

Information Studies, the Humanities, and Design Research: Interdisciplinary Opportunities

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ABSTRACT

As interdisciplinary hubs, information schools have unique opportunities to coordinate research that employs multiple modes of inquiry across areas of common concern. While knowledge production practices from science and social science have found significant representation within information schools, the integration of research approaches from humanities and design perspectives has proceeded more slowly. Communication barriers between practitioners of different research paradigms can be considerable—even something as basic to a scientist or social scientist as posing a research question does not necessarily have a precise equivalent to either a humanist or designer, and the way that a humanist approaches an artifact can also be different from the way that a designer approaches one. However, there are equally significant opportunities for innovative research that combines or crosses paradigms. This paper discusses some of the challenges that make interdisciplinary understanding within information schools difficult, focusing in particular on research orientations of the humanities and of design, and how these differ from data-centric orientations of science and social science. A case study demonstrates that, despite these hurdles, the potential contributions of incorporating humanities and design research within information schools are considerable.

Keywords

iSchools, interdisciplinarity, humanities, design research

1. INTRODUCTION

Information schools embrace interdisciplinarity as part of their core identity. While few subjects are uniquely studied in information schools, iSchools provide a singular environment to explore complex sociotechnical issues, such as information privacy and information equity, in a comprehensive, holistic way. Accordingly, the Web site of the iSchools Caucus portrays the iSchool mission this way:

The study of information focuses on the intersection of information, technology, and people, which requires a broad interdisciplinary approach to those phenomena, the relationship between them, and their relationships to other aspects of culture and human endeavor.

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However, despite this stated commitment to “a broad interdisciplinary approach,” the Caucus Web site also characterizes the information studies field as the union of computer science, librarianship, and “the range of social sciences,” a relatively thin slice of the disciplinary pie. The omission of the natural sciences is certainly significant, considering the recent explosion of computational techniques and information-centric research approaches in science, particularly in certain areas of biology and physics, and in the emerging attention paid to scientific data and metadata as objects of publication and preservation in their own right. This paper, however, concentrates on the humanities and design as productive elements of the information studies domain. In addition to being implicit within the “study of information” definition presented above—the product of the information-technology-people combination is often an artifact or service whose development entails design, and the allusion to culture brings forth the realm of the humanities—there are certain felicities of approach that unite both the humanities and design research, and that contrast with research as commonly practiced within science and social science. In this paper, I explore some of these differences and acknowledge the accompanying challenges to incorporating humanistic and design orientations into the iSchool environment. Ultimately, however, I contend that despite these difficulties, the integration of humanities and design research into iSchools offers the potential for novel collaborative work. To demonstrate these possibilities, I present a case study in which humanistic interrogation of digital artifacts informed a lab-based user study, which in turn has illuminated new design directions for digital library interfaces.

2. DATA-CENTRIC RESEARCH, HUMANITIES RESEARCH, AND DESIGN RESEARCH

Within iSchools, interdisciplinarity is often equated with catholicism of research methods and, accordingly, with the form of evidence used to answer research questions. In the iSchool environment, research is thus conceptualized as a continuum oriented around the increasing structure of observed data, from messy qualitative data on one end to clearly defined quantitative data at the other, with associated means for reliably eliciting and analyzing these data types. The typical iSchool approach to interdisciplinarity focuses, then, on the consideration of both qualitative and quantitative data, along with methods appropriate for each. The qualitative is often aligned with the “people” aspect of information schools, and the quantitative with the “technology,” although this is not a strict separation. This emphasis on the degree of data structure as illustrating the scope of information studies research is demonstrated through the composition of master’s-level iSchool courses in “research,” which, partly due to ALA accreditation requirements, are often

required elements of the curriculum. Such courses are often oriented around methods suitable for collecting particular data types, and accordingly are often titled “research methods,” as at the University of North Carolina Chapel Hill and at the University of Washington. As another example of how these course descriptions encapsulate a specific conception of what research entails, at the University of Michigan iSchool, a research requirement can be fulfilled with multiple course offerings, but all the options are described in aggregate as aiming “to prepare students to carry out activities of collecting and analyzing information in order to produce or validate new knowledge”; the accumulation of data as the engine of knowledge generation is central in this characterization. For scientists, technologists, and social scientists who operate under this data-centric paradigm, the incorporation of humanities research and design research into the broader information studies domain is likely viewed as a need to include more sorts of (qualitative) data and associated methods for “collecting and analyzing” that data. (Note that this characterization is meant to represent a prevailing research orientation as perceived in iSchools and is not intended to imply that all branches of science and social science throughout the academy adhere to this data-centric mode.)

