Serving a Fragmented Field: Information Seeking in Higher Education

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Abstract

This study examines the information seeking habits and needs of scholars of Higher Education. Because Higher Education is a field which draws on many disciplinary traditions rather than a pure discipline in itself, the information needs of these scholars require diverse information seeking strategies. Phenomenological interviews with productive scholars of higher education were conducted and analyzed for this study. Ellis' (1989) Common Information Seeking Behaviors of Social Scientists are used as a framework to examine the behaviors of these applied social scientists in the modern information seeking environment.

Introduction

The study of Higher Education is an applied social science (Biglan, 1973). This makes the information environment for the field different from pure disciplines (such as anthropology or sociology) because the scholarly conversation includes practitioners as well as scholars. Scholars of Higher Education must communicate with Higher Education practitioners, despite their diverging goals to advance knowledge of Higher Education and execute high quality Higher Education. In applied fields like education, literature from outside the scholarly community can be important sources of information. Mary Kennedy (2001) points out that scholarship in education struggles between its allegiance to practitioners and its obligation to conform to the expectations of the academy. Information seeking in Higher Education is representative of information seeking in other applied social sciences that also share this rift (such as social work or criminal justice). While many studies of scholarly information seeking such as Housewright, Schonfeld, and Wulfson's (2013) focus on information seeking differences between the humanities, sciences, and social sciences, few focus on the information seeking differences between applied fields and pure disciplines. My study examines information seeking in one applied field.

The purpose of this study is to explore the information needs of scholars in the field of higher education. Since Higher Education scholarship is defined by its object of study rather than a disciplinary method of inquiry, scholars in the field draw on expertise from a variety of disciplines. Interdisciplinary fields, such higher education, create a particularly large obligation to keep up with developments in scholarship because they draw on more than one body of knowledge. Part of my goal was to identify productive information seeking behaviors for Higher Education scholars. I also wanted to identify how their information needs can be better supported. It is important to understand the information needs of faculty members in Higher Education programs to support their work. Academic libraries, university administrators, and publishers will be able to serve Higher Education scholars better if they are more aware of their habits and desires for information access. Studying productive information seeking for faculty members in Higher Education also informs our knowledge of it for graduate students.

Higher Education faculty members draw on expertise from a variety of disciplines. Budd and Magnuson (2010) identify the top 20 cited scholars in the top three journals of Higher Education. Many of these scholars hold PhDs in Education, but others hold PhDs in Communication and Psychology. They also hold varied master's degrees including Education, Labor and Industrial Relations, Communication, Psychology, Economics, Political Science, and English. Their bachelor's degrees stem from a variety of fields as well. The course catalogs of

Higher Education doctoral programs reflect similar combinations of disciplines. Course offerings include policy, organizational theory, history, law, finance, and sociology of education. Students may also acquire their methodological training in departments outside of education, such as public policy, anthropology, sociology, or communication. These varied educational backgrounds include training in different styles of citation, emphasis on different publication formats, and encouragement of different writing styles, which could all affect how a scholar seeks and differentiates between sources. While the field in aggregate is interdisciplinary, this does not imply that all or most of the scholars in the field do interdisciplinary work. A given Higher Education researcher may share the research tendencies of a positivist scientist or a constructivist humanist. This means that although interdisciplinary search tools would be needed to find information relevant to all Higher Education topics, databases intended for individual topics, such as psychology, sociology, gender studies, may be of most use to an individual scholar.

Tight's (2012) picture of Higher Education shows its diversity. He identified eight main themes in Higher Education research: teaching and learning, course design (including educational technologies), the student experience, quality assessment, policy, institutional management, academic work (including its changing nature and academic work in different countries), and knowledge and research (including disciplinarity). He also identified eight main methods for Higher Education research: document analysis, international comparisons, interviews, surveys and multivariate analysis, conceptual analysis, phenomenography, critical perspectives, and biography or observation. He identified eight levels of analysis: individual, course, department, institution, region, nation, system, and international. Tight also pointed out several disciplines from which theories of Higher Education arise. These include sociology, such as Bourdieu; psychology, such as Vygotsky; management; economics; linguistics; and biology.

