



Feature

EBLIP7 Keynote: What We Talk About When We Talk About Evidence

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The following text is a summary of the opening keynote address at the 7th International Evidence Based Library and Information Practice Conference, given on July 16, 2013 at the University of Saskatchewan, in Saskatoon, Canada.

Introduction

This morning I want us all to start thinking about evidence! Now I know that doesn't seem too revelatory given that we're at an evidence based practice conference -- but I think that we don't usually take the time to think about what evidence actually is in the profession of librarianship, or how we use it. So, my talk is going to explore those issues of evidence, based on the findings from my doctoral research.

What is Evidence?

The Oxford Dictionary says that evidence is: "the available body of facts or information indicating whether a belief or proposition is true or valid" (Evidence, 2010).

Looking at the wider body of literature about the nature of evidence, key elements of evidence are revealed and can be applied to the field of Library and Information Studies (LIS). In keeping with the previous definition, evidence is commonly thought of as something constituting a form of proof to enhance a claim (Hornikx, 2005; Upshur, VanDenKerkhof & Goel, 2001; Reynolds & Reynolds, 2002; Twinning, 2003). That evidence serves as a proof, differentiates it from information – information must be relevant to the question at hand, and be

used to prove a hypothesis in order to be considered evidence.

Evidence is generally seen as having three major properties: relevance, credibility, and inferential force or weight (Schum, 2011). Relevance looks at how the information bears on what is attempted to be proven; credibility asks whether what is reported actually occurred; and, inferential force or weight considers how strong the evidence is in comparison to other evidence.

Types of evidence noted in the literature are wide ranging. Rieke and Sillars (1984) consider there to be four types of evidence: anecdotal (a specific instance), statistical (numerical representation of multiple instances), causal (explanation for the occurrence of effect), and expert (testimony of an expert) evidence. In a similar vein but considering a different categorization of evidence, Glasby, Walshe, and Harvey (2007) created a typology with three types of evidence: theoretical (ideas, concepts and models to explain how and why something works), empirical (measuring outcomes and effectiveness via empirical research), and experiential (people's experiences with an intervention). They say that "we need to embrace a broad definition of evidence, which recognises the contribution of different sorts of knowledge to decision making" (p. 434). Evidence must always be used in context, whether in the context of a particular situation, or context of a wider body of professional knowledge.

In my recent PhD research, a grounded theory study, I studied a group of 19 participants. All were academic librarians in Canada, working in a variety of settings and positions. They kept online diaries in the form of a private blog, for the period of one month each, in which they wrote down the problems or questions that they encountered in their practice during that time period, and what they did about them. Basically, they were tracking their thought and decision

making processes for me. I then interviewed each participant to dig deeper into the detail of their decision making, and learn why they made the decisions they did, as well as what kinds of evidence they used to help them in making that decision. I wanted to learn about what sources academic librarians use as evidence and how they use that evidence.

Driving the study was a desire to base the model of evidence based library and information practice (EBLIP), which promotes the use of research evidence in practice, on research itself. With the exception of a study by Thorpe, Partridge and Edwards (2008) (see also Partridge, Edwards and Thorpe, 2010), no research had been conducted on the actual EBLIP model and whether it was useful or appropriate for librarians. Since EBLIP was adapted from evidence based medicine (EBM), it was a legitimate question to ask whether the same model that worked for physicians really works for librarians. It was time to explore whether the model was valid and if changes were needed. The goal was to approach the study with a view to learn and to listen to academic librarians and how they use evidence in daily practice.

After doing a thorough examination of the model of EBLIP as it has been presented in the literature, it became clear to me that "evidence" in the context of EBLIP refers to published research articles. Booth's definition, as noted here, does account for other aspects, but the focus is on research derived evidence, and what we have pursued within the EBLIP movement since the time of this definition, points mostly to research evidence:

"an approach to information science that promotes the collection, interpretation and integration of valid, important and applicable user-reported, librarian observed, and research-derived evidence. The best available evidence, moderated by user needs and

preferences, is applied to improve the quality of professional judgements.” (Booth, 2000)

The process of EBLIP, as with other forms of evidence based practice, is one which advocates searching the literature to find research articles, appraising those research articles to ensure they are valid, and then integrating the findings into one’s practice. While professional knowledge and user preferences are accounted for in the definition of EBLIP, the conversation about those elements stops there. There have also been criticisms that the EBLIP model does not account for other forms of knowledge that are a vital part of professional practice. Booth himself has more recently tried to clarify that EBLIP requires more than research, and that “the best available evidence and insights derived from working experience, moderated by user needs and preferences” are essential (Booth, 2012).

