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BEYOND THE BOOK: PROMOTING EFFECTIVE RESEARCH

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In the past library professionals have primarily collected and provided access to materials; however, this paper will argue that we must now go beyond access or "Beyond the Book." One way to do this is to learn about the information search process and then assume a new and more assertive role as a "research advisor." We need to change our patrons' expectations so that they see us as knowledgeable about sources, yes, but also as experts on effective research as a process of discovery. Three relevant information search process models are covered, as well as the way people vary in their learning styles and thus approaches to research.

Though bibliographic instruction has been around since 1880 when a librarian at Harvard University heralded the idea of the librarian as teacher, the real growth in the movement occurred in the late 1960s and early 1970s. User instruction programs were emphasized and the three largest instruction organizations in existence today were founded - the predecessor to the American Library Association's Library Instruction Round Table (LIRT) in 1966, the predecessor to the Association of College and Research Libraries Bibliographic Instruction Section in 1969, and the Library Orientation Exchange (LOEX) in 1971. According to the American Library Association bibliographic instruction has "come to be one of the most active areas of librarianship today." (LIRT, 29.) Yes, involvement in the field remains steady, yet with more people turning to the Internet, and with computer-based instruction programs replacing the need

for traditional types of bibliographic instruction, can librarians find an alternative niche in this competitive information era? The Library Instruction Round Table shares this wisdom:

To be sure, the main occupation of today's bibliographic instruction librarians - teaching users how to find information - will be taken over by technology. The other function - helping users shape their searches, showing them how to evaluate information, serving as "information counselors" - will increasingly become the librarian's role (LIRT, 32).

As the educational world moves toward a student-centered and active inquiry learning methodology, the most-forward looking librarians are changing their practices as well. They are adopting a critical thinking and service-oriented approach in order to foster active learners. In other words the bibliographic paradigm where librarians held the key to a storehouse of knowledge has evolved into a constructivist paradigm, where resources are secondary to helping students become problem solvers, and where a process-oriented approach is prized over a product-oriented one. Information literacy, the new paradigm term for bibliographic instruction is more than just a fad; it is an extremely important trend for library and information services as we face the future. In an era where the Internet is a fascinating mirage, the profession must promote effective research in creative ways if it wants to remain relevant.

RESEARCH ADVISOR AS A NEW NICHE

This paper presents some tools that if utilized and incorporated into our interactions with patrons will foster this needful proactive and creative approach to library service. These tools – namely three information or research process models and a couple of learning and personality theories – provide a springboard into understanding the research process and the differences of individuals as they journey through this process. Although these theories and models have been written about previously, this paper synthesizes them and provides some general guidance for providing research assistance. Whether or not the reference librarian should assume the role of research advisor, or dare I say teacher, has long been debated; however this paper will take for granted that this is a role worthy of consideration and focus instead on the tools needed to successfully perform in such a role.

The following information process or research process models are quite familiar to most school media specialists. These professionals have learned to collaborate with teachers in a way that some academic librarians would envy. (The new paradigm ones that is.) School media specialists oftentimes assist in curriculum design and team-teach a succession of classes based upon the research and writing process. While school media specialists have been very interested in developing various research process models, academic librarians have shown a lack of interest in a process approach perhaps due to the fact that until recently academic librarians were more devoted to the information needs of

professors and graduates as opposed to undergraduates.

With budget challenges and a rising expectation for information literate students, this narrow focus on upper level researchers is no longer advisable. We must recognize the needs of all students and faculty and consider that we may not have a service to provide if we don't find a niche in this increasingly complex information environment. This niche I argue is becoming a research advisor to all students and faculty at their point of need, and to this end we will look at three well known models that have both given structure to the research process and illuminated the actual process undergone as users search for information.

