ABSTRACT

        This paper, presented at the Indiana Library
Association Meeting, discusses critical thinking in general terms and
then briefly discusses why it is important to include critical
thinking skills in bibliographic instruction sessions at the higher
education level. A discussion of the instructional design of
bibliographic instruction in relation to teaching critical thinking
is followed by specific examples of how one educator has incorporated
critical thinking skills into library instruction sessions. A 19-item
bibliography divided into sections on Critical Thinking in General
and Critical Thinking in Library Instruction is included. (THC)

SCRUTINY OF THE BOUNTY
OR
TEACHING CRITICAL THINKING IN LIBRARY INSTRUCTION

by

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INTRODUCTION

There are very few who dispute that Bibliographic Instruction (B.I.) is an important part of the educational process. Most librarians believe that it is important to guide our students toward becoming independent library users. B.I. librarians, like all good teachers, are always interested in ways to better reach our students. It was in my effort to improve my own B.I. sessions that I became interested in the area of critical thinking . After just a little reading on the subject, I knew that this concept had to be emphasized more in my B.I. sessions. Without critical thinking skills, students would never become independent or self-reliant library users. I don't claim to be an expert on the subject, but I do have some ideas based upon a lot of readings and experience that I would like to share with you today.

The basic outline that I will be following is first to discuss critical thinking in general terms, followed by a brief discussion as to why I think it is important to include it in our B.I. sessions. Next, I will discuss the instructional design of B.I. in relationship to teaching critical thinking. And then, I will give specific examples of how I incorporate critical thinking skills in my own B.I.

WHAT IS CRITICAL THINKING?

A typical scenario is one where a professor of a freshman English class comes to you and says that his students are about to begin their research papers. Could you do "a little something" to introduce them to the Library. You gladly say yes and begin planning a session. If you use the Search Strategy approach, you select a topic - perhaps "nuclear waste" - to use an example. You'll tell the students the importance of finding background material in an encyclopedia such as The McGraw-Hill Encyclopedia of Science and Technology. You carefully plan how you will teach students to use the Library of Congress Subject Headings to find the appropriate subject heading to use in the card catalog which will lead them to dozens of books on the topic. Then you'll go on to teach them about periodical indexes - Readers' Guide, General Science Index, or PAIS where they again will find a bounty of information. You may even plan to go one step further and direct students to Government Publications where they can find even more information. After your session, the students, who have bothered to listen to you, sigh in relief that at least the research part of this paper won't be too difficult or time consuming. After all, they just need to list one book and three magazine articles in their bibliography, and you have just shown them how easy it is. We even do similar kinds of things at the reference desk where individuals come to us wanting to know how to begin their research.

And that's the problem. All too often, all we do is teach students how to begin their research. We're so concerned with teaching students how to find this wealth of information that is in the library, that we don't tell them how to use it. As long as the first book the student finds on his topic is in the card catalog isn't too long, and as long as the library owns

the first three magazines listed under his topic in Readers' Guide - or whatever index - the average student is not going to go any further.

Maybe you recognize this as a problem. Maybe you realize that students should be doing more with these topics than assimilating the first three or four sources they come to, even if they aren't all related to the same aspect of the topic. Maybe you've read where you're supposed to do more and you even wish you could do more in your B.I. session. But how? Isn't your B.I. session already jammed-packed? And besides, doesn't the classroom instructor have the responsibility to teach students what to do with the information they find?

Well, I agree that we can't do it all alone. The classroom instructor should be including critical thinking skills in his course. If he is, then great! Let's support him and reinforce his ideas. If he's not, then maybe we can at least plant the idea in the minds of both the instructor and the students. As far as the time element goes, if you really think critical thinking skills are important to teach, you'll find the time to include it. There are so many places throughout a B.I. session to include it naturally. It doesn't have to take up that much time.

Before I go any further with the whys and hows, let's clarify a couple of definitions and discuss critical thinking in general.