The more basic question of “what *is* evidence?” has not yet been debated or tested to any degree within the literature of EBLIP. There has been no research to show that in LIS evidence only consists of research; this treatment of evidence was simply adapted from the evidence based medicine model.

“I’m Clueless how to Speak Evidence”

When participants in my study were directly asked what they considered to be evidence, most were a bit taken aback by the question - often noting that they had not thought about what evidence was before, or admitting that it was “a difficult question”. After thinking about it, most participants took a very broad view of evidence - they were very open to the possibility of what evidence might be. Most participants named several sources of evidence, and usually put those in context. For example, different evidence sources depending upon the type of problem faced.

As for what the participants actually used as evidence - my research revealed that academic

librarians use a wide breadth of evidence sources in their decision making. Actual evidence sources used were numerous and detailed. In order to best convey this information, the evidence sources have been grouped into two main types, and within those types there are a total of nine main categories of evidence (Koufogiannakis, 2012).

Hard evidence sources are types of evidence that are usually more scientific in nature. They may focus on numbers, or are tied to traditional publishing outputs. Sources are usually quantitative in nature, although qualitative research and non-research publications also fall into this category. Ultimately, there is some written, concrete information tied to this type of evidence. A librarian can point to it and easily share it with colleagues. It is often vetted through an outside body (publisher or institution), and adheres to some set of rules. These types of evidence include the published literature (research and non-research articles), facts, documents, statistics and data, as well as local research and evaluation projects that are documented. These sources are generally acknowledged as acceptable sources of evidence, and are what a librarian would normally think of as evidence in library and information studies.

The other type of evidence can be thought of as “soft” evidence. As opposed to the “hard” evidence, soft sources of evidence are non-scientific. They focus on experience and accumulated knowledge, opinion, instinct, and what other libraries or librarians do. This type of evidence focuses on a story, and how details fit into a particular context. Soft evidence provides a real-life connection, insights, new ideas, and inspiration. Such types of evidence include input from colleagues, tacit knowledge, individual feedback from users, and anecdotal evidence. These types of evidence are more informal and generally not seen as deserving of the label evidence, although they are used by academic librarians in their decision making as a form of proof.

I want to illustrate this use of multiple types of evidence through the example of information literacy. Let's just pretend that librarians at a University need to develop a new information literacy program for engineering students. What are the evidence sources they are likely to draw upon (in broad terms, without knowing the specific context)? This is to illustrate how we go about gathering evidence, and where we find it.

First the librarian might reflect on his or her own past knowledge or experience in teaching information literacy skills to reflect upon what has worked for him or her in the past. He or she will likely speak with colleagues at their own institution to learn what has worked in other subjects or courses. The librarian may then speak with faculty – looking to discover what students in this course need to learn; what are the course objectives?

They may then branch out to see whether any other universities offer a similar course; start looking at the literature for examples of what worked elsewhere; look on the internet at other Universities' websites for documentation or other types of information relating to such a course. Then they may decide to follow up that initial investigation of what others are doing by arranging to speak with specific librarians at other universities and learn what they did and what was successful. At the same time, they may probe deeper into the literature to look for any research studies that show what is most effective. In addition, they may look at documents such as the ACRL (2011) information literacy guidelines, for guidance.

The librarian will then go back to local information - is there any internal data or research on information literacy or student needs? What needs to be evaluated once the course starts? The librarian may begin planning evaluation and feedback mechanisms, and may even think about whether there is a research project they can carry out within this new endeavour.

Ultimately, the librarian must make a decision on how to teach the course. Which of the sources consulted might be best to help with that decision? It's complicated! Which do we place more weight in? Which should we place more weight in? How do we know what is best? How do we combine the various pieces of what we learn through the evidence gathering process? This is still a very big gap in our knowledge, and should be of utmost importance to those of us interested in evidence based library and information practice.