EISENBERG & BERKOWITZ'S BIG SIX SKILLS®

Most of this paper will focus on utilizing Carol Kuhlthau's empirically based Information Search Process model; however two additional models will be briefly discussed for comparison. The first of these, the Big Six Skills® was developed in the late 1980s by Syracuse University professor, Michael Eisenberg and Wayne Central School District Library Media Specialist, Robert Berkowitz. The Big Six Skills® claims to be useful not just for writing papers, but for solving generic

problems like strategizing to get your grass mowed for the summer or considering whether you need to change your hairstyle. In all seriousness this model has been a successful tool across the country and because of its simplicity has been disseminated at a faster rate than Ann Irving's earlier 1985 nine-step model, its obvious predecessor. (See Table I below.)

The six stages can be both contracted to three or expanded to twelve depending upon the audience. Though on the surface a highly sequential and logical model, Eisenberg and Berkowitz do allow that individual learning differences will mean variation in the following aspects: 1) the time spent on each skill, 2) the methods for accomplishing each skill, 3) the order in which one progresses through the skills, and 4) the general strategy employed. Furthermore at the evaluation stage the student is to consider the effectiveness and efficiency of their process, the later which "gives them insight into their personal information problem-solving style" (Eisenberg & Berkowitz, 9). Most importantly if students are assisted by a professional and can in so doing learn to assess their strengths and weaknesses they should see "overall improvements in their ability to solve future information problems" (Eisenberg & Berkowitz, 9).

Super Three	Big Six	Little Twelve
Beginning	Task definition	1. Define the task or problem. 2. Identify the information requirements of the problem.
	Information seeking strategies	3. Determine the range of possible sources. 4. Evaluate the different possible sources to determine priorities.
Middle	Location and access	5. Locate sources (intellectually & physically). 6. Find information within sources.
	Use of information	7. Engage (read, view, or listen to) the information in a source. 8. Extract information from a source.
End	Synthesis	9. Organize the information from multiple sources. 10. Present information.
	Evaluation	11. Judge the product (effectiveness). 12. Judge the information problem-solving process (efficiency).

STRIPLING & PITTS'S REACTS MODEL & 10-STEP RESEARCH PROCESS MODEL

In their 1988 book *Brainstorms and Blueprints: Teaching Library Research as a Thinking Process*, Barbara Stripling and Judy Pitts lay out both a 10-step model for doing research and a six level "Taxonomy of Thoughtful Research" and "Thoughtful Reactions." The later is known as the REACTS model, an acronym for each of the cognitive tasks; it is akin to Benjamin Bloom's 1956 taxonomy of mental activities with levels of research developing from lower level fact-finding assignments to ones that require integration and conceptualization. (See Table II) One goes from asking who, what, where, and when questions, to why and how questions, to questions that one develops on their own which require a holistic approach and yield original solutions. Each level necessitates an increasing amount of critical thinking or the logical processes labeled as the "blueprints;" whereas the upper levels require a combination of blueprint skills and brainstorming or creative strategies. Through effective library research a student will learn both the brainstorms and blueprints. This is a very catchy title and one that conveys mindfulness to the importance

of whole-brain learning, or an integration of right and left hemisphere functions. This type of learning has been recently hailed as the most fruitful in its outcomes.

Stripling and Pitts's book is for "those who want to break the mindless research cycle by teaching library research as a thinking process" (Stripling & Pitts, xv). Consider the ten-steps of the process model on the TABLE III and how each expands from the next and includes a question for reflection. These questions are perhaps the most useful part of the model because they encourage a continual evaluation of the process and a "thinking about one's thinking." According to Thomas, "it is this sort of metacognitive device that educators have found so valuable in extending learning experiences and helping students deepen their understanding of research and information processes" (Thomas, *Information Literacy*, 56). Librarians should learn to use such questions when conducting reference interviews. Another important aspect of Stripling and Pitts's work is the importance they place upon allowing students to choose topics that are of personal interest and relevancy.

Both the Stripling and Pitts Research Process model and the Big Six Skills® help students structure the research and writing process and serve

as a conceptual basis for planning school media library units that are more than stand alone sessions. For further insights on these and other models read Nancy Thomas' book, *Information Literacy and Information Skills Instruction*.