Because Higher Education is an interdisciplinary field, which relies on the literature of many other fields, Higher Education scholars have a particularly large obligation to read. They must keep track, not only of the developments in their own field, but also in the fields from which they can draw theories and methods. The scholarship in many of these fields is expanding at an exponential rate. Scholars might be tempted to concentrate on Higher Education literature in order to limit the amount of information they need to examine, but this would limit the creativity and utility of their analyses.

According to Bates (2002), well-defined research domains with many topically relevant materials are best searched by browsing, domains with a medium amount of topically relevant materials are best searched by directed subject searches, and domains with very sparse and scattered topically relevant materials are best searched by chaining. Interdisciplinary fields like education are more scattered than pure disciplines, so one might expect browsing to be less important in the field of education. However, since particular areas of higher education research may fall at varied points in the scale from scattered to well defined, different search strategies may be advisable for different subtopics.

The resources for finding literature in a discipline reflect the outlets for publication in the discipline. Because higher education faculty borrow methods and theories from a variety of disciplines, their publication habits may vary based on the disciplines they draw mostly heavily from. As Fry (2006) points out, intellectually pluralistic fields like education have difficulty

designing appropriate digital scholarly communication outlets and therefore rely on the outlets established by other disciplines. In the humanities, monographs are a highly valued form of publication (Housewright, Schonfeld, & Wulfson, 2013). In the sciences, publishing in digital repositories such as arXiv or Public Library of Science is common (Housewright, Schonfeld, & Wulfson, 2013). A particular scholar of Higher Education may fall closer to either the humanities model or the sciences model based on their epistemology. Because departments of Higher Education must include a diverse set of faculty interests in order to educate students in a diverse set of topics and methods, individual departments must accommodate scholars with very different orientations toward searching and publication.

Though the choices available for information seeking and dissemination are changing rapidly overall, the choices for Higher Education scholars have not changed at the same rate. The Social Science Research Network does not include a network for education research (Elsevier, 2017). *Higher Education* and *Research in Higher Education*, as Springer journals, offer authors the opportunity to make their published articles open access for a fee of $3,000 (Springer, 2017). Taylor and Francis, publisher of *Studies in Higher Education*, and now also the *Journal of Higher Education*, charges $2,950 for gold open access and makes allowances for the posting of preprints after an embargo period (Informa UK Limited, 2017). *The Review of Higher Education* does not offer a gold open access publishing option (Johns Hopkins University Press, 2017). These fees are often prohibitive to scholars in a field where grant funding for research is much more rare and given at lower numbers than in many sciences. This lack of options for open access in Higher Education is not ideal, because the majority of scholars in social science fields such as education rate societal impact as a key to measuring their research performance (Wolff, Rod, & Schonfeld, 2016). Open access to scholarship can increase the societal impact of research by making it available to more of society. Several studies have found that articles available free online are more frequently cited than those behind paywalls (Lawrence, 2001; Zhang, 2006). Without support or motivation, Higher Education faculty members are unlikely to take on the expense of making their publications open access. Scholarship in the field is primarily published in subscription journals corresponding to the various factions among Higher Education (Bray & Major, 2011). Higher Education's fragmented nature means scholarship in one area is not reviewed by a diverse audience from every school of thought, which could lead to greater rigor and therefore greater prestige for the field. This may be true in other applied social science fields as well. This study set out to discover how scholars in an applied social science can reach their audiences as well as how they seek for information.

Methods

I conducted phenomenological interviews with 14 productive scholars of Higher Education. I used a critical incident technique (Flanagan, 1954) to help scholars recall their experiences accurately. I asked scholars to recall the research strategies that went into a recently published or presented piece of scholarship to stimulate memories of specific experiences rather than allow them to generalize about their research habits. My sample included six women and eight men. Two scholars in the sample identified themselves as having been raised outside the United States. One scholar was a clinical professor, two were assistant professors, two were associate professors, one had just earned associate status, and the rest were full professors. My participants include Asians, an African American, a Latina, and Caucasians.