The first term I want to define is Bibliographic Instruction. Much has been written about differentiating between the terms "library orientation", "library instruction" or "bibliographic instruction". While I do understand the arguments for the distinctions, I am choosing to use "bibliographic instruction" or "B.I." as the generic term. I may also use "library instruction" just for variety. The examples that I'll be giving today of teaching critical thinking skills can be used in a five minute discussion

with a student at the reference desk, in a "one-hour stand" or a semester long library skills class. So I don't think that the terminology of B.I. is that important in this particular discussion.

Next we need a definition of critical thinking. That's not quite as easy. The experts do not agree. As soon as someone comes up with the definition, fifteen others dispute it and come up with their own.

Robert Ennis, who is perhaps the most often cited authority on the subject defines critical thinking as "the correct assessment of a statement." Other definitions are:

-the judging of statements based on acceptable standards (Feeley)

-thinking that proceeds on the basis of careful evaluation of premises and evidences and comes to conclusions as objectively as possible through consideration of all pertinent factors and the use of valid procedures from logic (Good)

-principled thinking; reasons to base assessment, evaluation or judgements committed to principles governing reasons (Siegel)

-the process of determining the authenticity, accuracy, and worth of knowledge claims (Beyer)

There are many others that I could quote you. The arguments against some of these definitions involve the idea that they overlap into other kinds of thinking - associative, concept-formation, problem-solving, creative thinking, and the reflective thinking of Dewey.

Now, just as I'm not a purist when it comes to the use of the term "Bibliographic instruction", neither am I a purist with the term "critical thinking". I do not choose to spend my time with theoretical/philosophical arguments. Maybe some of what I teach falls better under "creative

thinking" or problem solving" instead of critical thinking. I'll leave that to the experts to argue. The definition for critical thinking that I am working under comes closest to the last one I gave you which is "the process of determining the authenticity, accuracy, and worth of information or knowledge claims". Barry Beyer is the author of that definition. "Scrutiny of the bounty" is my own definition or description of using critical think- ing skills in the library. It's more simplified and a bit broad, but that allows us room for flexibility which I think is important.

One of the experts, John McPeck, believes (and most others agree with him) that critical thinking has two important dimensions - (1) a frame of mind and (2) a number of mental operators. For a person to think criti- cally, he must be alert to the need to evaluate information; willing to test opinions; and have a desire to consider all viewpoints. As B.I. librarians, I believe that we can and should alert students to the need to evaluate, but there is little that we can do to force the willingness or desire on them, however important those frames of mind may be. We can try to encourage students to develop a sense of "healthy skepticism" by teaching them to ask the right kinds of questions and by giving examples of why it is important to scrutinize. D'Angelo lists other attitudes necessary for the development of critical thinking. They include intellectual curiosity, objectivity, intellectual honesty, and persistence. Again, these are attitudes which we can foster only minimally, especially as compared with what a classroom instructor can do.

As for the mental operators, critical thinking is a collection of operators which combines analysis and evaluation. Each authority has his/her own set of operators ranging in number from four to fifty, with most

agreeing that there are easily 100. Barry Beyer lists ten operators which he feels comprise the core. They are:

-Distinguishing between verifiable facts and value claims

-Determining the reliability of a source

-Determining the factual accuracy of a statement

-Distinguishing relevant from irrelevant information, claims or reasons

-Detecting bias

-Identifying unstated assumptions

-Recognizing logical inconsistencies or fallacies in a line of reasoning

-Distinguishing between warranted or unwarranted claims

-Determining the strength of an argument

These ten operators can be used as specific ways to avoid pitfalls in assessment. As you study these operators, I hope that you are beginning to think of ways to apply them in your library instruction classes.

Beyer believes that each skill consists of three basic dimensions or attributes. They are:

1) A set of procedures or steps used in executing a skill. For ex-
   ample, to determine the validity of a statement, a procedure to
   follow would include:

   a. clarifying the meaning of all major words

   b. identifying the stated and implied conclusions

   c. identifying the structure of the argument

   d. identifying any unstated assumptions

      and so forth   (Scriven)

2) The second attribute is certain distinguishing criteria that serve as evidence - the idealized standards or clues. Again, as an example, when looking for bias, the criteria would include detecting any loaded, emotionally charged words or over generalizations.

