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**Leveraging Existing Services to Support Evidence Synthesis Researchers Outside of the Health Sciences**

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ARTICLE

Leveraging Existing Services to Support Evidence Synthesis Researchers Outside of the Health Sciences

Elizabeth Kline¹

ABSTRACT

The author presents a case study for the development of an evidence synthesis service serving researchers outside of the health sciences at a large academic library. The purpose of this project was to highlight the importance of integrating existing core services and workflows that create seamless delivery of evidence synthesis support and yield quality service. The paper provides decisions that university libraries must consider as they are planning the implementation of these services.

The research-intensive nature of evidence synthesis projects provides liaison librarians with a perfect entry to deliver high-quality and relevant services, especially to graduate students and researchers. Through this work, libraries will demonstrate strong evidence for their engagement and contributions to research on campus. Librarians interested in supporting this latest type of research can use this study to gain a sense of where their own professional strengths fit within this new functional area and plan how to enter this developing research space. This study may be of interest to administrators, reference and instruction librarians, and librarians serving graduate students. Issues are presented in a way that surfaces difficult topics, which will help guide planning conversations between supervisors and librarians regarding workload assignments.

**Keywords:** evidence synthesis services, knowledge synthesis, liaisons, non-health sciences researchers, systematic reviews, service quality, integrative services, core library services

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LEVERAGING EXISTING SERVICES TO SUPPORT EVIDENCE SYNTHESIS RESEARCHERS OUTSIDE OF THE HEALTH SCIENCES

Academic libraries support the teaching, learning, and research missions of a university and continually balance their existing resources to meet diverse user needs. Libraries make deliberate decisions during strategic planning exercises about organizational structures, new services, or even new staffing roles. Libraries add new services in response to user needs, yet they struggle to stop or deprioritize legacy work, leading to a lack of capacity and burnout (Crum & Cooper, 2013; Research Incubator Unit, 2022–present).

One of the latest service areas of interest for academic libraries is support for evidence synthesis (ES) research outside of the health sciences. Compared to other library-related services, ES is uniquely time-intensive and heavily process-driven, consisting of the following generalized phases: preparation, searching, retrieval, screening, synthesizing, and write-up. The work also often requires a higher level of engagement, in which the librarian actually conducts part of the research.

Designing a complex and multiphase service necessitates thoughtful coordination of staff and workflows in alignment with organizational priorities. The purpose of this project was to highlight the importance of integrating existing core services and workflows that create seamless delivery of ES support and yield quality service. A case study is presented to describe decisions that university libraries must consider as they are planning the implementation of these services. Librarians interested in supporting this latest research need can use this study to gain a sense of where their own professional strengths fit within this new functional area and plan how to enter this developing research space. This study may be of interest to administrators, reference and instruction librarians, and librarians serving graduate students. Issues are presented in a way that surfaces difficult topics, which will help guide planning conversations between supervisors and librarians regarding workload assignments.

Background of the Evidence Synthesis Landscape

Evidence synthesis or knowledge synthesis research, commonly known as systematic reviews (SRs), began to gain a stronghold in the health sciences in the mid-1990s (Cook et al., 1997; McKibbon, 2006; Smith, 1996). SRs summarize all known evidence for a research topic (e.g., to study the effects of probiotics for the treatment of eczema; Makargeorgou et al., 2018) and are considered the highest standard in evidence-based healthcare research (Higgins et al., 2022). Recently, researchers in other disciplines have become interested in
conducting SRs (Mendoza-Pitti et al., 2021; Nakagawa et al., 2020; Petticrew & Roberts, 2006; Yang et al., 2017), often as a means of identifying gaps in research, and the number of published SRs is rising across disciplines.

Researchers may erroneously believe SRs are easier to undertake than other types of studies because they do not require access to human subjects, data sets, space, or funding (Mi, 2016; Sambunjak & Puljak, 2010). Rather, the tools required to conduct SRs are often readily available. Scholars have affiliations with organizations that subscribe to valuable research databases, which give them access to published studies, tools to manage literature citations, and librarians with expert search skills. Librarians, on the other hand, recognize that access to information resources and skilled search experts are not the only factors that ensure the successful completion of SR projects.