I drew my sample from Higher Education faculty in doctoral degree granting programs. To identify scholars from programs with high research expectations, I focused on institutions that are part of the Association of American Universities (AAU). My sample came from six universities in the Midwest. My sample included scholars whose H-indices as calculated by Scopus ranged between 3 for younger scholars up to 14 for prolific full professors. To place this in perspective, Ernest Pascarella, the most highly cited scholar in the field (Budd & Marginson, 2010) has a Scopus H-index of 31 and Arthur Chickering, who is also in the top 20 (Budd & Marginson, 2010) has a Scopus H-index of 4. Many of my participants have been cited hundreds of times. They have published in journals such as *Teacher's College Record*, *Educational Researcher, American Educational Research Journal, Harvard Educational Review, Journal of Higher Education*, *Research in Higher Education*, *Review of Higher Education*, and *Journal of College Student Development.* Several of the scholars also served on the editorial boards of several of these journals. Several of my participants have authored or edited books that are used in the instruction of graduate students in the field of Higher Education.

Theoretical Framework

David Ellis (1989) created a theory to describe the information seeking behavior of social science researchers. In this study, I explore the ways scholars of higher education employ Ellis' common information seeking behaviors today. Ellis identified six most common information behaviors: starting, chaining, browsing, differentiating, monitoring, and extracting. Starting entails identifying a key item or items on the topic of interest (this might be found through previous knowledge, a recommendation, or search). Chaining means following the citations or connections to or from key papers to other sources of information. Browsing involves exploring an area through semi-directed searching. Differentiating means filtering materials by their content, scope, and quality. Monitoring consists of routinely checking for updates in a field through familiar sources. Extracting is the act of working through a source to use the information in your own way. These six behaviors do not necessarily flow in any particular order.

Ellis's theory was formed before scholars used the internet in their searching. The digital age has shaped information seeking behavior. It is difficult, if not impossible, to browse online the way scholars can in a physical library. However, many of the information behaviors Ellis identified are still common today. Platforms for information access still need to facilitate these behaviors. For example, chaining to articles which cite a relevant article is easy through Google Scholar, publishers provide emailed Tables of Contents of new issues so scholars can monitor new publications, and it's possible to monitor a particular topic through RSS feeds or Twitter.

More recently, Meho and Tibbo (2003) built on the work of David Ellis (1989) by sending email questionnaires to social scientists studying stateless nations (peoples who do not have their own state, such as Australian Aborigines, Tibetans, Inuit, and Scots). They observed the six behaviors described by Ellis. They found that social scientists often start by doing a literature search through a library or among their personal collections or by contacting someone, such as a colleague or a librarian who is knowledgeable about their topic. Meho and Tibbo noted that when scholars engage in chaining they take into consideration the reputation of the authors and publishers in the citations and the frequency of citation to determine which citations they will follow up with. However, they found that scholars also consider novelty, which can lead them to explore less well-known authors and publishers. Social scientists engage in monitoring

practices through list servs, by subscribing to journals, and by attending conferences. Meho and Tibbo add several behaviors to the list started by Ellis. In addition to starting, chaining, monitoring, browsing, extracting, and differentiating, they add accessing, verifying, networking, and information managing. Accessing entails tracking down sources they identify. Verifying involves corroborating information, especially when it comes from a potentially biased source. Information managing is the storage, organization, and interpretation of sources for later use. Networking is reliance on interpersonal sources of information. Networking was also a strong theme which emerged from my study.

Findings

The following findings describe how Ellis' (1989) common information seeking behaviors of social scientists play out particularly for an applied social science, such as Higher Education, in today's information seeking ecosystem. I coded the interview transcripts according to the six common information seeking behaviors identified by Ellis, but I have omitted the step of extracting, as I concentrated on information seeking rather than information use for this study. I have also included Meho and Tibbo's (2003) networking step, which emerged as a strong theme from my participants. I explore how the behaviors identified by Ellis have been adapted by scholars in an information seeking environment with many online options.

Starting

In some disciplines, such as humanities, libraries are still visibly indispensable sources of archival material (Housewright, Schonfeld, & Wulfson, 2013). Based on my interviews, in Higher Education, libraries are less visible tools because many scholars can get by using library resources through Google Scholar as a mediator. Scholars like the convenience of accessing information with only a few clicks. Google Scholar is a more useful tool to a Higher Education scholar who incorporates literature across a variety of disciplines than it is to a scholar who is focused on a single discipline. Because Higher Education is an applied field, the conversations of educational policy makers, university administrators, and consumers of Higher Education matter to the academic study of the field more than they do to scholars in pure disciplines. This type of literature is more accessible through Google than through some library databases that index only scholarly literature.

