Melton (Boston College) and Anandi Salinas (Emory University), and ‘Digital Storytelling,’ by John Barber (Washington State University, Vancouver). This course stream addresses the theory, methods, and challenges related to open social scholarship in various settings.

The ‘DHSI During the Year: Digital Humanities Skills Training’ initiative was launched in 2015–16 and facilitates training throughout the academic year that provides students, faculty, and staff with a wide range of technical skills and relevant theoretical basis in various digital humanities subfields. In 2016–17, the training initiative evolved into the ‘Digital Humanities Workshop Series,’ and was launched in partnership with DHSI and University of Victoria Libraries; the program is also affiliated with Simon Fraser University (DHL, SFU Library Research Commons) and the University of British Columbia (UBC Library, UBC Advanced Research Computing). The series offers free digital humanities skill training sessions that are open to all.

At the University of Victoria, Matthew Huculak offered a course on ‘Introduction to Content Management Systems: Creating Exhibits with Omeka’ and Lynne Siemens led ‘Introduction to Project Management.’

The ETCL activities and research directions outlined here share a commitment to address and practice scholarship that is responsive to the evolving needs of the university and the larger community. The ETCL strives to produce relevant and accessible scholarship, while simultaneously thinking about ways of harnessing the digital medium to benefit all. ETCL initiatives also address the potential for creating and fostering university-community partnerships. We seek to highlight the ever-expanding social nature of knowledge production and how scholarship has expanded beyond the academic context, as evident in the vast amount of research produced by citizen scholars and citizen scientists.

Examples of open social scholarship-oriented research on the University of Victoria campus can be found in other disciplines and research lab environments as well. In 2017, a study led by Dr. Maia Hoeberechts of Ocean Networks Canada (ONC) (Paterson 2017) involved citizen scientists; based on deep-sea video samples from the Barkley Canyon observatory, volunteers were asked to identify the number of sablefish. The objective of this project was twofold: to test the performance of amateur scientists in comparison to an expert biologist, as well as to compare the performance of undergraduate students to a trained computer algorithm monitoring the same videos. Studies found that humans performed better than the algorithm, and that with a bit of training, amateur scientists identified sablefish almost as accurately as the expert biologist. Another ongoing citizen science project related to marine observations, ‘Guardians of the Deep,’ was launched in 2017 by marine ecologist John Volpe and graduate student in the School of Environmental Studies, Stefania Gorgopa (Social Sciences Graduate Studies 2017). This project involves the local scuba diving community, who contribute to research by helping to count at-risk species in local waters. The goal of this project is to evaluate local fish communities and conservation areas, and to compare the data provided by citizen scientists with different skills for research purposes. Ultimately, the projects seeks to identify at-risk species and to develop a preservation plan.

**Conclusion**

The current academic climate demands public engagement and accountability. The ETCL is committed to these ideals by exploring social knowledge creation in both theory and practice, as evidenced in the initiatives discussed above and published work by ETCL researchers (see Arbuckle et al. 2014; Arbuckle and Christie 2015; Crompton, Powell, Arbuckle, Siemens, et al. 2015; Siemens et al. 2010; Siemens, Crompton, Armstrong et al. 2012; Siemens, Timney, Leitch et al. 2012a; Siemens, Timney, Leitch et al. 2012b). Broad research scans will continue in the ETCL as trends and norms develop and change. Experimental, on-campus activities at the University of Victoria intended to stimulate social knowledge creation are crucial for testing the theories behind this work, and the ETCL will continue to consider ways of opening up scholarly activity for all, moving forward. In doing so, we will explore the possibilities that the digital medium offers with respect to new modes of scholarly communication, collaboration, and dissemination, as well as creating open and shared knowledge in public venues.
Competing Interests
The authors have no competing interests to declare.