SRs answer a defined research question by identifying, collecting, and summarizing all empirical evidence on a particular topic that meets predefined eligibility criteria (Clarke, 2016; Miller et al., 2017). The well-described and distinct process aims to facilitate transparent and reproducible research practices (Institute of Medicine [IOM], 2011). Certain characteristics are unique to ES projects, such as the involvement of two or more researchers, collaboration with an expert searcher (Higgins et al., 2022; IOM, 2011), and a timeline that often requires close to a year to complete from the start of a project to submitting the work for publication (Borah et al., 2017). Several studies provide metrics that give insight into the time required to conduct these studies (Bullers et al., 2018; Evans & Benefield, 2001; Kallaher et al., 2020; McGowan & Sampson, 2005; Saleh et al., 2014). The time required to complete an SR may vary based on several factors, including the nature of the research topic, team member skill sets and workloads, and effective project management; all of the aforementioned studies indicate that SRs require a great deal of time and effort to complete.

Health sciences librarians led the way in developing a collaborative ES model in which individually embedded subject librarians support a research team throughout the process. As demand increased, libraries have adjusted this model to create ES services provided by teams of librarians. Most currently sustained research synthesis services appear to comprise a dedicated staff member with specific duties and roles such as ES coordinator (Winn & Semborski, 2022), or are organized around a team-based configuration (Kallaher et al., 2020). More limited, but existent, are librarians who proactively embark on this work as an ad hoc extension of their liaison duties (Hangauer & Kline, 2022). The literature contains guidance on how to establish an ES service (Godbey et al., 2021; Ludeman et al., 2015; Riegelman & Kocher, 2018); narratives detailing various librarians’ roles on SR projects.
(Beverley et al., 2003; Harris, 2005); and strong evidence demonstrating the librarian’s value during the search stage (Aamodt et al., 2019; Rethlefsen et al., 2015). Despite this available literature, many libraries still grapple with how to support this burgeoning work (Research Incubator Unit, 2022–present; J. Solis, personal communication, 2022).

Perhaps one impediment may be supporting many phases and a multitude of outputs. In this way, the commodity resulting from a service provided in a service organization is not a product but a process that is experienced at the time of delivery in an exchange between a provider and an end user (Mirchandani, 2015; Qiu, 2014). This definition offers a good base from which to understand how academic libraries deliver ES support. ES projects can progress through the phases in a linear and sequential manner or in an iterative manner; libraries must anticipate both models when considering their capacity to support this work. In establishing successful and sustainable services, libraries must make many decisions that go well beyond staffing and resources.

Johnston (2015) provides a means of determining service viability, detailing service design exercises that help organizations test processes and customer expectations. Roden and Johnston (2015) explain how service quality characteristics play two roles. They inform customer expectations (e.g., access, communication, responsiveness, etc.) and serve as measurable variables for the service. Schneider and Bowen (1995) indicate that quality service depends on the successful outcome at the end of an experience. In other words, the end user cares about the quality of the service provided and their experience receiving it, not all the processes or departments involved in providing it.

Currently, the literature on ES services in libraries focuses on formalizing a service. This article extends beyond launching the service and aims to fill a gap by advocating for the seamless connection of library-wide workflows and core services offered by liaison librarians. This study focuses on quality, specifically how to deliver seamless ES support by integrating that support with existing workflows and services.

**Local Context**

The University of Arizona (UArizona), the flagship institution in the state of Arizona, is a large public, land-grant institution recognized as one of the nation’s top 20 public research institutions.

The University of Arizona Libraries (UAL) has faced many reorganizations through the years, which is a common occurrence in higher education, due to declining budgets and
staffing and changing user needs. UAri zona’s Health Sciences Library (UAHSL), previously affiliated with the College of Medicine–Tucson, merged with UAL in 2013. Though part of the same organization, the libraries offer different service models for ES support. UAHSL librarians established their ES support circa 2008. Main campus librarians began receiving SR requests a decade later. Most of these requests were turned away due to a lack of skilled personnel; requestors were directed to online documentation provided by other libraries. In fiscal year 2020–21, UAL’s Future State planning process introduced changes to departments in the main library but excluded the UAHSL operational model. A key adjustment involved splitting up liaisons in the main library into the Student Learning and Engagement (SLE) and Research Engagement (RE) departments, which had the effect of distributing learning and research support services. Liaisons continued serving both undergraduate and graduate constituents but were also asked to support specific functional areas (e.g., maker skills, data mining, and augmented reality/virtual reality) to provide capacity for the library to address emerging needs—including support for ES. This support became the responsibility of the Research Incubator (RI), a new unit established to consolidate activities associated with research planning.