In curriculum revision discussions conducted over the past academic year at my own school, the University of Texas at Austin, many of my colleagues initially approached the idea of broadening the master’s research course in this way; to be inclusive of the humanities, all we need to do is to add some content around “humanities data” and “humanities methods.” If this is what research means to you—you start with a question, determine the form of evidence that best answers the question, and then devise means to collect and analyze that evidence in order to produce verifiable new knowledge—then this sort of response is quite sensible. Researchers in science and social science are by and large trained to begin their search for new knowledge by formulating questions, and then determining means for answering those questions that could, ideally, be replicated by others. Even when the means of collecting and analyzing data relies on the researcher’s skilled interpretation, the goal is to achieve an account of that evidence that multiple data analysts would independently support (this is the reason for evaluative techniques such as intercoder reliability and member checking for trustworthiness). Ultimately, the aim of research in this mode is to provide a *true* answer, or at least the *best* answer to the question. There will probably not be, in this paradigm, multiple coexisting answers that might be equally illuminating in different ways. A researcher in the data-centric paradigm, consequently, doesn’t want other people to look at accumulated data and see something completely different than what the researcher sees; the researcher wants impartial observers to apply, for example, coding categories the same way that the researcher does. If this kind of agreement on interpretation can be reached, then knowledge progresses, and we move closer to that true answer.

In our curriculum revision discussions, those of my colleagues at Texas who operate in this research mode were surprised, therefore, when I volunteered that much humanities research, and much design research, is not conducted according to this model, and that the basic concepts of data, method, and even questions, or the idea of what new knowledge itself might constitute, might not obtain in the same way. (It is a testament to the strength of this data-centric paradigm that I am not the only humanistically inclined researcher at Texas, and we are a relatively small school, and still, some of our faculty found it difficult to think that research could be conceptualized differently and still be

considered research.) In contrast to scientists and social scientists, humanists often do not approach the research enterprise in terms of asking clearly defined questions that have single answers; as a result, there is not an emphasis on standardization of methods to ensure potential replicability. Instead, the humanist explores new means of understanding human events or artifacts, to illuminate the significance of those works or events in a particular way. As the philosopher of culture Ernst Cassirer explains, if expressions of culture, such as literature and art, lay claim to conveying some sort of universal truths about the human condition, they do this through particular instances, and it is this interplay between the particular and the universal that makes these cultural works powerful [3]. These meanings as located within cultural artifacts or human histories are conveyed through the aggregation of particular interpretations over time and in multiple contexts. Whereas in science, there is a theoretical end point where all the laws of nature are revealed, in the humanities, there is no final unraveling of the mysteries. Just as no one will ever write the perfect play, one that makes all future playwriting irrelevant and impossible, so too will no single interpretation of a play be forever definitive. This does not, of course, mean that it is useless to write or to interpret plays, although the meaning of both a play and its associated commentary will change over time.

A humanist might be interested in, say, the concept of labor in the quest structure of the online video game *World of Warcraft*, as interpreted via a Marxist analysis. The goal of such a project would be to understand the game in a new, compelling manner; the goal would not be to show that this means of understanding was the only or true way to interpret the game. Accordingly, whereas, in the social sciences, a study that provides data to support a commonly held assumption may be quite valuable, in the humanities, an original take is prized. In the humanities, if impartial observers were to consider the artifact under analysis and come to the same conclusions as the researcher, there would be no research. If everyone reading *World of Warcraft* dialogue around quests immediately understood these narratives as the subjugation of a proletarian underclass for the benefit of their capitalist masters, then writing about the game this way would not be very interesting, research-wise. Instead, the video game critic would want his or her scholarly audience to think “Fascinating! I would not have initially conceived of *World of Warcraft* as a tool of domination, but this argument is compelling. It makes me rethink the entire genre of multiplayer online games in a new light.” With these goals in mind, Kirscht and Schlenz note that arguments in the humanities “may owe much to the subjectivity, idiosyncrasy, and uniqueness of [the researcher’s] singular insights” [13, p. 339].

