

User Experience in Libraries

Modern library services can be incredibly complex. Much more so than their forebears, modern librarians must grapple daily with questions of how best to implement innovative new services, while also maintaining and updating the old. The efforts undertaken are immense, but how best to evaluate their success?

In this groundbreaking new book from Routledge, library practitioners, anthropologists, and design experts combine to advocate a new focus on User Experience (or 'UX') research methods. Through a combination of theoretical discussion and applied case studies, they argue that this ethnographic and human-centred design approach enables library professionals to gather rich evidence-based insights into what is really going on in their libraries, allowing them to look beyond what library users say they do to what they actually do.

Edited by the team behind the international UX in Libraries conference, *User Experience in Libraries* will ignite new interest in a rapidly emerging and game-changing area of research. Clearly written and passionately argued, it is essential reading for all library professionals and students of Library and Information Science. It will also be welcomed by anthropologists and design professionals working in related fields.

Andy Priestner manages Cambridge University's pioneering FutureLib innovation programme, employing user experience and design thinking to develop new library services across the university. He is the founder of the UX in Libraries Conference and provides training and consultancy on the subject to institutions across Europe.

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User Experience in Libraries

Applying Ethnography and
Human-Centred Design

Edited by

Andy Priestner and Matt Borg

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Preface and acknowledgements

We came up with the idea of this book at the 2014 LILAC conference, by which point we had already started to promote the inaugural UX in Libraries conference planned for the following year. There was some trepidation at the thought of putting together a book as well as the conference given how groundbreaking and interactive we were planning the latter to be – to say nothing of our respective day jobs. As soon as we started talking about such a tome, we realised how valuable it would be to gather together great stories about UX in libraries – stories which would advocate for more ethnography and design thinking, encourage discussion and debate, and help kick-start library UX projects, big and small. Whether we have achieved our aim or not we will have to wait and see, but the contributors to this volume remain convinced that in today’s highly complex library and information world we must adopt user experience research methods to observe, listen to and question our users if we are to understand them more fully and offer services that they need.

We are hugely grateful to all of our contributors, not only for their mindful chapters, but also for their patience – suffice to say we embarked on this book in different jobs to the ones we have now. Thanks also to Dymphna Evans for readily agreeing to publish the book and immediately recognising the need for it in the library literature. One person whose name should probably be on the cover alongside ours is Marisa Priestner, who proved indispensable as eagle-eyed second proofer, queen of reference checking and manuscript preparation – thank you!

Matt’s acknowledgements

I’d like to thank those I’ve worked with in all walks of my professional life. Thanks to Andy for being a genuine friend, supporter and collaborator. Above all, thanks to my family; Rachel, Dylan and Oz. You are, as they say, the best.

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I’d like to thank Bryony Ramsden who I hold directly responsible for igniting my ethnography flame, and Donna ‘force of nature’ Lanclos for fanning it. Grateful thanks also to everyone who made UXLibs such a success, especially Georgina

x *Preface and acknowledgements*

Cronin who shared most of the pain. I'd also like to thank her and Ange Fitzpatrick for starting the UX journey with me, for singing with me in the office and for others. As for Matt – back atcha fella!

Matt Borg
Andy Priestner

Contributors

Andy Priestner (editor) is a freelance trainer and consultant specialising in user experience, social media, storytelling, marketing, communications and team-building, working with libraries (academic and public), universities and the private sector in the UK and mainland Europe. He originated the UX in Libraries conference after embarking on several ethnographic research projects at Cambridge University's Judge Business School, where he was Head of Information & Library Services between 2007 and 2015. His interest and expertise in user experience has most recently led to his appointment as manager of Cambridge University Library's FutureLib innovation programme, which employs ethnography and human-centred design to explore and deliver innovative new services and products across Cambridge's many libraries. This is his second co-edited academic volume; the first, with Elizabeth Tilley, was *Personalising Library Services in Higher Education* (Ashgate, 2012). Andy was President of the European Business Schools Librarians Group (2014–2015) and Chair of the Business Librarians Association (2006–2010). He is a trained LEGO Serious Play facilitator and blogs regularly as 'Constructivist'.