What I've learned about evidence in LIS, is that it can come from many sources. Evidence is much more than research – and depending upon the type of question or problem we are trying to address, research will not always be the best source of evidence. The role of EBLIP is about using evidence and figuring out what is the best evidence in your particular situation. Evidence use is not easily prescriptive, and must consider local circumstances.

EBLIP's focus to date has been on research evidence and how to read and understand research better. This is a good thing (I certainly do not want to diminish the importance of the work that has been done in this respect) - but it is not the only thing - and we must begin to explore other types of evidence.

And finally, I think that librarians would be better served by a having greater understanding of the best types of evidence to use in particular situations. The question, then, is how do we best weigh different sources of evidence? I do not yet have that answer, nor has it been explored in our research literature to date.

How do Librarians Use Evidence?

I now want to turn our thoughts to how we, as librarians, *use* evidence.

As previously mentioned, the focus of EBLIP to date has been on research evidence, and when we look at the model of EBLIP, which was

adopted from medicine, it is clearly targeted toward the individual practitioner.

This figure illustrates the 5A's you are likely all familiar with - it outlines the process of Evidence Based Practice, and is what we have adopted within EBLIP.

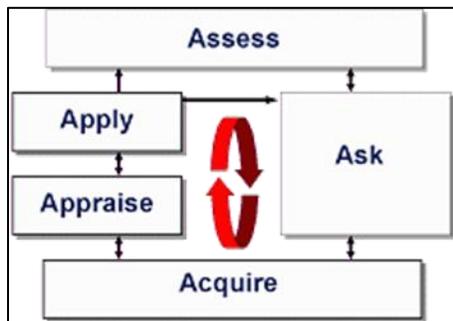


Figure 1
The 5A's process of evidence based practice (Hayward, 2007).

This model is meant to be used by an individual practitioner - a physician, nurse, and in our case, librarian. The librarian works through each of these steps to practice in a more evidence based way.

The findings from my doctoral study illustrated one very basic but game-changing thing to me - that academic librarians (and I think this is largely transferable to other types of librarians) work in groups. All of our major decisions are made in groups, or require approval from others. There are some smaller decisions that we make on our own, but for the most part, our professional decisions rely upon others.

Now, maybe some of you at this point are saying, "well, yeah, of course" but even though I have been an academic librarian for more than 15 years, and have been involved with the EBLIP movement for more than 13 years, this was a complete revelation to me. The fact is that our work in groups changes how we make decisions as opposed to when we make decisions on our own; and the fact is also that

we make more decisions in groups than we do as individuals. This *must* have an enormous impact on the discourse within EBLIP, because if we want evidence to truly permeate and improve librarian decision making, we need to look at EBLIP from the context of group decision making.

This leads me then to how we actually use evidence, which has not been very well explored through research prior to my study. We use evidence for convincing, and I will explain this in more detail. There are two main aspects to convincing (Koufogiannakis, 2013a, 2013b).

First of all, evidence is used for confirming. My research found that one of the main reasons librarians use evidence is to confirm that the decision they are making is correct. Confirming generally applies in situations where an individual decision is being made, or when the librarian is part of a well-functioning group that she or he feels comfortable with.

Confirming is nearly always positive because in doing so, a librarian is seeking to better understand something and add to their knowledge as a professional. What emerged very clearly in the data from participants is that academic librarians confirm to feel better and more confident that they are doing the right thing while remaining open to new possibilities. They may have initial thoughts, reactions and instincts, but they want to confirm those instincts with more concrete sources of evidence in order to proceed with their decision in a more confident manner. This is another way that the librarian brings together the soft evidence of their initial gut instinct or their own knowledge, with harder sources of evidence that corroborate the soft evidence, or else make the librarian re-think their initial position on the matter due to new evidence that was not previously known or considered.

The quotes below, from participants in my study, illustrate some of the reasons and ways that librarians use evidence to confirm.

Participants felt that they could not base decisions solely on their existing knowledge because best practices are constantly changing and they need to continually learn. From those librarians just starting out, to those that were quite experienced, there was a common feeling throughout that they did not know everything and wanted some form of reinforcement whether it be from the literature, input from colleagues, or some other source of evidence.