Instead of questions and answers, then, humanities research tends to coalesce around themes (like the alienation of the proletariat), interpretations (such as a way of looking at video game interactions), and examples (such as the quest in *World of Warcraft*). And instead of data to construct true answers, a humanist selects and synthesizes sources to provide the scholarly rigor and analytic subtlety that makes one account of an artifact or event (or set of artifacts and events) more compelling than another. A historian investigating the role of the Catholic church in the Holocaust in Hungary will need to determine which primary sources (such as internal policy documents, instruments of the popular press, private letters, and so on) to include in the study. The historian’s work will also include the integration of appropriate secondary sources, including the material of other historians, as well as, potentially, theoretical approaches such as Marxism or feminism. (Note that the sense of “theory” used here

indicates a conceptual basis for one's interpretation, as in "post-structuralist theory," and not the predictive rules of science.) There aren't standard processes for determining this selection and synthesis. A humanities researcher may decide that the included sources need to be comprehensive, representative, or illustrative of particular qualities (social science researchers may select data collection sites according to similar considerations). Kaufer and Butler's exploration of rhetoric as a type of design uses the famous Lincoln/Douglas debates in pre-Civil War Illinois throughout their discussion as a representative example of a rhetorical event [12]. Jerome McGann's consideration of a literary work as a dynamic process uses Marianne Moore's poem "Poetry" as an extreme example of a text that retains the same author and title but where both the content and expression change in subsequent versions [18]. Similarly, the classificationist Clare Beghtol uses a variety of examples from different disciplines to show (but not to quantitatively prove) how scholars in different fields use similar classificatory techniques to those of information science [2].

The selection and synthesis of sources is also a form of analysis in itself, another way in which the clear boundaries of the data-centric paradigm blur in the humanities context. In humanities research, the processes of collection and analysis may be indistinguishable, and the object of analysis and the tools of its examination may also be difficult to separate. Moreover, the researcher may only come to a full understanding of the problem as sources are considered and their ideas integrated. The research process itself is relatively indeterminate, and the eventual product might not be what the researcher originally envisioned. Because the humanist is not hoping to achieve the same sort of truth, in terms of replicability or validity, as a scientist or social scientist, this is not problematic. A researcher might begin by working on the idea of labor in *World of Warcraft* and realize that gender politics inform the labor structures, or the researcher might start reading *World of Warcraft* as pulp fiction but then come to see that it's more of a traditional romance in narrative structure and distribution of roles. As a result of such evolved understanding, the researcher might look to different sources and formulate different arguments in different ways. Because the humanities researcher is not trying to enable someone else to follow the same intellectual journey in the same way and come to the same conclusions, the waywardness of the path is not problematic.

Without the same systematic progression from defined question to data collection methods matched to that question and data analysis methods matched to the received data, one might ask, what makes the product of this activity "research" and not "opinion?" There is a rigor and a craft to humanities research, even if these cannot be specified in the same precise way as with data-centric mode. This rigor arises from selecting and deploying one's sources and examples judiciously, both in terms of serving a study's argument and in linking the work to the appropriate scholarly context, as well as to current circumstances. By clearly situating an argument within a web of sources and examples, the research gains legitimacy and connects with the larger scholarly tradition.