While academic librarians may desire to teach such research process models via bibliographic instruction sessions, similar models are oftentimes learned in English 101 type classes. Even so, such models can be suggested to searchers really struggling with the research process. This said, it would be ill advised to adamantly begin teaching one such model as an ideal because all people do organize and process information differently. Michele Eurodice, the head of the Writing Center at the University of Kansas, states that she does not promote any one research model; rather she works with each person individually to find their approach, intervening to determine aspects of the process that are stumbling blocks to each given student.

While the new role of research advisor I am proposing does not require instruction of this kind, when someone needs guidance and a writing lab is not provided the models will be a welcome resource. When one is first learning to compose music they learn to place their musical ideas in various forms – a fugue, bipartite or sonata form; such it is for those inexperienced with research. At first one should try an established model and then later as one learns he/she can perhaps compose a unique process all their own. Besides being useful as a possible library handout two other application of these research models are worth restating: 1) If someone is really floundering have them define the task or problem, step one of the Big Six Skills®, and 2) When wanting to help someone critically evaluate how well their research is progressing consider asking the reflective questions suggested in Stripling and Pitts's Model. The next model will provide even more applications.

TABLE II

Levels	Research Tasks	Research Activities/Outcomes	Cognitive Tasks
1	Fact-finding	Reporting on the information	RECALLING
2	Asking & searching	Posing who, what, where, & when questions	EXPLAINING
3	Examining & organizing	Posing why & how problems & organizing info to fit the project	ANALYZING
4	Evaluating & deliberating	Judging info on the basis of authority, significance, bias, etc.	CHALLENGING
5	Integrating & concluding	Drawing conclusions & creating a personal perspective based on info obtained	TRANSFORMING
6	Conceptualizing	Creating original solutions to problems posed	SYNTHESIZING

Steps in the Process	Research Task	Questions for Reflection
Step 1	Select a broad topic	
Step 2	Obtain an overview of the topic	
Step 3	Narrow the topic	"Is my topic a good one?"
Step 4	Create a thesis statement	"Does my thesis or statement of purpose represent an effective overall concept for my research?"
Step 5	Formulate research questions	"Do the questions provide a foundation for my research?"
Step 6	Develop a research plan	"Is the research plan workable?"
Step 7	Locate and evaluate information sources	"Are my sources usable and adequate?"
Step 8	Evaluate sources, take notes, and create a bibliography	"Is my research complete?"
Step 9	Draw conclusions, create an outline	"Are my conclusions based on research evidence? Does my outline logically organize conclusions and evidence?"
Step 10	Create the project or product or write the paper	"Is my paper/project satisfactory?"

TABLE III

KUHLTHAU'S INFORMATION SEARCH PROCESS MODEL

Unlike the last two models, Carol Kuhlthau's Information Search Process model focuses on the beginning of the research process to the point at which one begins reading the sources discovered, with little emphasis on the presentation or assimilation of the materials themselves. The appeal of it is that when the librarian utilizes the Kuhlthau model he/she stays in the more traditional information provider role while leaving someone else to teach the writing process. (See Table IV)

There are no steps stating to write an outline or devise a thesis statement, and therefore this model is especially relevant to the academic librarian who mainly deals with clients at the point in which they are looking for resources. The overlapping features in the three models show the centrality of certain

aspects of doing research. All three have a resource collection stage and presentation stage, as well as an emphasis on evaluation, or metacognitive practice. Kuhlthau adds this step into her model as Step 7 to accommodate instruction activities and the questions for reflection of Stripling and Pitts are another indicator. Also significant, both Kuhlthau and Stripling/Pitts have topic selection, topic exploration, and focus formulation stages. If one combined all of the stages from each model one would have quite an assortment of tools in one's research advising toolbox.