THE UNIVERSITY OF ARIZONA MAIN LIBRARY EXPERIENCE PILOTING AN EVIDENCE SYNTHESIS SERVICE FOR NON-HEALTH SCIENCES FIELDS

The author, not trained as a medical librarian or in the health sciences, was the first at UAL to notify the administration of the rising trend (circa 2018) of SR requests originating from disciplines outside of the health sciences. This observation led to the reorganization that gave rise to the RI unit, which resulted in the newly created UAL ES service for its main campus in July 2021.

The service was launched quickly, without time for an environmental scan or needs assessment, and a single librarian—the author—was assigned to establish and manage it. Fortunately, the new organizational structure gave the author full access to the depth and breadth of researcher needs and afforded her the autonomy to design the service. The new duties resulted in a new job description adding ES support to her existing responsibilities including liaison to six distinct departments: Psychology; Speech, Language, and Hearing Sciences; Ecology and Evolutionary Biology; Molecular and Cellular Biology; Biochemistry and Chemistry; and Neuroscience, in addition to scholarship, service, and a smaller percentage of library-wide work.

Insufficient staffing immediately eliminated a collaborative model. The author discovered studies pointing to successful instructional support models that would allow researchers
to conduct a high-quality SR on their own or with limited support (Godbey et al., 2021; Roth, 2018; Slebodnik et al., 2022). Inspired by these studies, the author then created a consultative-educational hybrid model, which draws heavily on the librarian’s strengths and experience. In this model, the librarian provides training and guidance on the ES process, from protocol to publication, rather than performing parts of the research (e.g., expert searching) or serving on the research team. The model was developed during a soft launch, in which the author implemented the model whenever a request for SR support was received. Although support for SRs on the main campus was not advertised, interest and word spread. The service model was assessed as it was implemented, providing the author with evidence-based data that informed progressive modifications as the service matured.

No established data collection system existed when the pilot began. Two issues complicated orderly collection and caused a slightly imperfect evaluation of statistics. The first was the lack of a standardized request mechanism. Requests originated from a variety of places: direct to the author, inquiries to liaisons by disciplinary users, or via the AskUs reference service. Library staff directed email queries to the author, who collected them in an Outlook folder. Sometimes the original inquiry was not shared with the author, but a connection was still formed. Second, researchers now and again confuse SRs with traditional literature reviews and vice versa, so an in-depth reference interview was often necessary to determine the nature of the researcher’s project. When time permitted, ideally once a month, queries were recorded into the regular library reference statistics; at the end of each semester, they were extracted for analysis. Data were reviewed to gain a sense of the users and disciplines engaging in ES, identify the type of reviews conducted, and figure out the type of support sought.

From July 2021 to June 2023, the total number of requests submitted was 22. These were initiated by graduate students (10), faculty/researchers (8), and undergraduate students (4) from a variety of disciplines: Psychology (10); Speech, Language, and Hearing Sciences (SLHS) (4); Communication (2); and one each from Natural Resources and the Environment; Law; Engineering; Education; Architecture, Planning and Landscape Architecture; and honors Physiology (student mentored by SLHS faculty). SRs (16) were the most common request, followed by scoping reviews (4) and meta-analysis (2). Six of the 10 graduate queries were associated with faculty supervising dissertation work.

Discussions all took place virtually via Zoom and consisted of consultations and training sessions. The librarian asked all researchers to share their specific questions in advance, allowing her to customize the consultation and share articles or materials in advance. Some researchers either did not have time to supply information prior to the meeting or preferred
to wait to do it during the consultation. Most of the support provided related to the preparation, searching, and retrieval stages of the ES process, with the bulk of the librarian’s efforts going toward initial consultation, protocol design and registration, development of keywords and search strategies, support with database syntax, and post-meeting follow-ups unique to each research project. Time dedicated to supporting researchers was not captured but included planning and setting up for the consultations, preparing for searches, offering training on search strategies, and responding to project-specific questions.

All researchers required extensive support in preparing their protocol. The level of training and support required for the design and methodology was directly related to the researchers’ experience. All researchers required instruction and training in the search phase, including developing keywords and advanced search strategies, selecting databases, translating search strategies for each database’s syntax, and managing citations. Follow-up work and meetings were necessary after both the protocol preparation and searching phases but most frequently during the search process. The reason behind the continual support at the search stage could be attributed to the SR search approach being more involved than it is for a traditional literature review. In the former, the researcher devises a complex and comprehensive search strategy aimed at balancing specificity and sensitivity (Bramer et al., 2018). The effort is repeated for each information resource researchers plan to search. In comparison, a literature review does not normally necessitate the same level of meticulous planning. Additionally, researchers did not often have prior knowledge of indexing practices, or experience using thesauri or database syntax, which makes the approach difficult to grasp.