References
Arbuckle, Alyssa, and Alex Christie, with the INKE, ETCL, and MVP Research Groups. 2015. “Intersections Between Social Knowledge Creation and Critical Making.” Scholarly and Research Communication, 6(3): n.p. DOI: https://doi.org/10.22230/src.2015v6n3a200
Arbuckle, Alyssa, Nina Belojevic, Matthew Hiebert, and Raymond G. Siemens, with Shaun Wong, Derek Siemens, Alex Christie, Jon Saklofske, Jentery Sayers, and the INKE & ETCL Research Groups. 2014. “Social Knowledge Creation: Three Annotated Bibliographies.” Scholarly and Research Communication, 5(2): n.p. DOI: https://doi.org/10.22230/src.2014v5n2a150
Arbuckle, Alyssa, Nina Belojevic, Tracey El Hajj, Randa El Khatib, Lindsey Seatter, and Raymond G. Siemens, with Alex Christie, Matthew Hiebert, Jon Saklofske, Jentery Sayers, Derek Siemens, Shaun Wong, and the INKE and ETCL Research Groups. 2017. “An Annotated Bibliography of Social Knowledge Creation.” In: Social Knowledge Creation in the Humanities: Volume I, Alyssa Arbuckle, Aaron Mauro, and Daniel Powell (eds.), 29–264. Arizona: Iter Academic Press and Arizona Center for Medieval and Renaissance Studies.
Crompton, Constance, Daniel Powell, Alyssa Arbuckle, and Raymond G. Siemens, with Maggie Shirley and the Devonshire Manuscript Editorial Group. 2015. “Building a Social Edition of the Devonshire Manuscript.” Renaissance and Reformation, 37(4): 131–56. https://www.jstor.org/stable/43446354.
El Khatib, Randa, Lindsey Seatter, Tracey El-Hajj, and Conrad Leibel, with Alyssa Arbuckle, Ray Siemens, Caroline Winter, and the ETCL Research Group. 2019. “Open Social Scholarship Annotated Bibliography.” KULA: Knowledge Creation, Dissemination, and Preservation Studies.
Fitzpatrick, Kathleen. 2011. Planned Obsolescence: Publishing, Technology, and the Future of the Academy. New York: New York University Press.
Gaertner, David. 2016. “A Landless Territory? Augmented Reality, Land, and Indigenous Storytelling in Cyberspace.” In: Learn, Teach, Challenge: Approaching Indigenous Literatures, Deanna Reder, and Linda M. Morra (eds.), 493–98. Waterloo: Wilfred Laurier University Press.
Nosek, Brian A. 2017. “Opening Science.” In: Open: The Philosophy and Practices that are Revolutionizing Education and Science, Rajiv S. Jhangiani, and Robert Biswas-Diener (eds.), 89–100. London: Ubiquity Press. DOI: https://doi.org/10.5334/bbc
Paterson, Jody. 2017. “Citizen Scientists are the Future of our Oceans.” University of Victoria, June 5. Accessed July 24, 2018. https://www.uvic.ca/news/topics/2017+citizen-scientists-onc+ring. Archived at: https://perma.cc/QV92-BBFM.
Siemens, Raymond G., Karin Armstrong, Constance Crompton, and the Devonshire Manuscript Editorial Group. (eds.) 2012. A Social Edition of the Devonshire Manuscript. Wikibooks. https://en.wikibooks.org/wiki/The_Devonshire_Manuscript.
Siemens, Raymond G., Meagan Timney, Cara Leitch, Corina Koolen, and Alex Garnett, and the ETCL, INKE, & PKP Research Groups. 2012a. “Toward Modeling the Social Edition: An Approach to Understanding the Electronic Scholarly Edition in the Context of New and Emerging Social Media.” Literary and Linguistic Computing, 27(4): 445–61. DOI: https://doi.org/10.1093/llc/fqs013.
Siemens, Raymond G., Meagan Timney, Cara Leitch, Corina Koolen, and Alex Garnett, and the ETCL, INKE, & PKP Research Groups. 2012b. “Understanding the Electronic Scholarly Edition in the Context of New and Emerging Social Media: Selected, Annotated Bibliographies.” Digital Humanities Quarterly, 6(1): n.p.
Willinsky, John. 2006. The Access Principle: The Case for Open Access to Research and Scholarship. Cambridge: MIT Press.