The Kuhlthau model has a form similar to a sonata or fugue form in terms of the seven stages, as well as various layers of elements, akin to the melody, harmony, and rhythm of an intricate song. The layers are affective, cognitive, and behavioral aspects that change as the searcher progresses from

stage to stage. Specifically one sees from the Table IV that two of the first three stages are accompanied by feelings of anxiety, uncertainty, confusion, frustration, and doubt. Even the feeling of optimism that comes after one has selected their topic is "momentary" because it soon washes away as tides of information hit the searcher from every direction. If one is doing successful research one must in fact experience this sense of being overwhelmed by the amount of and contradictions in sources found during the topic exploration stage. Learning only occurs as one both expands and challenges their current perspective, which is rarely a smooth cognitive or affective course.

The librarian encourages the searcher to progress from one stage to the next, knowing that both a broad research background and a focus formulation must occur to improve one's likelihood of completing a successful and satisfying research project. Also by knowing the Kuhlthau method, the research advisor is aware of the affective level of the search and can reassure a searcher that a feeling of frustration is not unique and will be replaced in the end by clarity, interest, and confidence if one persists. During the exploration of a general topic the searcher may feel confused to the point of wanting to jump ahead to the focus formulation; "but attempting to conduct a focused search at a preliminary stage of the information need may result in a "false focus" – choosing a topic and thesis based on expediency, without consideration of the contextual placement of the topic or of personal interest – causing difficulties in the later stages of collection and presentation" (Kennedy, Cole, & Carter, 270). However, a new paradigm information specialist can intervene to keep the process on target.

With a premise that a research query should be represented as an evolving need rather than a static one, an exciting application of this model becomes figuring out where a client is

Stages of the ISP					
Task Initiation	Topic Selection	Topic Exploration	Focus Formulation	Resource Collection	Presentation
AFFECTIVE		Feelings			
Anxiety	Optimism	Confusion, Frustration, Doubt	Clarity, Interest	Confidence	Satisfaction, Relief, Disappointment
COGNITIVE		Thinking			
Ambiguity			Specificity		
BEHAVIORAL		Actions			
Seeking Relevant Information			Seeking Pertinent Information		
MOODS					
Invitational			Indicative		

preference scales and a total of eight resulting personality types. The mother daughter team of Kathleen Meyers and Isabel Briggs-Meyers, the later credited with most of the written work on the subject, included a judging and perceiving scale to make four main dimensions and a total of sixteen different types. The dimensions include: 1) extraversion vs. introversion or whether one interacts with and directs ones energy more toward the outer world of people, places, things or toward the inner world of thoughts and ideas, 2) sensing vs. intuition or

TABLE IV

in their research process and offering the most suitable type of assistance. As Kuhlthau says, "At each level, library sources are used in different ways for different purposes" and "students need to learn search strategies which match their level of information need" (Kuhlthau, *Process Approach*, 36). At the beginning of the search more general overview or encyclopedic sources are useful and the search terms should be broader categories. Later as one focuses their topic, articles on a given aspect or with more specific conclusions are useful. The Kuhlthau model indicates this pathway when it speaks of behavioral actions turning from seeking relevant information to seeking pertinent information. Also it notes the ideal attitude for the user in undergoing a successful search – this attitude or mood ideally goes from invitational to indicative. Other researchers have noted the evolving rather than static nature of information queries, for instance Marcia Bates calls it the "evolving query." Therefore this premise that information needs are not met by a single best set of retrieved sources should be seen as a basic tenant of the new service model, as I believe should be the utilization of the Kuhlthau method when helping people with research.

PERSONALITY THEORIES

Though experts are still battling over the nuances of individual differences of personality and learning styles, this next section will briefly cover three theories that are especially relevant to the type of interventions the research advisor can expect to offer when implementing Kuhlthau. While some may argue that theories regarding individual style, temperament, and critical thinking dispositions, are too generalized and incomplete, I believe we can still glean much from research in this area. Because of the predominance of theories and studies using the Meyers-Briggs Type Indicator (MBTI) a few theories that use the MBTI as a basis and then place these theories within the larger context of cognitive right/left brain theory will be highlighted.