Matt Borg (editor) is a librarian, trainer, geek and troublemaker. For over 14 years he worked in academic libraries in a variety of roles. At Sheffield Hallam University he was an academic librarian, where he coded and designed the library website and was a lecturer in the Business School on information management. He also co-created the Information and Creativity in Libraries conference (I2C2). His passion for UX enabled him to initiate a research-based approach to user engagement at Sheffield Hallam, focusing on interaction with library tools. This led to a number of talks and keynotes on the topic, and an invitation to collaborate with Andy by joining the organising committee for the UX in Libraries conference. In September 2014 he moved to ProQuest Workflow Solutions. He works with libraries across Europe on library technologies including discovery systems and library services platforms. Previous academic publications include chapters on responsive web design for libraries ('Best of Both Worlds' in *M-libraries 4: From Margin to Mainstream*, Facet, 2013) and information literacy and discovery systems (*The Road to Information Literacy: Librarians as Facilitators of Learning*, IFLA, 2012). Matt is also a part-time freelance

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Carrie Donovan is Head of Teaching & Learning for the Indiana University Libraries, where she works with students, faculty and instructors to connect the libraries to student learning. Carrie's contribution to information literacy and learning assessment is made evident through her publications and presentations

on the topic, as well as her engagement in professional organisations. She currently serves as a facilitator and curriculum designer for the Association of College & Research Libraries' Assessment in Action initiative. At IU, Carrie advocates for information literacy assessment across the curriculum to ensure the libraries' centrality to disciplinary discourse and student learning. Carrie's own research areas of interest include the review and reward of librarians' teaching, student-centred learning for library instruction, and critical information literacy. Carrie received her Master of Library Science degree from Indiana University.

Leah Rosenblum Emary is an American librarian who has worked in libraries in Brussels, Berlin, San Francisco and San Diego. Her main research interests are information literacy, user-centred design in libraries, and scholarly communication. She is now an Academic Liaison Librarian at York St John University in the UK, where she lives with her husband and two sons.

Nicola Grayson has worked in academic libraries since 2005. In 2012 she secured a post at the Alan Gilbert Learning Commons which is part of the University of Manchester Library. Nicola is currently a part of the Learning Development Team, responsible for developing the award-winning 'My Learning Essentials' Open Training Programme. She focuses on academic skills and broader student support in her work, designing and delivering workshops, and is also responsible for the library's team of 'Student Rovers' and their research. In 2015 Nicola completed her doctorate in the subject area of philosophy and her research centred heavily on the communication of ideas in the works of Immanuel Kant. In her current position she contributes to key library and strategic projects and works generally to promote and sustain student skills support at the University of Manchester.

Paul-Jervis Heath leads the design studio at Modern Human, a design practice and innovation consultancy. He and his team of researchers, designers and technologists apply human-centred design to imagine future services and meaningful digital products. He is a designer and innovation consultant with 17 years' experience of helping companies make fundamental changes to their business by combining design thinking with business strategy and cutting-edge technology. He has led design on a wide variety of projects including in-car information systems for driverless cars, smart home appliances, future libraries and retail stores of the future, as well as many multichannel services and digital products. Paul works closely with the University of Cambridge on their FutureLib programme, which explores the future of academic libraries at the institution. He continues to be involved in designing future libraries around the changing needs of their patrons through a variety of design and strategy projects.

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often brilliant human beings who might use them and because – until now at least – it hasn't involved writing any biographies at all.

Bryony Ramsden is a Subject Librarian at the University of Huddersfield, and has worked in libraries since the late 1990s. She was research assistant on the first phase of the 'Library Impact Data Project' (<https://library3.hud.ac.uk/blogs/lidp/>) which proved a correlation between library use and level of degree attained. She has also worked as a research assistant on an internally funded library project investigating post-occupancy informal learning space use. The results of the project led to her current research for her PhD on user behaviour in academic libraries, which utilises ethnographic methods to collect the data from a number of universities.

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Elizabeth (Libby) Tilley has successfully managed both a science library and an arts library at the University of Cambridge and has been regarded, in both places, as an expert in the subject. This expertise has come about by being embedded in the life of the discipline, observing what students and researchers 'do', and subsequently leading and adapting library services to better suit user need. A PGCE from an earlier life, librarianship qualifications, and being a Fellow of the Higher Education Academy have contributed to her focus on teaching in addressing the user experience. She currently also manages the School of Arts and Humanities libraries at Cambridge. However, tea@three at the English Library remains her self-confessed number-one opportunity for building relationships with students. A recipient of tea and cake commented recently: 'Thank you for being such a good listener and discussant; I really appreciate your sense of humour and taste in cakes.' It's clearly all about the stories.