As an example of how this works, consider an essay by the cultural anthropologist Renato Rosaldo in which he argues for a more dialogic approach to ethnographic inquiry [21]. Rosaldo observes that seminal examples of ethnography (such as Malinowski's account of the Trobriand Islands) describe the cultures under observation in such a detached way that it can be hard to grasp the full import of actions, and notes cases in which the subjects of ethnography have objected that accounts of their culture seem parodic. To make his case, Rosaldo uses a wide

variety of examples, including classic ethnographies, a classic satire of ethnography, and detailed anecdotes from his own work as an ethnographer. He considers both specific ethnographies in depth, such as Radcliffe-Brown's description of Andaman islanders, and example topics in breadth, as when he includes an array of examples that describe different forms of mourning. For secondary sources, he includes people who have criticized the way they've been portrayed in ethnographies as well as alternate descriptions of "rites" in other sources (contrasting, for example, the emotional depiction of mourning from a recent San Jose, CA newspaper article with the detached expressions of mourning presented by some ethnographers of "exotic" cultures). The variety of sources gives Rosaldo's argument legitimacy: his use of standard works gives his argument scholarly force, and his discussion of his own work provides both emotional power and illuminating detail about the ethnographic process. In addition, his choice of death and mourning as the continuing theme by which he makes most of his points is apt. Many ethnographies include these topics, so the example is both familiar and representative, and yet it is also an extreme example, as it is especially easy to see the disjunction between detached accounts and the actual emotion of the situation within this particular context.

While the humanities, generally, looks to understand specific products of human endeavor against the backdrop of history and culture, design research focuses on the creation of new artifacts and the processes used to structure and understand that creation. At its most basic, to design means to create a plan for an artifact's construction. An architect creates the plans with which a house is built; an engineer devises the plans with which a chip is fabricated. The products being designed need not be tangible. Software is designed (typically, specifications are created before the code is written). One can also think of an advertising campaign as being designed: not merely the individual print or television advertisements but the conceptual framework that structures each exemplar, as with the Apple campaign that compares the Macintosh to a PC by anthropomorphizing them (the Mac is relaxed and hip, the PC is uptight and dorky). Kaufer and Butler assert that rhetoric, or persuasive communication, is a design art; the complex factors involved in creating a rhetorical artifact require a plan [12]. In the case of rhetoric, this may be an internal plan on the part of the rhetor, as opposed to an actual design brief, set of drawings, or specification, as one might more typically expect.

While some strands of design research, notably the "science of design" approach initiated by Herb Simon, adopt a data-centric approach, emphasizing quantitative evaluation of design options (e.g., to determine which of two design options is better, according to measurable dimensions), other design research modes concentrate on the experience of design itself as a form of research, in concert with sustained reflection upon design products [27]. This approach is often connected to the work of Donald Schon, who claims that as a designer determines the possibilities and constraints of a particular design situation and creates a solution to fit the situation, the designer becomes "a researcher in the practice context" [22, p. 68]. A possible solution to a design problem is characterized as a sort of hypothesis that may enable the reframing of the problem. This reframing is a type of experiment, which, according to Schon, exhibits a rigor equal to, albeit different from, the conventional rigor of the scientific experiment. If the experiment succeeds, the solution proceeds in a new direction. According to Zimmerman, Forlizzi, and Evenson, design practice truly makes the transition to design research when new knowledge is generated from the creation of an artifact [26].

This new knowledge arises from innovations in process and product (which Zimmerman, Forlizzi, and Evenson term as invention), combined with relevance, or the ability for the designer to clearly explain how the new artifact results in a preferred state.

A number of concepts within this sense of design research align with the orientation of the humanities. For one, the output of design is not true or false, but rather better or worse according to particular conditions. Goel and Pirolli, for example, note that the solution to design problems is not proscribed by the situation, and the assertion of Rittel and Webber that complex, “wicked” problems have only better and worse solutions, not right or wrong answers, is often applied to the design context [11, 20]. In addition to the potential for multiple coexisting designs in response to a single situation, design research emphasizes that determining the full scope and extent of the initiating problem is a key, and continuing part of the design process. Schon asserts that design is an art of problem setting, and not problem solving; as in humanities research, the process of design may change the designer’s understanding of the underlying situation to be addressed.