This most popular of assessment tools is actually based upon Carl Jung's 1921 work *Psychological Types* in which he posited three personality

TABLE V

Four Dimensions of Personality	Preference is on a continuum
<u>E</u> xtraversion	<u>I</u> ntroversion
<u>S</u> ensing	<u>I</u> ntuition
<u>T</u> hinking	<u>F</u> eeling
<u>J</u> udging	<u>P</u> erceiving

TABLE VI

MBTI profile for many college professors is NT or NF
 INTJ = Sciences
 INTP=History, Philosophy, Math
 ENTJ=Sciences & Social Sciences
 ENFJ=Humanities
 INFJ=English & Fine Arts
 INFP=Humanities & Fine Arts
 Librarian MBTI profiles are dominantly INTJ, ISTJ, **INFJ, ISFJ, INFP, ENFJ** (similarities in bold)

whether one naturally notices information that is within the realm of the five senses or which is akin to a sixth sense, 3) thinking vs. feeling or whether one makes decisions more objectively rather than subjectively, and 4) judging vs. perceiving or "whether we prefer to live in a more structured way (making decisions) or in a more spontaneous way (taking in information)" (Tieger & Tieger, 12). Given the NT and NF propensity for learning and global thinking it is not surprising to find these types being predominantly represented

among college professors; academic librarians on the other hand have somewhat similar profiles, yet with more Sensors (Ss) that enjoy the organizational and detail aspect of library work. With this background one can already begin to imagine how each of the MBTI dimensions may affect the way one approaches the research process. Though it is awkward to imagine asking a person their MBTI profile, the research advisor can start by asking one's discipline, listening to one's language for content and style, and watching for body cues. (See Tables V and VI.)

As we seek to utilize the MBTI it is good that we have a simplification of the sixteen types into four temperaments as based upon the work of psychologist David Keirsey. Interestingly, throughout the ages from Hippocrates in 450 B.C. philosophers have spoken of four temperaments and some of the ways they have done such are represented on the next PowerPoint slide in four quadrants. Both Keirseian terminology and that of Bernice McCarthy's 4MAT is shown in Table VII. In terms of the distribution of temperaments across the general American population SJs and SPs each compose 38% and NTs and NFs each compose 12%. The book *Do What You Are* assigns mottos to each of the temperaments: 1) the SJs say, "Early to bed, early to rise" and are practical and decisive, 2) the SPs say, "Eat, drink,

and be merry!" and are responsive and spontaneous, 3) the NTs say, "Be excellent in all things" and are the competent and intellectual, and lastly 4) the NFs say, "To thine own self be true" and are spiritual and idealistic.

At this point someone could likely be asking, "how can I expect to be able to know someone's temperament when they arrive in the reference department looking for a few good articles?" The theory of right and left-brain dominance will simplify matters for us, though of course not completely. The concept of the physical brain having two hemispheres with specialized functions began with Roger Sperry's experiments with split-brain patients in the 1960s for which he later won a Nobel Prize. However, the dualistic concept of human cognition delineated as logical, sequential, and verbal (left brain) versus visual, creative, and emotional (right brain) has been around to a certain degree since the Greeks. In the fourth century BC Diocles of Carystus stated that there was a right side that perceives and a left side that understands. It is said that Einstein, an INTP, had almost a complete lateralization of his functions, meaning the functions were localized for certain tasks to one side or the other of his brain. As a result he could be highly logical and sequential, yet also easily access his right brain to use this information in an integrative and creative manner.

One misnomer must be addressed

regarding the veneration given to right-brain thinking. This veneration is based on the view that original or creative thinking is perceived as a right brain function; however, according to E.P. Torrance and other leading scholars an integrated or whole-brain approach is most effective. The goal for the information specialist therefore becomes maximizing each searcher's potential by helping both the logician and intuitor enhance and stretch their less dominant hemisphere.

Research has been done to determine whether there are correlations between the MBTI dimensions and right and left-brain functioning preferences. One such study looked at the personality profiles of MBA students and found that the strongest determinants for left-brain dominant functioning were the S and J dimensions and for right-brain dominant functioning the N and P dimensions. (See Table VIII)

The E/I and T/F dimensions were not as strongly correlated; however, there were some tendencies for I/T dimensions to be more frequently left-brain dominant and E/F dimensions more right-brain dominant. Another study compared college disciplines to right/left-brain tendencies and these results are also shown on the PowerPoint. Both these research studies used the MBTI instrument and to determine brain dominance the Herrmann Brain Dominance Instrument (HBDI) and McCarthy's Hemispheric Mode Indicator respectively.