Some scholars I spoke to felt social media was an avenue to hear voices from beyond academia, while others felt the social media network they had was limited to those already involved in their area of study. One associate professor spoke about Twitter as a way to sort out what topics have audiences beyond academia. He said,

> That's actually been extremely helpful for me, in not only identifying topical areas that people have seemed to express interest in, and maybe sometimes even talk about without even having much evidence base behind it. And so it gives me some confidence to know, hey, here's a talked about area that I can research and maybe contribute to that discussion later down the road. So it kind of gives me some confidence there, in thinking about the audience. Who are those people? Talking about not necessarily academics, it's more like policy folks, who sometimes engage with academic research.

This difference in outlooks may stem from differences in intended audiences. Policy makers may be more likely to follow scholars on social media than to read scholarly articles, while academics may be more likely to read scholarly articles than to follow their colleagues closely on social media. Popular audiences may be unlikely to read either scholarly articles or scholarly Twitter postings. Because scholars in different subfields naturally aim for different sets of stakeholders, their dispositions toward social media as a source of information for their work naturally diverge as well.

Browsing

Gardner and Inger (2016) found that publisher controlled tools to access scholarly information are growing in popularity even though no single publisher provides access to the full breadth of scholarship in a field. Several of my participants also reported using individual journal websites to search for articles in addition to a multi-publisher search like Google Scholar or a library search. This is a way of triangulating one's search strategies. Though a lot of discovery is done online through keyword searching, and scholars often don't have time to read the journals they like to publish in, journals centered on a topic serve as a modern way of browsing instead of visiting a library in person. Journals collect articles on related topics similar to the way libraries arrange books on related topics. This is a way to discover articles that are related to your interests but aren't returned by the search terms you choose. Monitoring a journal becomes a way of making some serendipitous finds, rather than relying on your own linguistic formulation of a topic. It is a way of verifying that you have a thorough and current grasp of your area of research. This is important in fields that draw on multiple disciplines where topics may go by a variety of names.

Chaining

Scholars in my study reported appreciating Google Scholar for providing the opportunity to chain forward to articles which have cited their article, in addition to being able to chain backward to articles which have been cited by the works they're interested in. Scholars like to see the impact an article has had by comparing how many times it has been cited to the years it has been published. They delve deeper into search results to try to remedy the risk of seeing only items that Google tailors to them. They trust bibliographies to guide them to relevant material they may have missed. Chaining can serve as another tool to make links between different disciplinary influences on Higher Education.

Monitoring

Education requires attention to a variety of stakeholders. For example, one highly published tenured participant mentioned that she reads the *New York Times* and the *Washington Post* for context for her scholarly research. Several participants reported subscribing to organization based publications that were not peer reviewed, but provided news about their area of interest. One well-published scholar told me, "I feel like I'm constantly working in a million spaces. And it's just tearing at my sanity." Nicholas et al. (2014) found that in education, scholarly communication occurs in so many different places, with so many different audiences that blogs and websites are more necessary to read and produce than in other disciplines. Housewright, Schonfeld, and Wulfson (2013) found that government and NGO reports and trade

magazine publications have much more value in the social sciences than they do in the humanities or sciences. My participants echoed this sentiment, asserting that government websites and news sources are often important, especially for topics where scholarly information isn't available yet.

Scholars in my study reported having little time to keep up with journals. The burden to keep up with multidisciplinary developments is sometimes overwhelming. Reading news articles in *Chronicle of Higher Education* and *Inside Higher Education* is time saving. One can read the digest of scholarly developments instead of the full version of education news that may not be directly pertinent to one's scholarship. As one scholar said, "if you publish your article in a top tier journal, still only a few people read it, but if you write some article in *Chronicle of Higher Ed*, tons of people read it". On the other hand, some scholars in my study felt that news outlets like this that aim for briefer, more accessible writing do not allow for all of the discussion necessary to accurately convey complex research findings.