I tend to use that [the literature] as confirmation for interesting ideas that I read about. (Librarian 16, interview)

I find it interesting when the outcome matches/supports my initial gut reaction and instincts. For me this is one of the ways I test for validity when making decisions, a little private “ah-ha” moment – I can say, with confidence: ‘I knew it, I knew I was right’. If the info collected informs a decision or action different from my initial thought – I chalk it up to experience and put it under the category of: ‘good thing I double checked this’. (Librarian 6, diary)

I just think that way and I feel more confident about what we’re doing if I know that we have – that we’ve tried to collect evidence, we’ve tried to assess what we’re doing and to me it’s just more confidence in going forward with other things. (Librarian 17, interview)

Confirming is done for oneself. It is an act that reassures, and corroborates instinct or tacit knowledge. The participants’ actions show that they do not just gather evidence for external purposes, but that they gather and use evidence as part of their own professional development and regular practice of keeping current.

Although not usually the case, confirming can occasionally be negative, if a librarian consciously discredits or avoids evidence that does not support their preconceived notion of what is the best.

Secondly, evidence is used for influencing. As previously mentioned, while some decision making by librarians is individual, often decisions are made in a group setting, especially when they will have a major impact on library users or staff. My research shows that group decision making leads librarians to try and influence the final decision. Influencing can be positive or negative. When in a positive work environment, participants often first go through the confirming stage for themselves, but when working with others, they bring evidence to the table in order to enable the group to make the best decision possible. In a positive situation individuals feel free to speak and be heard, and will reach a consensus. What an individual brings to the table, in this environment, is a positive form of influencing.

When participants were in a negative environment, they often felt they were not being listened to, or their concerns not heard. They then adopted strategies to deal with this. One such strategy was to bring research evidence to the table in support of their viewpoint, where someone with an opposing viewpoint may not have done this. Research is generally well regarded in an academic environment and therefore cannot be as easily dismissed as a person's own opinion. Any form of evidence that shows “what other libraries do” is also seen in a very favourable light, as libraries may be more likely to make changes based on what is happening around them at other institutions. Other strategies were to convince individuals and bring them on-side prior to any decision, or to stress particular points depending upon what the decision maker needs to hear in order to be persuaded. In all cases, the individuals want to influence the final result, and where a work environment is negative, they will use evidence as a “weapon”, to quote Thorpe, Partridge and Edwards (2008) as they describe in the findings of their research regarding librarians’ experiences of evidence based practice, which is in keeping with my findings.

Different levels of control regarding decision making emerged from the data in this study. It became clear that librarians do not always have control over their own decisions. When an individual librarian makes his or her own decision, influencing is not required. In situations where a group makes the final decision, or where someone else makes the final decision, influencing is widely used. And the following quotes from participants illustrate the use of evidence for influencing:

Where the group setting makes a difference, I think, is that depending upon whether or not I'm a champion for a particular project, I may present, you know - I may frame the evidence in a way that I think would speak to the needs of the people in the group.
(Librarian 2, interview)

*I will have to **sell** this to the University Librarian.*
(Librarian 18, diary)

I think you have to be very strategic because you have to recognize what the other person's concerns are in order to address them and that's the strategic part; and also being able to address the mandates of the library and all those other conflicts, right?
(Librarian 5, interview)

The overall concept of *convincing* includes the two sub-categories I just discussed, *confirming* and *influencing*. Confirming focuses on the *self*. It concerns a librarian's knowledge and positioning as a professional. In this case, librarians look to the evidence in order to confirm and reassure themselves that they are on the right track with their decision making. They turn to the literature or to input from colleagues in order to verify their initial instincts. This process is a positive one because it is self-inflicted and builds confidence. Generally, the librarian comes to the process of looking for and using evidence to confirm in a very open minded and forthright manner.

Influencing focuses on *others* and what a librarian needs to do to contribute to what would be a positive outcome from their perspective. Influencing concerns transmitting what an individual thinks the decision should be to others that are involved in making the final decision, in order to convince them to come to the same conclusion. Influencing can be a positive or negative experience depending upon the work environment. Evidence in this situation can become simply a means to an end, and used differently depending upon the circumstances and the people involved.

Work environment largely determines the convincing strategy. For example, in co-worker relationships, how much control one holds, what is likely to convince someone, past experiences in dealing with particular people, and the perception of being heard in the workplace are all factors that impact the use of evidence and the reasons for using evidence.