Bea Turpin, Deborah Harrop, Edward Oyston, Maurice Teasdale and John McNamara were all colleagues at Sheffield Hallam University and members of the learning centres redevelopment project team. This team, along with others, was responsible for the redevelopment project which radically changed and updated the way learning centre spaces function and feel. The team was also responsible for developing the evidence-based approach which underpinned the project. Edward and Maurice led the project, provided the strategic vision and, working with John in the Estates department, ensured the project's successful implementation. Bea and Deborah led the research into learners' preferences.

David Jenkin, Design Director at Alexi Marmot Associates (AMA), worked in a collaborative way with the SHU team to develop the learning centres. He is a highly experienced architect known for his design and planning of interior space. His skill is as an enabler, matching the complex and changing requirements of users to the building design, recognising the need to be pragmatic whilst maintaining a vision for possible future needs.

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13 Understanding our students and ourselves

Transformative library instruction through an ethnographic lens

Michael Courtney and Carrie Donovan

There is a story that was oft told by S. R. Ranganathan, long considered the father of library science and quite possibly its greatest (and most earnest) champion of the role that librarians play in the educational process. Having never had access to a library during his formative years of schooling, he recollected that most students of his generation had never heard of nor could even comprehend the word ‘library’, never mind appreciate the underlying role of a library. Seldom having had exposure to a dictionary (although his teacher would occasionally use one), young Ranganathan learned not through inquiry but through the recitation of rote statements, such as ‘Birmingham is noted for hardware, Reading is noted for biscuits, and Sheffield is noted for cutlery’ (1961, p. 19). Yet, he had the benefit of two teachers: one a Sanskrit instructor throughout his primary schooling; the other a teacher who also was a tenant in Ranganathan’s home. Both took great delight in answering the endless questions the young boy posed, and while much of their shared knowledge came from a lifetime of understanding, they instilled a fundamental structure of critical inquiry that was to last him the rest of his life and, arguably, alter his attitudes and approach to the transformative power of education.

Librarians’ success as educators, too, depends primarily on the ability to align our work with institutional priorities and to understand the processes, feelings, and behaviors that our learners undergo as they experience the transformative effects of education. While information professionals are involved in designing, implementing, and assessing instructional initiatives in a variety of ways, the driving force of many of these approaches is a learner-centered philosophy that acknowledges the holistic engagement of students as critical to their success. In order to better understand how students access, use, and evaluate information to achieve learning goals, librarians can apply the principles of ethnography to investigate students’ understanding of and experience with the processes of information seeking and use.

The application of ethnographic methods to library instructional programs can provide opportunities for students to develop their own self-awareness and advance their thought processes. In addition, these methods have the potential to increase understanding of these processes on the part of librarians who can, in turn, influence the design of library spaces, the delivery of instructional programs, and the role of librarians in students’ lives. Based on our own experience of

using ethnographic methods to illuminate student beliefs, behaviors, and attitudes, throughout this chapter we will describe the effective application of ethnographic methods to library instruction and how such approaches can be built into one's instructional repertoire at the course, curricular, or programmatic level. The power of qualitative data for aligning teaching with the student experience and explaining the value of the library as an important context for student learning, including librarians' roles as change agents within that context, will be the guiding framework for this chapter.

Setting the stage

In order to design library instruction that is relevant to individuals and institutions, librarians must fully understand their communities of learners, including their prior knowledge and capacity for achievement. Some educators look to characteristics and skills across generations of learners in order to comprehend the preferences, patterns, and performance of students, while others depend upon educational standards to guide their integration of specific learning outcomes into existing curricula. These broad approaches can be helpful in establishing a framework from which to start, but should not be the sole means for developing and sustaining learner-focused instructional initiatives over time. While librarians at Indiana University had a general idea of our students' research awareness and information-seeking savvy, we did not have a full understanding of the ways they conceptualize and engage with information systems in order to achieve their academic goals. By applying ethnography, the qualitative method of observing and recording the everyday practices of a cultural group in order to better understand their lives (Duke and Asher, 2012, pp. 3–4), librarians have the opportunity to understand research behaviors from the point of view of students at their own institutions. Inspired by the Ethnographic Research in Illinois Academic Libraries (ERIAL) Project (see <http://www.erialproject.org>), librarians at Indiana University engaged in a year-long ethnographic study using interview and observation techniques to explore the research processes of students in a first-year survey course and an upper-division course in an undergraduate disciplinary major.