Social scientists are more likely to value social media as a means to monitor information related to their field than scientists or humanists (Housewright, Shonfeld, & Wulfson, 2013). One young scholar told me she uses social media to find information that is discounted by other information seeking systems. She said,

> I also follow a lot of different blogs. So sometimes, I'll spend a good hour or something on Facebook or Twitter or even sometimes Pinterest, you can find stuff. And you'll also find people writing in spaces and for audiences that you would never capture through a library catalog or through Google Scholar.

One way to distinguish your work from the work of others is to explore resources that others dismiss. Monitoring only high impact journals can lead scholars to overlook publications relevant to their research that are not published there. Monitoring the work of well-known scholars in the topic can also lead scholars to overlook important work by less known scholars. However, for most scholars in my study, Twitter is not a place for beginning a literature search, but it is a place for monitoring for new works by colleagues or on particular topics. Though social media websites provide a new outlet for scholars to learn about and discuss their areas of expertise, most of the scholars I spoke with in this study either did not make use of social media professionally or only used it in a minor way. Several scholars described using social media to disseminate their work, but not to read about the work of others. Some viewed it as not being conducive to the nuance and complexity of scholarly thought. For example, one well published full professor said,

> I find the whole Twitter enterprise to be unappealing. It's just an aesthetic violation. I can't find another way to explain it. It's just everybody talking in these tiny little chunks, in these horrible little acronyms and at signs and hashtags and trying to take complex academic material and synthesize it into nothing, into basically just camps. You know, like you're either with me in this camp, or you're not. And mostly people talking inside of an echo sphere, you know, just everybody who agrees on things, or are pretending that they agree on things, all talking to each other. I find it really annoying.

Costa (2014) observed that there is conflict between the norms of academia and those of the participatory web that has the potential to isolate an individual who participates heavily from their colleagues who adhere to traditional academic norms, even while expanding their online network. For instance, Twitter's short format does not lend itself to referencing authoritative sources for an opinion. Instead, it encourages sharing one's opinions and feelings without the backing of empirical evidence.

Networking

As Rupp-Serrano and Robbins (2013) reported, a great many education scholars feel they lack the time to use electronic library resources. Lack of time also prevents scholars from taking the time to learn about electronic library resources. One highly productive scholar said,

> I think instead of just trying to keep up, doing that, more likely what happens is that I search or have the students search when a particular need arises, so it's much more on an as needed basis. I wish I could keep up with the journals.

She said she gets too much email to look at all the tables of contents that are delivered to her, so she only reads things she receives in print and even that is often too much to read. Reliance on other scholars in the field, especially newer scholars in the field, is a way for busy scholars to keep current with new developments and still fulfill all their responsibilities. According to my participants, teaching is their opportunity to review best practices in compiling literature reviews, and to make connections with university librarians, actions that scholars would not otherwise make time to engage in.

Several of the scholars in my study told me they assemble the collaborators for a project based on what expertise it requires. For example, one prolific full professor said, "Often the team is put together because it has particular strengths, you know these are the people who know qual. methods, these are the people who know quant. methods, these are the people who know organizational theory." Because Higher Education is divided into subspecialties, the only way to investigate all of them without overburdening a single scholar is for them to contribute expertise in different subspecialties.

Watkinson, et al. (2016) found that some scholars strengthen and maintain their professional connections through social media. While scholars in my study generally spoke about Facebook as something they used for personal, not professional purposes, their personal contacts include colleagues in their field. For example, one accomplished full professor told me,

> I don't use Facebook for that, generally. I do have Facebook connections to colleagues and to students, but I use it as a more personal thing. It's more like, cat videos, you know, my cat. But every once in a while I'll comment on something, I'll say something about work, but it's not like communicating to the world about my thoughts about work.

Though Facebook is not a means by which he searches for or monitors scholarly developments, it is a means by which he maintains his relationships with his colleagues.

Differentiating

Scholars in my study placed high value on familiar scholars in terms of evaluating reliability. One scholar in my study described her process for determining the credibility of a work, saying,

> I look at who has been cited and if I know the work of the people who have been cited, I'm more comfortable with it. If there are a lot of authors that I haven't heard of, then I would question it.