Depending upon the work environment, evidence is used differently. If it is a positive work environment, academic librarians are more forthcoming with ideas, listen to others, and are open to what the evidence says. If the work environment is negative, there is often secrecy, a withholding of information, evidence is used selectively to make a case, situations are approached differently depending upon personalities, there are feelings of hopelessness, and power-plays and strategizing are common.

Generally, librarians want to contribute to organizational decision making, but if they feel that they are not being listened to, they will be disempowered and look for other ways to influence the outcome (or some may simply give up). Ultimately, individual academic librarians are not in control of most final decisions. Therefore, they do what they can to influence and impact the decision indirectly. Our workplaces have a huge impact on how we use evidence.

Shifting the EBLIP Paradigm

This research has shown me that two key parts of the current EBLIP model need to be reworked.

1) We need to look at a wider breadth of evidence sources within EBLIP, and move our discussions beyond research. Librarians use many forms of evidence. This is legitimate and the EBLIP movement needs to catch up.

2) We need to consider how librarians do their work, and reframe the model so that it makes sense within our institutional, group-driven decision making, as opposed to independent, individual decision making.

I propose to you the following points:

1) We are not health care professionals: sources of evidence in health do not necessarily transfer into sources of evidence in librarianship. It is time to look at ourselves rather than model another profession.

2) We have unique types of evidence within our profession.

3) We rarely act alone – we work in institutions and make decisions in groups.

4) We almost always act locally.

5) We care about what we do and want to influence outcomes.

6) We don't know enough about ourselves as decision makers.

7) We don't know enough about what are the most important evidence sources to help us.

Keeping these points in mind, I want to propose we start to follow a new model of EBLIP - which is not radically different, but which suits us better.

In 2009, Booth proposed a new 5As of EBLIP which focus more on collaboration. This model is a better representation of the EBLIP process as it applies to librarians and fits very well with what I found in my study. It accounts for multiple sources of evidence; focuses on group decision making; and places evidence within the overarching problem and environment. It also encourages consensus building and adaptation as part of a cyclical process towards successful implementation, and gives more consideration to the areas of apply and assess, in the newly named 'agree' and 'adapt' stages. This version of the 5As is more holistic and encompassing of the complex process of evidence based decision making, as well as more practical. Booth himself noted that his model was a work in progress; a prototype which had potential to be modified.

My doctoral study results fit very well with this model for EBLIP. In my thesis I build upon Booth's work to enhance this model further. Booth had based his new model on threads of discussions happening at the EBLIP5 conference in Stockholm. While not research, it arose from keen insightfulness of the discussions within a community of practice. My research has now confirmed that this model is a better fit for librarians than the original model.

In addition to Booth's alternative model, work I previously published, based on a presentation at the EBLIP6 conference which grew out of an earlier phase of this study, is drawn upon for the new model (Koufogiannakis, 2011). This work focuses on questions that a practitioner should ask themselves when making professional decisions in an evidence based manner. These questions account for both hard and soft sources of evidence, with a focus on continually asking questions and improving practice.

My work combines well with that of Booth's to create a more holistic approach to practicing librarianship in an evidence based way. A key point however, is that we shouldn't focus on the model - we need to do what works. A model itself can serve as a guide but should be flexible.

This then is a new model for evidence based library and information practice:

- 1) *Articulate* – come to an understanding of the problem and articulate it.

Questions: What do I/we already know about this problem? Clarify existing knowledge and be honest about assumptions or difficulties that may be obstacles. This may involve sharing background documents, having an honest discussion, and determining priorities. Consider the urgency of the situation, financial constraints, and goals.

Actions: Set boundaries and clearly articulate the problem that requires a decision.

- 2) *Assemble* – assemble evidence from multiple sources that are most appropriate to the problem at hand.

Questions: What types of evidence would be best to help solve this problem? What does the literature say? What do those who will be impacted say? What information and data do we have locally? Do colleagues at other institutions have similar experiences they can share? What is the most important evidence to obtain in light of the problem previously articulated?

Actions: Gather evidence from appropriate sources.

- 3) *Assess* – place the evidence against all components of the wider overarching problem. Assess the evidence for its quantity and quality.

Questions: Of the evidence assembled, what pieces of evidence hold the most weight? Why? What evidence seems to be most trustworthy and valid? What

evidence is most applicable to the current problem? What parts of this evidence can be applied to my context?