3) And the third attribute are rules or guidelines that tell us when to use a skill or what comes next.

We now have at least some idea of what critical thinking is, what some of the skills are, and the dimensions of each skill. Before moving to how these skills can be applied to B.I., I want to discuss briefly _why_ we should concern ourselves with teaching critical thinking skills.

WHY TEACH CRITICAL THINKING

There are many reasons for teaching students to think critically. We don't really want them to grow up believing everything they read or hear.

Also, in a democratic society, it is important for citizens to make a choice based on facts and to be willing and able to look at all sides rationally. Richard Schaull, in the introduction to Paulo Freire's classic work, Pedagogy of the Oppressed, states:

"EDUCATION EITHER FUNCTIONS AS AN INSTRUMENT WHICH IS USED TO FACILITATE THE INTEGRATION OF THE YOUNGER GENERATION INTO THE LOGIC OF THE PRESENT SYSTEM AND BRING ABOUT CONFORMITY TO IT, OR IT BECOMES THE 'PRACTICE OF FREEDOM', THE MEANS BY WHICH MEN AND WOMEN DEAL CRITICALLY AND CREATIVELY WITH REALITY AND DISCOVER HOW TO PARTICIPATE IN THE TRANSFORMATION OF THEIR WORLD."

As librarians involved with the educational process, we too need to be concerned with doing our share in helping students learn how to make informed Decisions in all areas of their lives.

Another reason - perhaps not quite as lofty - comes from taking a look at our students' research papers. Too many papers consist of piecing together the information found in the library. It's probably not because students did not take the time to do more with the information as much as it is that they do not know how to make any sense from the sources they have found. One author even suggests that this inability to think critically is the probable cause of most cases of plagiarism.

As B.I. librarians, we have a special opportunity to help develop critical thinking skills in students. Hopefully, we will be reinforcing and expanding what is happening in the classroom. But even if nothing is being done by the classroom instructor, we still have a responsibility to <u>at least</u> introduce students to the idea of critical thinking. It is definitely a step toward becoming a self-reliant library user as well as a self-reliant citizen. We can help students learn how to scrutinize the various opinions and evidence that they find during the research process.

INSTRUCTIONAL DESIGN AND THE TEACHING OF CRITICAL THINKING

Now let's say that you've bought the idea that critical thinking should be included in your B.I. sessions, how do you go about doing it?

In a 1984 RQ article, Harold Tuckett and Carla Stoffle discuss learning theories as related to B.I. The thrust of the article is that the instructional design you choose plays a big part in the effectiveness of teaching evaluation skills. I'd like to discuss this article for a few minutes.

As Tuckett and Stoffle point out, there are several instructional designs commonly used in B.I.: the reference tool approach, the search strategy approach, types of reference tools, forms of publication, publication sequence and index structure. More complex and less frequently used are the question analysis, the learning cycle, and the guided design.

The authors discuss the pros and cons of most of these designs especially in relation to the teaching of evaluation skills. They believe that the most traditional forms such as the reference tool or search strategy approaches do not lend themselves easily to teaching critical thinking skills. They prefer methods closer to the question analyses or learning cycles. If you want to read about these in detail, take a look at the books by Ann Beaubien and the one by Cerise Oberman. The major drawback with these more complex designs is that they are extremely time consuming. I don't think they work well if you only see the class once a semester.

I believe that we should carefully choose the instructional design that best fits our own situations. But, I would like to dispute Tuckett and Stoffle and say that critical thinking skills easily fit into any B.I. session regardless of design. All you have to do is plan for it.

CRITICAL THINKING IN LIBRARY INSTRUCTION

Now for the actual application. What we need to do first is to determine what exactly it is that we want our students to learn to scrutinize or evaluate. What are we going to tell students to help them? If a student were faced with the problem of selecting three books out of twenty-five on his subject, what should he look at? Here are some ideas and examples:

BOOKS

I. Author's authority

    A. Biography

        1. For some subjects, knowing his political or educational back-
            ground would give us hints that we should check for possible
            bias.