Prior to assuming ES duties, the author attended a three-day online training offered by the Evidence Synthesis Institute (ESI, 2020), aimed at introducing librarians to ES work. The ESI training is free, but participants must apply and are selected based on institutional need and impact. One of the primary challenges during the first year of providing ES services was having to support users while learning ES processes. In fact, the majority of the author’s time during the first year was devoted to this learning. Requests that came in during the first year served as an unofficial teaching program that offered first-hand immersive training. Much of the hands-on learning that occurred during this soft launch of the service was guided by an expert health sciences librarian who served as an unofficial mentor and was key to enhancing the proficiency of the author. There was no formal organizational requirement for the Health Sciences Librarian (HSL) to serve in this role. The agreement to work together arose from an ask for help and was rooted in collegiality. Her extensive experience conducting SRs combined well with her strengths as a librarian and teacher. As the budding ES librarian who also managed the research project and communication with researchers, the author simultaneously scheduled virtual meetings with the
HSL mentor. No training plan existed but meetings consisted of detailed discussions and walk-throughs of ES steps such as protocol development, designing the search strategies, saving searches in databases, launching the searches, deduplicating citations, and developing documentation. The learner’s responsibility was to set clear agenda topics, schedule virtual meetings, and conduct all the work offline prior to the meetings. Email served to review and edit written communication being shared with researchers, to clarify understandings, and to exchange draft documentation of searches. This system worked because the HSL was deeply engaged in the training and conducted the same work offline in preparation for discussions. Though her extensive expertise enabled her to complete the work faster, it was nonetheless a substantial investment of her time because this work was above her regular job duties. The training timeline was undefined due to factors not limited to balancing both librarians’ schedules and workloads, new learning, and awaiting researchers’ progression. It was helpful to have access to a local expert who shared her knowledge and peer-reviewed the searches, a practice recommended by McGowan et al. (2016). For organizations lacking local experts, a positive benefit from the ESI training is the opportunity to connect with a community of experienced ES librarians, such as the Evidence Synthesis Methods Interest Groups’ (ESMIG) Evidence Synthesis Peer Mentorship Program (ESMIG, 2023). Librarians looking to get peer review support for their searches using the PRESS guidelines (McGowan et al., 2016) can join a web forum (PRESSforum, n.d.). Designed as a reciprocal community, participation is extended only to librarians who are involved in designing and executing search strategies for SRs. Procedures stipulate that any time a librarian submits a request, they in turn perform a peer review for someone else.

The author was also responsible for oversight, coordination, and ongoing development of the service. An analysis of trends and data facilitated the development of a constraint matrix (Smith, 2021), a resource that helped reveal the most essential factors to consider during the launch of this service. The exercise served to identify staffing resources (most constrained), infrastructure (medium constraint), and time (low constraint) as the most limiting factors for the expansion of the service. This analysis provided direction for addressing infrastructure and time-resourcing constraints. To address the lowest constraint, the first major adjustment for the second year of the ES service was to improve the scheduling of this work. The large portfolio of responsibilities caused tension with the management of assigned duties. Instead of providing support on demand, which led to fatigue, a “drop-in” strategy was adopted. Two weekdays were blocked on the calendar as drop-in office hours for researchers to consult the author for ES support. This time was also used by the author to continue to learn ES methods and processes. Unfortunately, the drop-in model was not an effective strategy, because drop-in hours did not align with researcher schedules. Similarly, opportunities for professional development did not always fall on those reserved days.
Since managing and organizing requests in an Outlook folder was impractical, the second improvement focused on establishing infrastructure, including an intake form, a system to track projects, and a LibGuide. An online request form to capture all aspects of the initial queries was designed (see Appendix A), based on the request and tracking system established by the University of Michigan Library (Townsend & Saylor, 2022). A new LibGuide (University of Arizona Libraries, n.d.) was designed to describe and promote the service and support available to researchers outside of the health sciences. The new resource includes a mechanism to initiate a new request. Written policies communicate to researchers the extent of the support available by a single provider. As a baseline, each ES project is allocated five hours of librarian support. The service was not marketed and not visible to users during the soft launch; thus, there is no increase over time to report. After the service launches formally, in August 2023, the elements anticipated to track include department, status, purpose of review, type of project, support needed, time per project, and actual librarian support provided. Assessment tools to determine user satisfaction and identify gaps will be included in the official launch (see Appendix B). Data will be used to improve the service, update workflows, and inform future staffing.