She bases her assessment of credibility on the people who are cited rather than the metrics of the journal or the number of times the article has been cited. Another scholar articulated this mistrust of metrics, saying, "I'm highly skeptical, Sarah, of Google Scholar's or Web of Science's ability to really judge value. And I think part of that is my critical feminist or critical race theory lenses." The conflation of individuals with credibility and reliability was a refrain I heard repeated many times. Despite the skeptism of metrics expressed by my participants, they placed a lot of trust in the algorithms of Google Scholar to connect them with the information relevant to their work. Scholars differentiate between sources, but first, they differentiate between search tools to find those sources (databases, search engines, journal websites) with varying levels of consideration. These sometimes implicit decisions shape the resources scholars encounter in their searches.

When scholars are working with ideas from other disciplines, they are less able to rely on their knowledge of the scholars contributing to the field. In these cases, other methods of differentiating come into play. Ideas that gain traction with popular audiences are likely to have traction with higher education scholars as well. I heard from my participants that a bestselling book in sociology or psychology can shape the perspectives they use to approach works with narrower academic audiences.

For one well-published full professor in my study, using Twitter is a way to manage feelings of information overload. She follows trusted organizations to sort out what is most important and keep track of new developments. Social media can provide a scholar with a sense of what topics are dominating conversations about education to give them a sense of which research topics will have the most interest from stakeholders and policy makers.

Conclusions

While reading within the field of Higher Education is necessary to stay abreast of the field, original ideas for research come from thinking beyond the limits of the existing literature on Higher Education. As Bradford (1976) pointed out, the core journals in a topic contain many more relevant articles to that topic than journals that are more peripheral to the topic. However, examining the more peripheral sources can provide more novelty than examining core journals. The work of Higher Education scholars will be improved upon by dialog with scholars who identify with diverse disciplinary perspectives. In light of the segmented nature of scholarship, it's important for Higher Education scholars to assign descriptive keywords and titles to their publications to facilitate access to their work by scholars outside their area of research who are not monitoring Higher Education journals. Since it may be impossible to monitor all the proliferating sub-topics, it's important for authors, librarians, and publishers to title and assign keywords to publications in a way that will allow scholars from disparate sub-fields to find one

another's work. Librarians have a role to play in educating scholars about how to assign keywords to their work to encourage access to it. Clear keywords are also an important factor in facilitating communication across disciplines to and from fields that education draws on. Another strategy to improve access to relevant publications is implementing a tagging feature in catalogs and databases to allow scholars to add their own subject headings to records.

Because of the fragmentation of Higher Education, it makes sense for some scholars in the field to work with subject librarians whose specialties are in other fields, such as sociology, psychology, or economics. In addition, database recommendations for education scholars may need to be drawn from these fields. Individual scholars may also need to move from one subject librarian to another based on individual research projects. As Bates (1989) points out, information needs shift and evolve over time. Each research project brings up new ideas and creates new information needs as it answers old ones. If scholars assume that an indexing database such as Web of Science indexes all the work that may be relevant to them, they may miss journals it does not cover. Journals in Higher Education affiliate themselves with particular methodological and conceptual perspectives. It is useful for scholars to be aware of which journals align with which paradigms, both to keep up to date with journals that match one's proclivities and to ensure that one is exposing oneself to perspectives beyond those proclivities.

For scholars in applied social sciences whose fields draw on many disciplines, it may be easy to forget the library and its resources. It is important for librarians to find opportunities for outreach to these departments to remind these faculty that Google is not the only option they have. Opportunities for networking with other scholars, such as invited talks and cross-disciplinary workshops are a good way to get faculty into the library and also provide them with a chance to cross-pollinate their ideas with those of faculty in other departments.

Because scholars are also editors and reviewers, they have power to shape the information topography in their field to meet its needs. Open access publication allows for increased accessibility of scholarly work. Policies from departments and universities encouraging open access publication may be helpful to convince scholars to make their publications accessible to readers in countries or institutions with fewer resources, because scholars may not realize they're contributing to an access problem. It is useful for librarians to help faculty navigate their choices in publishing and disseminating their work. Librarians have knowledge about copyright issues and citation impact implications related to open access publishing that can be helpful to scholars as they make publishing decisions. It is important for Higher Education scholars to make informed publication choices, which will reach the audience they wish to communicate with. On the other hand, when searching, scholars need to follow the information relevant to their area of research, regardless of whether it is published in places that reach all the important educational stakeholders.

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