TABLE VII

CS = Concrete Sequential	CR = Concrete Random
EPIMETHEAN <i>Guardian</i>	DIONYSIAN <i>Artisan</i>
Myers-Briggs - SJ How?s	Myers-Briggs - SP Why?s
AS = Abstract Sequential	AR = Abstract Random
PROMETHEAN <i>Rationalist</i>	APOLLONIAN <i>Idealist</i>
Myers-Briggs - NT What?s	Myers-Briggs - NF If?s

TABLE VIII

LEFT	RIGHT
*Logical *Rational *Sequential *Serial *Verbal	*Intuitive *Emotional *Holistic *Parallel *Tactile
ISTJ Strongest correlation = S & J <u>Academic Majors</u> Business, Commerce, Engineering, and Science	ENFP Strongest correlation = N & P <u>Academic Majors</u> Art, Literature, Education, Nursing, Communication, Law

INFORMATION SEARCH PROCESS INTERVENTIONS

In an endeavor to become new paradigm research advisors, acquiring information on personality theories and the research process is not enough; a context is essential to make this information applicable. The basic premise is that the right brain individual will more easily accomplish the first three Pre-Focus stages, yet have difficulties narrowing their focus and actually finishing well. The left-brain dominant individual on the other hand will have a tendency to jump ahead to the later Focus and Post-Focus stages, and not always take the time to thoroughly investigate a topic, which is the part of the process that ideally allows one to construct a novel perspective. As a result of these two scenarios one is either left with a frustratingly broad topic, which has no impact, or a narrowly focused but boring paper that misses the total picture of the field under consideration.

Having established the importance of both the first three exploratory stages and the necessity of narrowing down one's topic to a manageable focus, the research advisor may now consider how

TABLE IX

PRE-FOCUS			SEMI-FOCUS	POST-FOCUS	
Stages of the ISP					
Task	Topic	Topic	Focus Formation	Resource Collection	Presentation
Initiation	Selection	Exploration			
RIGHT Brain-NF, NT, SP			-NTJ-	LEFT Brain - SJ, NT, SP	

- Premise 1 - Intuitives and Perceivers may get stuck in Pre-focus exploration & need to be reminded of reality, i.e. deadlines, purpose & project requirements.
- Premise 2 - Sensors and Judgers will need to stay open to Pre-focus exploration & not rush to a "false-focus" nor be satisfied with simplistic answers.
- Premise 3 - Feelers will need encouragement to survive feeling overwhelmed.
- Premise 4 - Thinkers, especially if INTJ or INTPs are often the best researchers and need a well organized library and available resources.

TABLE X

KUHLTHAU'S 3 FINDINGS	KUHLTHAU'S 4 CRITERIA (Utilize for helping all types choose a topic and later focus that topic.)
<ul style="list-style-type: none"> • Searching is a <i>process</i> not a single event. Perceivers at an advantage. • Searching is a <i>holistic</i> experience not a simple activity. INTuitives at an advantage. • Searching commonly increases <i>uncertainty</i>. Thinkers & Perceivers at an advantage. 	<ul style="list-style-type: none"> • Personal Interest • Assignment Requirements • Information Available • Time Allotted

a given type may likely stumble. The simplification of the Kuhlthau method into three general phases relative to the focus – Pre-Focus, Focus, and Post-Focus – was used in an article entitled, "Connecting Online Search Strategies and Information Needs: A User-Centered, Focus-Labeling Approach." The opinion of these authors was that "if librarians take their implicit knowledge about the user's information need and explicitly label it, then a clearer connection between the information need and the online search can be forged." (Kennedy, 564.) Table IX indicates how different personalities and cognitive types operate more naturally in one stage than another.