The experience of conducting research through an ethnographic lens created opportunities for us to think, and act, like anthropologists in other aspects of our professional practice as well. In doing so, it became obvious how well the ways of thinking and knowing, framed by this social science, can apply to librarianship. For example, librarians provide many of our services and enact our professional activities in the same environments in which we have the opportunity to observe our students' learning, researching, and studying. By participating in this study, we have adapted new ways of 'seeing' our students' research behaviors in our everyday work as it occurs in library classrooms, throughout the library, and when we review the transcripts and queries captured through our research consultation services. Such opportunities for observation, both physically and virtually, allow us to make data-informed choices when we talk with faculty about their students' research practices and how these should inform the design of assignments and

the integration of library instruction, especially for students who are new to the knowledge practices of their chosen major or discipline.

We know that one of the ways in which students make sense of new information has to do with their prior knowledge (Heath and Heath, 2008, pp. 54–5); this is why we use metaphors and analogies to explain the intricacies of the research process. For knowledge to take hold in the memory, it must latch onto some existing mental framework or schema. For students who are new to the college and university experience, their prior knowledge of the research process may revolve around a familiar search engine or online resource, but the depth of inquiry required for many advanced research projects will not be something that is yet part of their mental model. Similarly, students are less and less likely to know of the important role a librarian can play in their academic lives and in their learning, as evidenced by the decline in visits to our libraries' reference and information services desks. Based on data from Head and Eisenberg's Project Information Literacy survey (2010, p. 16), which indicates that librarians are nearly last in the list of people students ask when they have a research question or problem, it is apparent that the place of librarians in the prior experience of college students is not what it once was. This is no surprise when we consider the lack of funding for libraries in primary and secondary schools, resulting in a diminished role for librarians in the daily lives of students during their formative years. Through our own observations, we have recognized that students are comfortable approaching their peers to request help or to ask for information in the library. Accordingly, we employ students at public service desks in library spaces that are commonly used by undergraduates, and have questioned the relevance of naming our online reference service 'Ask a Librarian'.

Without much prior knowledge of the layout of libraries and library collections, both physically and online, and the resulting confusion as to how to seek information and get help with the research process, many learners suffer from library anxiety. Already vulnerable in an unfamiliar space and tasked with research requirements for which they have little or no prior knowledge, many students regress to using information sources and research practices that are familiar to them, whether or not they are appropriate for their research needs. The confidence with online sources exhibited by novice researchers does not always translate to the effective use of information resources and advanced research strategies. Because of this disconnect, students can miss the opportunity to experience the research process as a chance to elevate their thinking and challenge their own deeply held beliefs. The anxiety around the research process can transfer to students' feelings about the library, library staff, and library resources as well.

With the proliferation of user studies, focus groups, and surveys, it is evident that libraries of all kinds are increasingly paying attention to the experiences, preferences, and needs of our various and diverse audiences. Maintaining an awareness of current trends in higher education, pedagogy, and usability is important for librarians in order to understand the broad range of possible inquiry methods that may influence the design of library spaces and instructional programs. Among these many opportunities for studying our learners, ethnographic methods can

provide relevant and specific knowledge of students' research behaviors and attitudes within the local context of our own institutions. These methods are directly aligned with the learner-centered professional philosophy that drives many librarians and provides for them a foundation upon which to build programs, services, and partnerships. Librarians who are mindful of general standards, current trends, and intersecting priorities without letting them dictate their mission and vision can succeed in demonstrating their relevance and value to their local campus community.

Learner-centered instruction through an ethnographic lens

With so many questions plaguing academic libraries (e.g. How are library collections and spaces used? How do faculty engage in research? What sort of support and services do graduate students require for their research?), a holistic ethnographic study could easily begin to seem like a panacea to the issues that we face. However, an authentic ethnographic approach demands that our research questions, data collection, and resulting actions maintain the interests and practices of our users as the central focus. For this reason, we chose to center our particular ethnographic investigation on the ways in which course assignments influence student research behavior, specifically the description and structure of the assignment. By illuminating student research behaviors, we hoped to discover good practices for assignment design that balance faculty expectations with students' sense of ownership, responsibility, and self-efficacy in the research process. The lessons learned through this study have informed our instructional techniques, especially as they relate to our consultations with faculty on the design and timing of research-based assignments across a variety of disciplines. For example, we know that scaffolding research assignments or creating multiple mini-assignments that lead students through the steps in the research process is helpful, as long as students understand the connection and meaning behind each individual step so that the mini-assignments seem worthwhile.