In addition, design research relies on the designer’s reflection throughout the design process, which can be seen as an evolving interpretation of the design situation. This interpretation is based to a certain extent on the skills and judgment of the designer [as described, for example, in 25]. The interpretive process used by designers conceptualizing possible artifacts is similar to that undertaken by humanities researchers investigating the meaning and form of existing artifacts. The emphasis on the skills of the designer mirrors the emphasis in humanities research on the originality of the researcher’s conclusions. In addition, the idea that a designer’s skill is partly built from a repertoire of previous examples (from Schon as well, but also noted in Lowgren and Stolterman, 2002) is very like the idea in humanities research of situating one’s argument within a network of existing sources [22, 15]. While the designer’s approach to existing artifacts is more intuitive and personal than the humanities scholar, there is a different sort of rigor to it. As explained by Snodgrass and Coyne, the vocabulary and practice of a design community, particularly as implemented in the “crit” session, or expert assessment of in-progress designs, forms its own variation of a scholarly tradition [23]. Some design researchers, such as Bardzell, Bolter, and Lowgren for the human-computer interaction domain, have proposed an even stronger connection between more formal humanities-based criticism and design research and practice [1]. When the interaction designers Lowgren and Stolterman propose a critical vocabulary for interactive artifacts, based on a set of product qualities, they are also proposing that “scientific” evaluation of such artifacts be supplemented by a critical appraisal that implicitly relies on the goals and methods of humanities research [15].

3. INTERDISCIPLINARY OPPORTUNITIES: A CASE STUDY

In this section, I present an example of how different modes of inquiry can connect to propel a larger project. This example involves a type of digital artifact, the personal digital collection, in which users of a digital library or other resource collection curate, describe, and arrange a selection of materials for their own purposes. Cultural heritage institutions, including libraries, archives, and museums, have shown particular interest in facilitating user-curated collections as a means of encouraging user engagement with their vast troves of digital information [16].

Such personal digital collections can complement institutional perspectives on a museum or library’s holdings, providing alternate access to and understanding of cultural materials, and thus contributing to the co-construction of knowledge between an institution and its public [17].

The initiating study in this example took a humanities approach to better understand these artifacts, personal digital collections, as a form of personal expression. Essentially, I wanted to explore how some personal digital collections, which I called “expressive bibliographies,” seemed to communicate a sophisticated perspective upon their assembled materials, while other personal digital collections lacked this expressive power. For example, “Dr.Dada,” the creator of a personal collection on the Seattle Art Museum’s Web site, plucked examples from diverse cultures, time periods, styles, and media to illustrate the role of color in contributing to an artwork’s aesthetic impression and emotional force [4]. Dr.Dada made this position clear to other users by providing detailed annotations for each item in the collection that explained distinctive elements of the selected resource and how these contributed to the collection’s ideas about color. This exploration of color as a boundary-spanning theme shows connections between pieces that the museum’s own system of organization and description does not emphasize. But not all personal collections are as richly expressive and illuminating as Dr.Dada’s. More typically, such collections seem to be like the user “laurenmurphy’s” example, which showcases a number of favorite items from the museum without explaining a theme or other relationship between the resources that elevates the selection beyond a statement of personal preferences [19].

In [8], I used humanistic modes of inquiry to describe three salient characteristics of expressive bibliographies: eclecticism of purpose, voice, and emotional intimacy. To inform the study, I drew upon literature from systematic bibliography, composition studies, museum collecting, and cultural studies, synthesizing this material to describe the three expressive characteristics and show how they work in case studies. The characteristic of eclectic purpose involves a distinctive, original motive for selecting the items within the collection. For example, a collection of citations to library materials gathered by a user at the University of Pennsylvania’s library recommends, for medical students in a clinical decision-making class, resources that adhere to standards of evidence-based medicine, thus arguing, in a sense, for a data-driven approach to medical practice. This advocacy of a particular clinical perspective forms an original purpose for the collection. The characteristic of voice involves the presentation of a unique authorial persona, or character. As an example, the collection of another Seattle Art Museum user, “michelem,” has the fairly generic purpose of including highlights from the museum’s permanent collection [19]. However, in item annotations, the breadth of michelem’s remarks and her fluent references to contemporary styles (Dada, Pop, Action Painting) mark a distinct, educated authorial persona, with a sophisticated eye. This sense of original vision distinguishes michelem’s collection from the blandness of a “favorite things” collection like laurenmurphy’s, although the goals for collecting are similar. The final characteristic, emotional intimacy, involves the revelation of personal feeling as a means to greater understanding of the collection’s contents. As an example, the author of an item annotation in the Smith College Art Museum’s ID Tags project explores complex, contradictory feelings of race and class difference occasioned by a painting in the collection. In my analysis, I suggested that skilled deployment of these characteristics, through the mechanisms of resource selection,

resource description, and resource arrangement (ordering), may enable personal collections to attain the combination of control and ambiguity that Umberto Eco calls the poetry of lists [7].