        2. Sources can disagree (You can find three dates for Yul
            Brenner's birthday.)

        3. How did source get information? (Evaluate the source)

    B. Other works-

        1. What else has author written?

    C. Is author cited elsewhere?

    D. Remind students that it's illogical to always believe someone just
        because of who he is. An authority in one area does not make him
        an authority in all areas. We see this a lot in advertising - What
        do Bill Bixby or Alan Alda really know about computers?

    E. On the other hand, a statement that discredits a person should not
        discredit his argument. We may easily question Richard Nixon's
        ethics, but that doesn't mean that we can automatically discredit
        his foreign policy.

-Besides the author, what else can students look at when evaluating?

II. Book's Content

    A. Book Reviews (Evaluate review)

        1. Purpose of review?

            (For library purchase or scholar's research?)

    2. Where does review appear?

      A book by Phyllis Sahaffley would probably not get a favorable review in <u>MS.</u>

    3. What is quality/reputation of journal?

    4. Did review

      -examine strengths and weaknesses of book?

      -compare book to others in field?

B. Book reviews only tells us how book was received at time it was written. They don't indicate its place in the literature today after further research and changing interpretations. This happens in all fields - music, literature, science. We need to find out the current thinking and evaluation of the book.

III. Copyright date

Can be important. Students are aware that they may need most recent information, but they don't often recognize that they may want older works. Primary material can be old (i.e. Freud). Or we may want an historical perspective (i.e. Vietnam War).

IV. Publisher

To evaluate publishers is particularly difficult for students. If they're taught to look at who the publisher is, they'll learn to recognize the reputable publisher in their fie'd. Also - early on they can figure out that if a book about labor unions is published by the AFL-CIO, it's going to be more pro union than one published by the American Management Association.

ARTICLES - JOURNALS/NEWSPAPERS

Articles in journals and newspapers are often much more difficult to evaluate. Again, here is a brief outline of some things to be considered:

1. Where does article appear? Who is the intended audience?

    Is it in a scholarly or popular journal?

    We may want to mention the books by Katz and Farber which would help students evaluate periodicals.

2. Where is journal indexed? (gives some indication of importance of journal)

3. Who is author?

4. What is breadth and depth of article?

5. Did author report facts or opinions?

6. Is article cited in bibliographies?

7. Compare article with others on same subject to get different viewpoint. Caution students to ask tlemselves if they are really getting different viewpoints if they just read Time and Newsweek? They may need to dig a little and possibly use Alternative Press Index if it's available.

8. Compare editorials (Editorials on File)

Students need to also use their own experiences when evaluating what they read. But again, we need to give suggestions as to what to look for such as how reliable are:

    -Statistics (how figured? What's included?)

    -Opinion Polls (How were questions phrased?)

    -Quotations

It's highly improbable that anyone uses critical thinking all of the time. And it's even more improbable that students will use all the evaluation skills we teach. But I think that the more often they are challenged to scrutinize, the more likely they'll be to try the ideas out. Of course, we would never teach all of these skills at once either.

We need to teach various sources and how to use them as well as how to assess what they find. I've found that it's important to be flexible with each class. If a class is totally unresponsive or perhaps very unfamiliar with anything to do with a library, I don't push them. Critical thinking gets just a minimal mention. On the other hand, most students are going to resist anything that means more work. And that doesn't stop me from giving a reasonable dose of critical thinking.

In fact, recently, I had two students in one class tell me that they were threatened by what I was asking them to do. That just indicates to me the need to do more of this. Are we really educating students if they are afraid to ask questions - even of themselves?

As I stated at the beginning, we can't do it alone. But it has been my experience that classroom instructors are glad when I do teach students the importance of evaluation. I've even had a couple of instructors alter their assignment after a B.I. session to more forcefully encourage students to use techniques I taught.

If you're trying to develop examples to use in various subject areas, some of the sources I have listed on the bibliography have chapters covering that (D'Anglo, Beaubian, & Oberman. The Beyer article is mostly about social studies). Also, you can check Education Index under "Critical Thinking".

Scrutiny of the bounty is difficult to teach, but I hope that this has helped you in understanding what critical thinking is and why we should be involved with it as well as how to include it in your own B.I. session.

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