Eschewing the traditional method of teaching and moving beyond the pitfalls of the unidirectional 'empty bucket' approach (Bateman, 1991, p. 27) – in which students are regarded as empty vessels waiting to be filled – instead incorporating inquiry into teaching, has empowered us to imagine new ways to inspire learners. By inviting students to take more responsibility for their own learning, we welcome them as partners in the educational experience and acknowledge that they will make valid contributions. Such empowerment and inspiration have proven to be integral components of the teaching and learning process and, in turn, have helped shape our ethnographic approach. We seek to find context in how our learners engage in the research process and, perhaps, our quest aligns with the very ethnographic process that seeks a multitude of explanations at each stage. Much like the undergraduate research projects we chose to observe and analyze, the ethnographic approach proved both opportune and pertinent in illuminating the complexities of the students' own methodologies and experiences in and out of

the classroom. While we had basic assumptions about student research behavior, we were frequently reminded that the student experience is in constant flux. For example, some students had a foundation of research based on our locally licensed databases and would begin their investigation with the libraries' website, but others relied on sources used in high school or those recommended by friends as a starting point for research.

By observing our learners through an ethnographic lens, we began to view them in deeper and more meaningful ways. This, in turn, has reminded us of the complexities of the learning process – though commonalities exist, learners employ a wide array of approaches to performing research, and while librarians may hold a library-centric philosophy to learning, our students seemingly view the library as only one component of a much larger system of support in the academic process, each integral in its own way.

Understanding these complexities, both of the learning process and the learners themselves, will help you develop a research question as a basis for inquiry. This, perhaps, may prove to be the most difficult hurdle to overcome and presents librarians not classically trained as anthropologists/ethnographers with a rather thorny problem – what do you want to know? While we benefited from the professional advice of an anthropologist on our research team, we encountered some difficulty in scaling down a rather broad and ambitious desire to know everything about our learners. Instead, we focused somewhat more realistically on identifying specific characteristics and approaches to the research process that would enable us to better understand our learners' research needs as well as their understanding of the research process. This, we hoped, would better position us to improve not simply basic library research-support services, but our approach to the teaching and learning process (empowering our instructional selves and, in turn, inspiring our learners). Not unlike the 'Rochester method' (Gibbons, 2012), which seeks greater understanding of the larger institutional setting in which a library is positioned to identify opportunities and challenges between library services and user needs, we sought to identify both gaps in our support of the research process as well as opportunities inherent in our own (unique) community of learners and how we might capitalize on this newly gained knowledge in an instructional sense.

Applying ethnography in a library instructional context

Ethnographic methods yield qualitative data that allow the tracking of attitudes and emotions, in addition to behavior and cognition. This makes ethnography an especially useful approach for illuminating complex processes, such as research and inquiry. Having the experience of designing and implementing an ethnographic study at Indiana University, we realized that the practices we employed to gather and analyze student data and the insights we gained were relevant to the design, delivery, and assessment of our instructional programs more broadly. Not only did we learn how our students acted, thought, and felt as they were seeking information and using it to create new knowledge, but we understood how to observe and appreciate our students from a variety of perspectives in order to expand our own

thinking. Qualitative assessment is not only a useful means of gaining insights into students' innermost thoughts and emotions related to the research process, but it can also be helpful in illuminating problems and challenging issues faced by academic libraries regarding student learning. How and when is direct contact with librarians essential for student success? What is more influential in students' research practices: their own prior experience or the directions provided by their instructors? With limited staff and resources, how should librarians design information literacy initiatives to meet the diverse learning needs of student researchers? The more knowledge we gained about our students through ethnography, the clearer it became that centering the design and delivery of library instructional programs around these learners and their needs would help to address some of the difficulties we face in integrating information literacy into student learning across our campus.