As the service moved into its second year (fiscal year 2022–23), a few critical trends emerged that increased demand for ES services: dissertation committees across campus began approving SRs as a research method, and undergraduate students in several disciplines began undertaking SRs as research projects for courses or independent research projects. Many requests fell outside of the author’s disciplinary expertise and could not be adequately supported without engaging an expert in those disciplinary areas. Due to staffing limitations, no student support for courses or independent assignments that incorporate SR components will be available. Support will be provided on a case-by-case basis to doctoral candidates pursuing dissertations.

An interesting pattern also emerged with user behavior and the service model. A main part of the consultation discussion centered on librarian roles during the search phase. This discussion often led to a short primer on collaborative versus consultative support. Despite presenting the model as consultative as opposed to collaborative, experienced researchers tended to request collaboration with a librarian from the start. Conversely, novice researchers were more cautious about collaboration with a librarian and were not willing to share authorship. Many of these more hesitant researchers did not continue consultation with the librarian beyond the initial meeting. In one case, a team that was initially hesitant realized that the search phase is much more complex than they originally envisioned and that they did not have the capacity to handle it on their own. They returned four months after the initial consultation to ask the librarian to run their searches and happily shared
authorship. Time permitting, librarians can decide if they want to engage in collaborative projects as part of their scholarship in exchange for authorship credit as prescribed by the International Committee of Medical Journal Editors (ICMJE, n.d.). In this case, the author agreed to deviate from the original vision of the model and engage deeply in the process. In another case, a graduate student who had received support from the librarian during the search phase returned to the librarian requesting collaboration in return for shared authorship. Due to lack of capacity, the student was turned away and asked to return later if support was still needed. Only two reviews on which the author collaborated have moved past the screening stage and are progressing toward publication. These challenges put pressure on the librarian providing ES support and the consultative-educational model that was originally envisioned.

**DISCUSSION**

**Integration Into Existing Core Work and Workflows**

Moving to a model of liaison support for ES as opposed to a model that relies on a single provider or an ad hoc liaison model has the benefit of distributing the work as well as embedding it deeply into disciplinary practices. This prudent approach to administering a complex and multiphase ES service leverages existing workflows and expertise in already well-established library functions. The key driving questions to ask are: How will the new service integrate with existing library services? Is there a way to maximize resources and integrate them into existing workflows? These questions, also considered by the University of Maryland Libraries (Coalter et al., 2020), help organizations develop a more functional and sustainable ES service. The ES research process provides wide-ranging opportunities for libraries to affirm their value through the integration of already existing reference and instruction core services. The UAL pilot demonstrated that requests line up squarely with the core functions of liaison work.

**Evidence Synthesis and Graduate Students**

An ES service offers graduate-serving librarians a rich opportunity to contribute to graduate education. ES research is grounded in transparent and reproducible practices that yield transferable and lasting research skills. SRs offer PhD candidates an invaluable opportunity to learn, practice, and gain critical methodological expertise through the design of their own projects and in the appraisal of included studies (Sambunjak & Puljak, 2010). Librarians who support graduate students need to stay familiar with graduate requirements to help
departments think through the advantages and challenges of accepting SRs for dissertation work (Perry & Hammond, 2002; Sambunjak & Puljak, 2010; School of Nursing, 2015).

Limited resources may lead libraries to provide services unequally, typically slanting the focus on supporting experienced researchers and limiting support to graduate students. This approach, while understandable, does not benefit an already taxed population caught in the stressful predicament of meeting graduation requirements without the means of gaining the necessary professional skills. As observed during the pilot, maturing researchers required deeper support with both design and methodological skills but more particularly with searching. This latter aspect of the process was an area where even this experienced librarian required a large time investment to practice and gain proficiency. While no mechanism existed to collect feedback on the training, based on the recurring follow-up requests related to assistance with the search process, it stands out as a complex area for researchers to grasp. For this reason, it materializes as a vital area in need of a training curriculum. A librarian is best suited to help students learn these methodological skills and get professional support to complete their educational training requirements successfully.