Actions: Evaluate and weigh evidence sources. Determine what the evidence says as a whole.

- 4) *Agree* – determine the best way forward and if working with a group, try to achieve consensus based on the evidence and organisational goals.

Questions: Have I/we looked at all the evidence openly and without prejudice? What is the best decision based on everything we know from the problem, the context, and the evidence? Have we considered all reasonable alternatives? How will this decision impact library users? Is the decision in keeping with our organisation's goals and values? Can I explain this decision with confidence? What questions still remain?

Actions: Determine a course of action and begin implementation of the decision.

- 5) *Adapt* –revisit goals and needs. Reflect on the success of the implementation.

Questions: Now that we have begun to implement the decision, what is working? What isn't? What else needs to be done? Are there new questions or problems arising?

Action: Evaluate the decision and how it has worked in practice. Reflect on your role and actions. Discuss the situation with others and determine any changes required.

A model for EBLIP needs to look at all evidence, including evidence driven by practice as well as research. Librarians need to take a different view

of how evidence may be used in practice, and tie research and practice together rather than separating them. Practitioners bring evidence to the table through the very action of their practice. The local context of the practitioner is the key, and research cannot just be simply handed over for a practitioner to implement. The practitioner can use such research to inform themselves, but other components are also important. Concepts related to practice theory, focusing on the practitioner and his or her knowing in practice – both local evidence and professional knowledge – help to provide a more complete picture of decision making within the profession of librarianship.

The EBLIP model must be revised so that the overall approach addresses other aspects of evidence. All forms of evidence need to be respected and the LIS professional, with his or her underlying knowledge (a part of soft evidence), is at the centre of the decision making process. Different types of evidence need to be weighed within the context in which they are found, and only the practitioners dealing with that decision can appropriately assign value and importance within that context.

There must be an emphasis on applicability, because decision making is ultimately a local endeavour. In every situation, we must work within restrictions. These elements are facts of life and cannot be ignored. Within such boundaries librarians need to weigh appropriate evidence and make contextual decisions.

An evidence based library and information practitioner is someone who undertakes considered incorporation of available evidence when making a decision. An evidence based practitioner incorporates research evidence, local sources of data, and professional knowledge into their decision making. All three must be present.

Moving Forward

There are two large areas of research I would like to see the EBLIP community address in the next few years:

1. *What are the best evidence sources based on the type of question?* It would be beneficial for researchers to explore and recommend the best evidence sources based on the type of question. This would not be a hierarchical list, but would serve as a guideline on what sources of evidence a librarian should consult for that type of question. For example, if one has a collections problem, the research literature should be consulted, but other sources of evidence that would provide good information include usage statistics for e-products, circulation statistics, faculty priorities, output of tools such as OCLC collection analysis, interlibrary loan and link resolver reports, as well as the publication patterns of faculty. Researchers could determine what the sources are for each area of practice, and in what circumstances they are best used.

2. *How do we “read” the results of different types of evidence sources?* It would also be very beneficial for practitioners to have guidance on how to “read” the results of different evidence sources. For example, what a practitioner needs to consider when looking at reference statistics, or what elements a librarian should consider when conducting an evaluation of their teaching. Some of this information will be found in existing literature, and a scoping review of what has already been documented would be a good start. We have already done this with the development of critical appraisal tools for research studies and it would be beneficial to extend this work to other types of evidence sources.

Evidence Helps us Find Answers

To close, I’d like to encourage you all to keep thinking about evidence and how you use it.

Ultimately, evidence, in its many forms, helps us find answers. However, we can't just accept evidence at face value. We need to better understand evidence - otherwise we don't really know what 'proof' the various pieces of evidence provide. EBLIP has already made great strides towards better understanding research evidence, and while we need to continue to improve our research literature, we also need to extend that effort towards understanding other types of evidence that is used in librarianship.

I think we can only do this if we question, test and allow ourselves and one another to make mistakes while learning and exploring. What excites me about all this is very much in keeping with the theme of this conference – "The possibilities are endless". There are endless questions, endless ideas, and we all have something to contribute. In fact, we *all* need to contribute. Above all, EBLIP is a mindset - a way of approaching practice with openness and curiosity - take time during this conference to listen, be inspired and discover *your* possibilities.

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