What we learn from ethnography is that a multifaceted approach is often the best way to achieve your goals. Indeed, the process of triangulation requires an ethnographer to gather evidence and data using a variety of methods, thereby giving multiple perspectives on a single question, experience, or activity. When translated to the context of implementing information literacy programs for an entire campus, this process can be manifest in the effective design and assessment of learning. Triangulating the design of student learning experiences could result in various opportunities for students to experience information literacy education within and beyond the context of the curriculum. Learning could happen in living spaces, social spaces, and public places as well as in the classroom. It could happen as a result of active, engaged collaboration or individual, contemplative thinking. Similarly, the assessment of such learning could happen in traditional formats through course assignments and grades, as well as through self-paced or community-based activities (such as sets of prepared questions that afford students the ability to respond at their own pace, or reflective exercises). Assessment would be considered formative (or 'in-process') if it were used to improve instructional practice and student learning, while summative (or final) assessment would be a means of looking back at student progress over time.

There are myriad ways to apply ethnographic methods to the traditional one-shot instruction session, as a pedagogical practice or as a learning assessment. Research process interviewing is one possibility for illuminating the underlying strategies for information seeking and the potential challenges the researcher may expect to face when enacting their research plan. In this scenario, one student would talk through their strategy for research, while demonstrating their own information-seeking and evaluation processes in real time. Acting as their partner in this exercise, a classmate would ask questions in order to prompt the researcher toward the next step. There are many benefits for creating openness around a process that is usually solitary, including the verbalization of a research strategy as a means of better understanding it. Another positive outcome is the opportunity for the student to fail and try again in the safe environment that a library classroom affords. While this approach can be challenging to novice researchers who may not immediately appreciate the learning that can result from such failure, the

experience of engaging in such a deeply reflective experience is usually rewarding enough to make up for it.

One of the most common ethnographic research methods is observation. Although librarians are observing student behaviors constantly in the library classroom, shifting the focus of this activity toward student-to-student observation is an interesting way to take a learner-centered angle on this proven method of inquiry. By observing another student, each participant is empowered to influence the thinking of another through peer instruction on the research process, whether they have more knowledge than their partner or not. Sharing one's thought process with someone requires one to reconsider the process, to practice it, and to verbalize it. These activities alone can serve as a learning opportunity. In addition, students who are observing a partner in one or more aspects of their research process will think about their own approach to information seeking and evaluation as compared to the actions of another. They may also be able to offer feedback, insights, or suggestions to the student that would not have occurred to them otherwise. Naysayers of this approach will argue that students who are being observed will purposefully use more advanced strategies than they normally would in order to please or impress the observer, thereby rendering the observed behavior less than authentic. Although that is possible, our response would be that any observer should keep such pitfalls in mind, and we would prefer to be open to observing slightly skewed information rather than to miss this opportunity to gain valuable insights into student research behaviors at all.

Another ethnographic method that can be applied in the library classroom is cognitive mapping. As a student talks through their research process, whether before, during, or afterwards, they can create a visual representation of key moments of strategy and decision with paper and pen. This reflective act can illuminate for a student their own ways of thinking, as well as assist them in identifying areas of challenge or any questions they may have. The cognitive map is an artifact of learning that illustrates thought processes that would otherwise be hidden to the instructor and to the student. This kind of deep thinking about one's own approach to information seeking, a form of metacognition, is inherent in the reflection inspired by research process interviewing, student-to-student observation, and cognitive mapping. Each of these three strategies could be applied in the library classroom to illustrate students' research processes to the librarian and to increase the students' awareness and understanding of their own thought processes in order to improve their research.

Through the application of ethnographic principles, we can take a programmatic view or a student-specific view of the impact of our information literacy programs. One of the most difficult aspects of doing so is the gathering, tracking, and understanding of qualitative data obtained as formative or summative assessments. Such results may come in the form of written feedback, self-reflection, or visual representations and it is helpful to have themes by which to categorize and rank the qualitative information. Librarians at Indiana University have identified *Inquiry*, *Evaluation*, *Knowledge Creation*, and *Conversation* as the cornerstones of information literacy learning outcomes for our particular audience of learners. By

thinking of these as themes that guide our instructional programs and determine their impact, we can also use them to organize and make sense of the qualitative data we gather through broad-scale information literacy initiatives or through the one-on-one instruction we provide.