In developing graduate support services, librarians can apply Roth’s (2018) educational learning outcomes model, which outlines and sequences growing proficiency levels, and Roth and Tagge’s learning outcomes (2022) when developing a curriculum to guide graduate students through the SR process. The competency framework proposed by Townsend et al. (2017), while intended for librarians, can also serve as a tool for designing educational support for researchers conducting ES projects.

In the UAL pilot, graduate students submitted requests primarily during summer and winter breaks. These requests might coincide with times when graduate students discuss their research plans with dissertation committees or mentors. Librarians can integrate with research methods classes, develop and deliver well-timed workshops during those semester breaks, or even create a curriculum to support independent thesis credit courses. If libraries plan and integrate both curricular and co-curricular efforts, these strategies could amplify their graduate research services at their campus. More importantly, coordinators within academic departments can plan for the extra time required to support students working on ES projects by adjusting timelines accordingly (Gore & Jones, 2015).

Along with helping build future researchers, providing ES learning opportunities to all graduate students can help libraries and librarians advance diversity, equity, and inclusion (DEI). Indeed, the development of any service should begin with DEI considerations in mind so that users are served equitably and have the same opportunity to gain the skills
necessary to succeed in their work. Libraries that knowingly or unknowingly exclude a population from any ES services must ensure there is a reasonable way to meet that population’s needs. Librarians should assess their ES services frequently, using quantitative and qualitative methods, to determine if any populations are being underserved (Hernon & Altman, 1996). Librarians can consult other libraries’ ES service documentation for ideas about how to equitably expand or enhance ES services (Comer et al., 2023).

For Supervisors

Unquestionably the biggest challenge libraries will face in offering an ES service is the staffing model for the service. This pilot clearly demonstrated that it is not feasible to support a campus-wide ES service with a single librarian. The UAL considered an approach that would rely on liaison librarians to support and disseminate the service within the disciplines. Despite several attempts to engage liaisons in ES work, including bringing in customized training by the instructors of the Evidence Synthesis Institute (University of Minnesota Libraries, n.d.), these efforts were ultimately unsuccessful. In reviewing the pilot, the author determined that one of the reasons these efforts failed to take hold was the fact that the UAL had recently moved from a liaison-based model to a model that focuses on functional responsibilities. The result of that change left liaison librarians with less time to devote to the direct support of their assigned departments and colleges. It was not an optimal time to explore still more duties for liaisons.

Supervisors should expect to spend significant time developing a model for the distribution of ES work. They must ensure that librarians have an environment that supports and rewards growth, time dedicated to learning, and balanced workloads to sustain the service.

Administrators should also have a mechanism in place to support and reward growth related to job effectiveness (Gore & Jones, 2015). Schneider and Bowen (1995) describe this as a practice that promotes a “service culture” that works invisibly because supervisors are not present during the interactions. Staff are the heart of an organization (Poisant, 2002), and yet diminished funding has made it unfeasible for many organizations to hire new staff. Existing information professionals must bear the burden of learning new ES skills through professional development offerings (Medical Library Association, n.d.; University of Minnesota Libraries, n.d.).

Learning is a critical activity for leading-edge academic librarians who thrive on staying current with new research needs. If administrators want high-producing staff, they should commit to nurturing and rewarding these individuals. Professional development funding
could possibly be modified. Library budgets may be retooled to offer a stipend for developmental learning that is aligned with strategic priorities. A more long-term solution would be to create criteria that would award merit increase pay, when funding is available, to professionals who take on new learning in support of a new service.

Supporting researchers through ES work is a time-intensive activity and one where competence and skill are gained through practice. Published studies do not mention the type of training or duration necessary to gain proficiency. Proficiency is also impacted by external factors such as workloads or learning styles. Roth & Tagge’s (2022) educational learning outcomes model can be used as a tool to measure proficiency. Until librarians become proficient with ES work, supervisors should allow them additional time to practice and become comfortable with these new methodological skills. Release time from duties is another option that signals organizational support because it provides the space to reflect and apply new learning. But this strategy necessitates adjusting position descriptions accordingly, and care must be taken to not further exacerbate workload imbalances and lack of capacity. The goal of this strategy is to build trust and generate acceptance for the work.