I was interested in using my new understanding of how expressive bibliographies worked to see how one might facilitate the generation of the three “poetic” characteristics; in other words, in extending this humanistic knowledge to a design context. I approached one of my colleagues, Gary Geisler, who had designed an easy-to-use digital library system for video content, which included a feature for user-generated collections, to see if we might collaborate on this problem. We reasoned that if we wanted to design a system that would facilitate the creation of expressive bibliographies, it would help to know more about what people were currently doing with personal digital collections: how they create them, how they use them, and if being exposed to personal collections that exhibited the “poetic” characteristics would affect the creation process. To answer these questions, we designed an exploratory lab-based user study, conducted in a social science mode.

In our study, we first developed two themed digital libraries as testbeds, created in Geisler’s Open Video Digital Library Toolkit environment [9, 10]. In selecting themes for our test libraries, we identified broad, complex subject areas within which users might form a variety of ideas and opinions, settling on “Sustainability” and “Texas” as subject domains with wide-ranging expressive potential (citizens of Texas, where our study was conducted, tend to have strong feelings about their state, in a way that differs markedly from other states in the U.S.; new residents respond to this Texas pride in different ways). We collected videos on these topics from around the Internet, focusing on material to represent a diverse array of subject matter, ending up with 51 videos in the Texas collection and 94 videos in the Sustainability collection. We developed a set of browsing categories for each collection and cataloged all the videos with an array of descriptive metadata.

Study participants were introduced to one of the test collections (odd-numbered participants saw the Texas collection first, while even-numbered participants saw the Sustainability collection first) and asked to create their own personal collection with the test library, according to a brief task scenario that provided a skeletal purpose for collection building (either to demonstrate the uniqueness of Texas or to motivate people to be more sustainable). Using the existing features of the Open Video Digital Library Toolkit, users had the opportunity to provide a title for the collection that they created, to write an overall annotation for the entire collection, and to write annotations for each video included in the collection. Following a brief interview, participants were then shown two expressive bibliographies based on the same library they had just been working with. After reviewing the examples, participants were asked to provide their impressions of the sample collections and to compare them to the collection they had just made. Next, participants were introduced to the second test library and asked to create a second personal collection, following the same instructions as when they created the first collection. A final brief interview concluded the session.

Our collected data included both the interview transcripts and the collections created by each participant. To assess the collections, we developed a systematic process that looked at each of the three poetic characteristics in turn and described how each characteristic was demonstrated through resource selection, resource description, and arrangement. While the collections that participants created did not show significant increases in the three poetic characteristics after interaction with the examples,

participants were able to consistently and clearly describe differences between the examples and in their own collections. In particular, the participants focused their own tasks on selection of resources for collections, while they noted the use of descriptive annotations in the examples. Moreover, participants, unprompted, described the three poetic characteristics at work in the examples, quite consistently with regards to voice and purpose, and less frequently in the case of emotional intimacy. For example, one participant said, comparing the “poetic” examples to the collection that she had just created:

These really come to life. Mine are just kind of bland. . . The annotations, I feel, make you want to look at them. . . Also, the person creating the playlist comes to life too.

The findings of this user study gave us a richer understanding of the design space for personal collection tools than just the humanistic study. In the first, humanistic study, we learned how to understand expressive bibliographies as a type of artifact, and to describe how they worked as a form of textual expression. In the second, user study, we learned that while people can “read” expressive bibliographies when presented with them, their default understanding of the personal digital collection is of a different type of artifact entirely, more of a private information-management tool (rather like the list of favorites created by “laurenmurphy” as described earlier in this section) than a form of public communication. Accordingly, a system to support expressive bibliography design should not only facilitate the generation of the three poetic characteristics but might also present expressive bibliography as a distinct artifact type separate from the information-management-oriented personal collection.

