RESEARCH MATTERS: THE LONG REACH OF THE MODEL OF THE INFORMATION SEARCH PROCESS (ISP)

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Youth services in public and school libraries are grounded in a long tradition of best practice and the continuing innovation of experienced practitioners but research matters. Where research has been combined with tradition and experience, services for youth have benefited significantly. Research provides insight into problems that are not apparent through the lens of tradition and experience. The triad of tradition, experience and research work together to build, sustain and deepen the field. The model of the information search process is an example of how research can impact practice in important long lasting ways. Through this research I discovered five steps to conducting research that matters.

* Start with a real problem
* Stay with the problem to verify and test the findings in a variety of contexts
* Develop concepts from the findings
* Design application for implementation
* Look to the future

**Start With a Real Problem**

It all began a number of years ago when I was director of the library in a large high school in central New Jersey that was an active, vital part of the every day life of the school. The library was a gathering place before and after school with a good mix of social and academic activity. During the school day teachers brought their classes in for research sessions and students came in to look for information on class assignments and also to read and do homework. I was busily involved with teachers to coordinate their research assignments with the curriculum and teaching students to locate sources and helping them find information. I should have felt pretty good about it all. But I had a lingering sense that something was missing. After students found some information the real learning was ahead of them. How could they manage that on their own? How could I help? I really didn’t know what went on from the time they left the library with some sources of information and the time that they handed in the research paper, except for the few that came for extra help. Even when a class was scheduled for several days in the library I didn’t seem to get much beyond information location into the ideas they needed to grapple with to actually learn something.

My research on the information search process was grounded in this lingering sense that something important was going on that I just couldn’t get at in my everyday library practice. The qualitative ethnographic study that opened up the students’ thoughts, actions and feelings in the process of learning from a variety of sources of information changed my approach to librarianship. Many other librarians and teachers as well were able to see that information seeking and use is a complex constructive process of learning that needs to be guided and supported.

In that initial study I found that I could chart students’ thoughts, feelings and actions in a series of six stages. One of my data collection methods was a timeline in which students described their thoughts, actions and feelings. I adopted the timeline to display three layers of experience with thoughts shifting from vague to clearer and feelings changing from anxious to more confident as the action of the search progresses. The stages were named for the main task undertaken to move on to the next stage: task initiation, topic selection, focus exploration, focus formulation, information collection and search closure. These were later simplified to initiation, selection, exploration, formulation, collection, and presentation.

Insert figure of Model of the Information Search Process (ISP)

**Stay With the Problem to Verify and Test the Findings in a Variety of Contexts**

I had found something important and interesting about my group of students. There was more research to be done to see if the model applied to other students or even to these students at another time and in different context. I decided to stay with the problem to verify and test the model with these same students some time later and with a variety of other students. I was able to verify the model in longitudinal case studies of this group of students and large-scale studies of diverse samples of students. I ended up staying with the problem for over two decades and I am still working on it. A combination of qualitative and quantitative methods has been an important component of this research further amplified by incorporating a longitudinal perspective. Initially, I had used qualitative methods to open the process for examination. When quantitative methods enabled verification of the initial model in a large sample of diverse users, I realized the power of using the combination of methodologies.

**Develop Concepts From the Findings**

The next important part of my research journey was to draw out the main ideas in the findings and to develop concepts from the results. What are the most important core ideas? One important core idea that came from the ISP studies is that students’ thoughts are charged with emotions that influence their actions. Feelings are important and indicate when students are having difficulty and when they are doing well on their own. Students often expected to be able to simply collect information and complete their task. This simple view of the research process sets up stumbling blocks in the Exploration and Formulation stages. When their expectations do not match what they are experiencing they become confused, anxious and frustrated. Students commonly experience a dip in confidence and an increase in uncertainty in the Exploration stage when they least expect it and a turning point of increased confidence in the Formulation stage. Based on the model of the ISP I developed the concept of a zone of intervention for applying a process approach in youth services. The core idea in the zone of intervention is that increased uncertainty indicates a need for assistance and guidance. The zone of intervention is that area in which a student can do with advice and assistance what he or she cannot do alone or can do only with difficulty. Intervention within this zone enables students to progress in their learning. Intervention outside this zone is inefficient and unnecessary, experienced by students as intrusive on the one hand or overwhelming on the other. These concepts formed the foundation for implementing a process approach to youth services for guiding students through the stages of inquiry learning.

**Design Application for Implementation**

My research is based in youth services that enable students to seek meaning in complex information environments and to continue to learn throughout their lives. Application for implementation of the ISP can be tracked in my publications and is particularly obvious in the books I have written. The findings of the initial study and application with middle and secondary school students were developed in my book *Teaching the Library Research Process* first published in 1985 with 2nd edition still in print. My book, *Seeking Meaning: A Process Approach to Library and Information Services* 1st edition in 1993 and 2nd in 2004, was aimed at explaining the research underlying the ISP and recommending strategies for implementation in practice. My latest work on Guided Inquiry applies the model of the ISP to rethink youth services for improving learning in the information intensive environment. The foundational text in this series is *Guided Inquiry: Learning in the 21st Century* written with Leslie Maniotes and Ann Caspari published in 2007 and a new book *Guided Inquiry Design: A Framework for Inquiry in Your School* (2012) that explains a collaborative team approach to design and implement Guided Inquiry in youth services grounded in the ISP research.

 **Look to the Future**

These studies were among the first to investigate the affective aspects or the feelings of students in the process of learning from a variety of sources of information along with the cognitive and physical aspects. Advances in information technology that opened access to a vast assortment of sources have not eased the student’s dilemma and may have intensified the sense of confusion and uncertainty until a focus is formed to provide a path for seeking meaning. Information systems may intensify the problem particularly in the early stages by overwhelming the user with everything all at once.

Recent developments in brain science have confirmed the close relation between emotion and cognition. The future holds interesting prospects for research into the student’s experience in the process of learning from multiple sources of information. The work on the ISP has opened paths to understanding learning and creativity in rich information environments. This is only the beginning of our research journey into the challenging field of library and information services for youth in the 21st century. In order to continue to provide the most relevant, meaningful service for young people, research will need to be fully recognized and established as an essential component. Research matters.

References

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Carol C. Kuhlthau, Leslie K. Maniotes, and Ann K. Caspari, *Guided Inquiry: Learning in the 21st Century* (Westport, Connecticut, Libraries Unlimited, 2007).

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(Insert Fig. Model of ISP)

Information Search Process

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Initiation | Selection | Exploration | Formulation | Collection | Presentation | Assessment |
| Feelings(Affective) | Uncertainty | Optimism | ConfusionFrustrationDoubt | Clarity | Sense of direction /Confidence | Satisfaction orDisappointment | Sense of accomplish-ment  |
| Thoughts(Cognitive) | vague |  |  | focused |    increased | interest | Increased self- awareness |
| Actions(Physical) |   Seeking | Relevant Exploring | Information |  Seeking |  Pertinent Documenting | Information |  |

 (Kuhlthau, Seeking Meaning, 2004, p. 82)