Librarians with significant functional responsibilities along with their liaison assignments will have limited capacity for any new work. UAL’s experience matched the findings of Demetres et al. (2020): Librarians will burn out when their time is too fractured to allow for the sustained focus required to support this intensive work. In considering how a library may want to staff a campus-wide ES service, supervisors need to account for the mental bandwidth that is required to conduct the work. Managers should calculate the existing labor pool available and make a concerted effort to establish balanced workloads. It is the perfect opportunity for supervisors to engage staff in discussions to stop or deprioritize legacy work and simultaneously find suitable replacements for less-used services, if appropriate, in order to allow for the uptake of new work. Supervisors must make a conscientious effort to leverage resources and not require or expect staff to take on new work when they are at capacity.

**Building Infrastructure to Support Researchers**

Libraries will need to build some infrastructure to support a successful ES service. This infrastructure should include a website or LibGuide and processes for the intake and routing of requests. The front-facing virtual access point serves to make the initial connection between a researcher and the library. Service design principles help libraries consider process design, organizational design, information design, and technology design when establishing a service (Zimmerman & Forlizzi, 2014). By applying a service design
approach, libraries not only plan characteristics of a shared service concept but also identify and remove breakdowns in the process (Johnston, 2015). This approach focuses on the integration of functions and communication that lead to a seamless transaction with the user. Musenze and Mayende (2021) refer to these integrations as *coordination mechanisms*; demonstrate a positive link between coordination mechanisms and quality service delivery; and point out that this connection is influenced by the synchronization of services and the organization's preparedness to deliver a service. User experience (UX) research demonstrates that usability provides a measure of the overall enjoyable user experience (Ritter & Winterbottom, 2017). Service design and UX approaches should be applied to the design of the service website to guide the researcher on the front end and connect to the core service on the back end (see Figure 1).

Organizations should develop policies to help guide the creation of these services as well as to help organize resources and manage user expectations (Hernon et al., 2015). These policies should be available to users on library websites, where they may function as a proxy conversation between the provider and the end user.

Users will have questions covering all aspects of the ES process that range from simple and single transactions to complex and engaged interactions. Additionally, researchers might not always seek support from the initial stage or in a sequential manner. The ability to

**Figure 1**

*Draft schematic buttons based on UX design*
effectively manage coordination and communication in and out of any stage at any point is necessary. Each of those contact options must be associated and routed to the corresponding provider, whether it is a disciplinary librarian, a functional domain area such as reference or instruction, or an ES team or lead. Compared to the embedded liaison model in health sciences, this approach fits library models organized around more functional and distributed duties, where there is room for programmed and shared services.

Questions will not always be compact or fit nicely into reference or instruction-focused categories. Reference staff providers could review requests initially and route them to the appropriate individual or group. Analyzing ES requests on a regular basis will help inform changes to the service, including the appropriate starting point for these types of requests. The tracking mechanism should tag the categories that will be regularly evaluated. The individual or group with duties for oversight, coordination, and ongoing development of the service must have access to requests or receive recurring reports from other service areas to ensure needs are evaluated on an ongoing basis.

Requests for help with the overall SR process or with search strategies should be routed to the appropriate liaison librarians. SR requests linked to instruction, including graduate requests tied to dissertations, course-related projects, and independent research projects, should be routed to the appropriate liaison. These requests are more complex because they fall in line with curricular-based programming and require closer collaboration and discussions with departments, research mentors, or instructors (Campbell & Dorgan, 2015). Once the liaison and these key stakeholders agree on an approach, the liaison can manage the development of appropriate instructional materials. Materials may be developed jointly with librarians with specialized expertise such as instructional design and pedagogy experts. Materials such as workshops and search tutorials appear to be good strategies for initial support, but they do not replace librarians (Parker & Neilson, 2015). While they may offer more scalable support and help researchers gain comfort with basic search topics, they may result in more demand for follow-up appointments (Campbell & Dorgan, 2015; Parker & Neilson, 2015), as the author experienced during the ES soft launch.

**Limitations & Future Research**

As with all case studies, this article only documents one library’s experience, which cannot be generalized to other settings. Organizational structures, including staffing and strategic priorities, will vary for other libraries. Recent turnover of administrative positions and the onboarding of their replacements will likely prevent UAL from integrating ES workflows with core liaison services.
This study opens a variety of opportunities for well-designed studies of library support for ES work outside of the health sciences. Some possible topics include: how much is being done; in what types of institutions; with what levels of support for different researchers; and with what staffing and service models. Studies indicating how much time is typically required for a librarian providing different levels of ES support are also ideal for further exploration.