This case study demonstrates how information from multiple modes of inquiry can be synthesized in a way that informs additional research. Just as we can productively understand everyday objects in various ways at once—such as considering a desk chair according to its cost, how it feels to sit in it over the length of a workday, and how it expresses a particular style—so can we, in the research context, combine different forms of knowledge in useful ways.

4. DISCUSSION

In this paper, I have suggested that interdisciplinarity in iSchools often indicates an openness toward the type of data being collected and the methods used to obtain and analyze that data, and that humanities and design research often falls outside the continuum instantiated through this data-centric paradigm. I have also shown, through a case study, how these divergent ways of knowing can combine to propel innovative research programs. In this section, I discuss some of the challenges involved in fully integrating research orientations outside the data-centric paradigm into the iSchool environment.

Although the case study that I presented shows how insights from a humanistic study flowed smoothly into the design of a subsequent user study, and how the findings of both these projects provide a compelling foundation for future design work, the differences in research orientation between humanities and data-centric approaches make such collaborations impossible to predict. The aim of humanities research is not to provide a basis for subsequent design projects, and beginning a humanistic study with such goals in mind can compromise or dilute the value of the humanistic enterprise. Paul Dourish and Lucy Suchman have both noted how, in the human-computer interaction domain, the practice of anthropological ethnography has suffered when initiated specifically as a preparatory step for an HCI project [5, 6, 24]. Dourish explains that, when viewed this way, ethnography

becomes reduced to a method, instead of an encompassing approach whose ultimate goal cannot, without altering its very nature, be merely to inform a novel HCI design. As employed within the context of HCI research, according to Dourish, “what is missed is the extent that ethnography is always, inherently, a perspectival view, and that this perspectival quality is critical to what ethnography is” [5, p. 544]. There is a danger, in other words, of co-opting the skeleton of ethnography to fit within the data-centric paradigm, when this in fact violates the originating spirit of the practice. Dourish elaborates that ethnographies can indeed be relevant sources for HCI work, but that this potential relevance cannot be predicted in advance of the ethnographic study [6]. A challenge for iSchools, then, is that while there is potential for collaborations across research paradigms, such results can neither be predicted nor expected. A humanist’s interpretation of *World of Warcraft* quests as traditional romance narratives may inform an approach to video game preservation, but it might not. While it might be tempting to direct humanistic inquiry toward “the first step” in data-centric research, doing so would ignore the richness and distinctiveness of the humanistic paradigm. To begin a humanist reading of *World of Warcraft* with the intent of informing video game preservation could inhibit the value of the interpretive inquiry and potentially block the discovery of more illuminating means of understanding the game.

Even so, I firmly believe that the accumulation of multiple ways of knowing, including data-centric research, humanities research, and design research, enables iSchools, as institutions, to cultivate a depth of understanding rare in the current academic environment of specialized departments. I, for example, as a humanistically oriented researcher interested in the products of human endeavor (such as personal digital collections) as opposed to the people creating the products, have found the experience of conducting a user study to have expanded the problem space as I initially conceived it, and to have introduced additional layers of nuance and complexity into a design situation. Taking complete advantage of this opportunity, however, requires significant effort on the part of iSchool administration, faculty, and students. If the research paradigms are so different, and if collaborations cannot be predicted or mandated, then avenues for continued learning and communication must be actively constructed and maintained; hiring a token humanist and a token designer won’t, in itself, forge these connections. An active research culture, with meaningful attendance at regular talks or colloquia, is a start in this direction, but I would submit that bolder moves are necessary. Team teaching of introductory research courses, for example, should be encouraged and supported, so that faculty can learn from—and perhaps disagree with—each other, and students can benefit. Similarly, one might envision an extra role on doctoral committees, to be the “outside paradigm” member, in addition to the external department member required by many universities. If students receive degrees from an interdisciplinary program, shouldn’t they at least be able to explain and justify their work to experts outside their primary research modes? While these ideas are merely speculative at this juncture, I do believe that such innovative tactics are necessary if iSchools are to enable the considerable benefits of expanded interdisciplinarity—interdisciplinarity across research paradigms.

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