With this awareness the research advisor can be guided by four premises: Premise 1) Getting stuck in a Pre-Focus mode is a common problem, so be sure to remind people that the success will be determined by whether or not they achieve a reasonable, interesting, and clear focus. Kuhlthau wisely add that the searcher needs "to be alerted to the necessity of intentionally seeking a focus for their research" and to be warned that excessive or detailed notes at the earlier stages are counterproductive (Kuhlthau, *Process*

Approach, 38). Premise 2) In their desire to retrieve a manageable number of sources in an online search a reference librarian may actually encourage someone to focus their topic unnecessarily. The problem is that if the person is in the Pre-Focus stage, a large retrieval set, even though pushing one toward infor-

mation overload, may actually be the most appropriate. If the librarian is not careful they will be pushing a searcher to a "false focus" (Kennedy, Cole, & Carter, *False Focus*, 270). This is especially a problem because a majority of people tends to rush through the exploration and formulation stages anyway, based upon the fact that statistics show SJ and SP temperaments account for 76% of the American population. Premise 3) The librarian must learn to be sensitive to the affective stages of the searcher, especially at the Pre-focus stage when most searchers "experience confusion, frustration, and often doubt their ability to complete the task" (Kuhlthau, *Perceptions*, 421). Explaining the ISP model and the affective stages that most people experience can go a long ways toward alleviating some of the searcher's frustration. Premise 4) The NT personality type, with a natural propensity for research will primarily need to have well organized information access, keeping in mind that virtual accessibility is arguably more important in the NT dominated area of the Sciences than physical accessibility. Kuhlthau furthermore posits intervention roles an information professional can play when relating to searchers at the various stages: At Stage 1 the Counselor role is appropriate, At stage 2 the Tutor, At stage 3 the Instructor, At stage 4 the Lecturer, and at stage 5 the Organizer.

Carol Kuhlthau's research has greatly enhanced the theoretical basis of the library profession; yet her articles are also full of practical advice for the information professional. Table X shows the key findings of her ISP research (Kuhlthau, *Impact*, 22) and four criteria that demonstrate how practical her model and writings tend to be (Kuhlthau, *Process Approach*, 38).

Although Kuhlthau was a school media specialist for eleven years, she now teaches at Rutgers University and is well known for her continued ISP and online retrieval research. As of 1999 Arizona State University was working with Kuhlthau to systematically "evaluate the utility of the ISP model in reference service" and is also "fully integrating" the ISP model into the curriculum of a new 1 credit hour writing

certificate program (Isbell & Kammerlocher, 34). They devised a form to use that requires the reference librarian to assess the searcher's ISP stage, how that was determined and what advice was offered. A second form, a "Reference Consultation" form, is now being tried that will hopefully better track a searcher's progress and includes a method to track the types of sources recommended. The University of Arizona claims that the use of these tools has made their reference service more learner-centered.

CONCLUSIONS

The goal of research is not just knowledge itself, but the utilization of this knowledge in a creative, life-changing way. Through proper questioning and insight the research advisor can discern what stage the searcher is at in the ISP, as well as what possible weaknesses the searcher may have in their approach to research based upon their MBTI profile or temperament. Determining a person's type is a practice that one can improve upon over time, and the better information professionals likely interact appropriately with given types in a subconscious way. For instance one may realize someone is rushing to a conclusion without an in-depth consideration of a topic or not coming to a focus because they are too involved with big-picture concepts. I confess I tend to be the latter category of searcher. Where was a research advisor when I needed one, and even so would I have listened to their advice? If the amount of content here has left you with a sense of information overload perhaps you could look at this as your third step in the Kuhlthau ISP – topic exploration. In so doing you would be assured that the confusion you may be experiencing now is part of the higher goal of learning. By researching this topic you may actually come to a focus formulation of your own in the near future. If that time doesn't occur, which I completely understand, then I hope that this overview of search process, personality, and cognitive theories has at least excited you about the possibility of going beyond the book to becoming a research advisor. Could promoting effective research be your niche? *

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