**CONCLUSION**

As demand for library support for ES continues to grow outside of the health sciences, libraries need to develop ways of balancing workloads and building talent. Launching an ES service is one thing, but managing, sustaining, and ensuring efficient and seamless integration with other services is another. As Schneider and Bowen (1995) declare, service is in the details, and quality depends on the customer’s experience with delivery.

ES work provides wide-ranging opportunities for libraries to leverage expertise and workflows by designing services that integrate into existing core services. After two years with the author as the sole provider of ES support for UArizona’s main campus, it has become clear that integrating ES with other core services would be a more sustainable way to ensure the ongoing success and stability of ES services. This approach can mitigate against oft-reflexive restructuring exercises by libraries as well as allow organizations to easily pivot when new research trends arise. The research-intensive nature of ES projects provides liaison librarians with a perfect entry to deliver high-quality and relevant services, especially to graduate students and faculty. In this work, libraries will demonstrate strong evidence for their engagement and contributions to research on campus.

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**REFERENCES**

Aamodt, M., Huurdeman, H., & Strømme, H. (2019). Librarian co-authored systematic reviews are associated with lower risk of bias compared to systematic reviews with acknowledgement of librarians or no


Research Incubator Unit. (2022–present). Research support services at peer ARL libraries [Interviews]. The University of Arizona Libraries.


Roth, S., & Tagge, N. M. (2022, November 29). Systematic review learning outcomes. OSF. [https://osf.io/hr36t/](https://osf.io/hr36t/)


University of Arizona Libraries. (n.d.) Systematic review support through Main Library. [https://libguides.library.arizona.edu/systematic-reviews](https://libguides.library.arizona.edu/systematic-reviews)


APPENDIX A: ONLINE REQUEST FORM

UArizona Main Library Evidence Synthesis Request Form

This form is to support UArizona researchers outside of the health sciences through the completion of high-quality systematic review (SR) or scoping review publications. A typical evidence synthesis project requires 12–18 months and a team of at least 3 people to complete. The library provides limited support for these projects. If you are new to this research, please read our FAQ (https://shorturl.at/CDJV1) on evidence synthesis projects, then submit the form to help us determine your needs. Expect a reply usually within 1–2 weeks. Please note: Incomplete requests will need to be resubmitted and end up at the end of the queue.

Your Email Address *

Today’s Date *

Discipline / Department *

Status *

- Faculty
- PhD student
- Graduate student
- Researcher
- Staff
- Other

If you selected ‘PhD candidate or Graduate’, please provide the name of your faculty advisor.

Purpose of review: *

- Publication
- Thesis/dissertation
- Grant proposal
- Other

Other purpose

What type of Librarian support do you need (Select Multiple if Needed)? *


• General consultation
• Guidance on methodology and design
• Confirm if the indicated review type matches the topic
• Guidance on searching for published and forthcoming reviews
• Support with resources on framework selection
• Guidance on protocol registration
• General guidance on the identification of databases for searches
• Basic instruction in search techniques and strategies
• Basic instruction in using citation management software for managing and sharing results
• Guidance on documentation of search strategies and data management strategies
• Guidance on methods used for selecting studies and extracting data
• Suggestions on journals to target for publication
• Other

What type of review do you plan to conduct? *

Not sure which review design best fits your project? Take a look at “What review is right for you?": https://guides.library.cornell.edu/ld.php?content_id=52561085

• Systematic Review
• Scoping Review
• Unsure

If you selected ‘unsure’, please describe your uncertainties/questions.

Protocol

An a priori protocol is required, please share it prior to your consultation. NOTE: A discussion will not be scheduled until it is provided. To avoid duplication, please search the literature to see if someone else has conducted a review on the same topic, or if a protocol for the same topic has been registered (For more information, see this Lib-Guide.) To learn about systematic review protocols, see PRISMA Protocols http://www.prisma-statement.org/Protocols/ To learn about scoping review protocols, see the JBI Manual chapter on Scoping Review Protocols https://jbi-global-wiki.refined.site /space/MANUAL/4687810/11.2+Development+of+a+scoping+review+protocol

Attach file
Drop files here
What is the research question / project topic your review will address? *

Please provide 5-10 examples of articles that you expect to include in your review. Provide the full citation and the PMID.

Comments

Please share any additional information you would like us to know about your project.
APPENDIX B: ASSESSMENT QUESTIONS

1. What aspects of the library’s evidence synthesis support are most valuable to you?
2. What aspects of your evidence synthesis research require more support?
3. What else would you like us to know about your evidence synthesis research?