Results: communication and action

As with any mindfully designed endeavor that seeks to contextualize and more fully understand the learning process, it would be difficult to predict the frequently circuitous routes that are forged, as well as the divergence (and convergence) of assumptions previously made and conclusions quantitatively drawn as a result. Throughout the course of our own ethnographic study, we as librarian-researchers employed methodologies that we have shown can be readily used in the classroom in an instructional context. We would be remiss, however, to ignore some of the larger aspects of our new understanding of our own community of learners as it relates to our immediate colleagues and administrators as well as the much larger community beyond. In much the same fashion that we had to decide *what* we wanted to know through ethnographic methods, we also must ask ourselves *how* we intend to best capitalize on this newfound knowledge. As you engage in the application of ethnographic methods in the library classroom, so too must you consider how you might best communicate your new understanding of your community of learners to others and what impact it might have in both your local environment as well as the community at large.

Teaching through an ethnographic lens will empower the learning process in exponential ways. You will gain a deeper understanding of the uniqueness of your learners, which will in turn allow for more focused and specific approaches to information literacy instruction. What you discover about your learning community can be communicated to your peer colleagues to improve and empower their own teaching activities. Ideally, a combined effort of understanding your local community of learners will only serve to improve the library's approach (as a whole) to information literacy and research support. Sharing this knowledge with other librarians at your institution can take many forms – informally via peer-to-peer conversation or more formally in the manner of workshops, presentations, and other programming methods. Simply retaining your newfound understanding of your learners to inform your own instruction is just one step of the process and we encourage you to empower your peers in both the understanding *and* the process. Our own desire for engaging in ethnographic research was not simply to gain new understanding of our learners to improve our teaching; rather, we endeavored to improve upon our library instruction programmatically, with a hope (over time) to make our practices have higher value and more meaningful impact across our learning community. This, of course, is not a solo effort: to be successful requires a combined effort across your library.

As mentioned previously, what you discover about your learners using an ethnographic lens will also serve to inform other library services and spaces. Communicating your findings to your administrators, whether gained from a one-shot

instruction session or through a larger ethnographic study, is essential to enact greater change across the organization. It may not always seem apparent how your findings might affect greater library services as a whole, but you should always consider that all parts of the puzzle can help inform how the library engages with both the teaching and learning communities across the institution. Ethnographic methods used in the library classroom can help shape the teaching and learning process at the curricular and programmatic level, which in turn will have an even greater impact on library value and lifelong learning. Inasmuch as it can be difficult to exact change in the classroom in even the best librarian-faculty/instructor partnerships, there is the potential to have a stronger impact by demonstrating to your faculty partners, with clearly identifiable, qualitative information about your community of learners, what you now know about those learners. This has the potential to better position librarians as agents of change across the curriculum.

Enacting professional change

Academic libraries have marked their success in the past by calculating numbers of patron visits and quantities of collections, as well as the innovative services provided. Academic libraries, professional associations, and other influences external to our campuses often define the benchmarks for achievement in these areas. However, as the ubiquity of information access continues to transform how individuals engage with knowledge and as the role of libraries in this process evolves, our focus should shift more toward internal influences as we reconsider and recreate our professional identity and purpose. By using our ethnographic lens, we can see that no matter how large the collection or innovative the service, a library that is not built upon the needs of our learners will not achieve its full potential.

Instead of comparing ourselves with our peers among academic libraries and measuring our value solely against generalized guidelines for quantity and broad standards of proficiency, we should work hard to know our communities and situate ourselves within a local context. While overarching professional standards can serve as signposts for understanding the landscape of student learning and librarians' potential contribution to higher education, it is the application of such standards to our own unique institutional contexts that give them sense and meaning. While refocusing our energies on the ever-changing variable of our students' behavior would be the most challenging and unpredictable professional challenge we could undertake, it may also be the most rewarding.

The nature of the research and learning processes of our students could, when observed and known, inform the re-envisioning of the role of libraries within a particular educational environment. Situating ourselves more purposefully within the local campus context in order to define the library as an integral part of student learning in higher education will not only require the adoption of new philosophies on the part of librarians, but also the energizing of ourselves as agents of change in support of learner-centered services, environments, and experiences. While difficult, this role makes more sense for librarians than perhaps for any other professional on a college campus. In our positions, we see across disciplinary

boundaries and levels of learning in ways that other faculty and staff do not. This perspective allows us to experience a greater depth of understanding and awareness of students' mindsets, attitudes, and approaches to learning that should be the driving force for the design and delivery of higher education. As each institution will have a unique audience of learners based on its educational vision, librarians who cultivate a professional philosophy that is focused on the practices and needs of these learners will not only become more integral to their academic experience but to the mission of the institution overall.

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