Information Literacy

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A MODEL FOR INFORMATION LITERACY
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It is difficult to argue against the existence of an information society. While there are still many people who insulate themselves from modern information systems and services, most are not only affected by these systems and services, but are employed to create, maintain, or disseminate some form of artificially created information bank. An insurance agent quotes rates from a computer terminal, an operator provides a telephone number, a sales clerk puts a price tag on a dress, a worker installs a traffic light, a technician repairs a copy machine—and so it goes ad infinitum. Two other concepts about information are now making their way into the world of children: information pollution (garbage information) and information overload (too much information too fast).

At a recent ASCD conference, Lee Iacocca pleaded with the audience of teachers and administrators to provide him workers at age eighteen who could at least read the diploma they received at graduation from high school. Another company executive asked that educators provide his company with young people who could think: who have and can apply good old-fashioned common sense. Iacocca reminded his audience that educators are the only "industry" that asks for more money to produce an inferior product.

Both library media specialists and teachers face the task of preparing a generation of young people to face a world they can only guess about. They realize that expectations for what a literate student is expected to know are rising. They also realize that the decline of family units and other environmental social problems cast doubts on the quality of the "natural resource" schools have to work with.

In the past ten years, the role of the library media specialist in teaching information literacy has expanded. Two major patterns seem to have emerged. In the elementary school and many middle schools, library media specialists emphasize teaching library skills consisting largely of information location methods. As young people grow older, the emphasis turns toward teaching the research process, the product of which is usually a research paper or a report. Such emphases, when practiced exclusively, are at best too narrow and at their worst destroy the interest of young people in using information sources and libraries. Producing a nation of young people who can gather information, stir it up, and then regurgitate it in paraphrase form is not particularly appealing. Providing intense instruction on research paper construction to everyone when only a small minority will need this skill seems pointless. This is not to say that the research and efforts to teach the research process by library media professionals has been a waste of effort. Quite the contrary, the progress made in knowing how and when to teach research has been extremely valuable. To repeat, it is only when this process is the only one taught that the problem arises.

For half a century, public school teachers taught reading skills through the use of recitation. In the next half century, when teachers abandoned that method, no one missed it. It is fascinating to hear college librarians claim that students come to them with fewer library and information skills than ever before, yet the generation now in college has had more instruction in those skills than any generation in world history. What does this mean? Should we abandon all we do with young people in libraries in terms of library skills? Who would miss it if we stopped? There are many things young people can do in libraries besides learn library skills and the research process. If, for example, students used their library skills

time to read, what would the result be? We know they would become better readers, but what about library use skills? A lively debate on this topic ought to be the focus of a profession-wide forum.

For the purposes of discussion, let us assume that the profession would continue to support the idea that young people need to be taught information literacy; that information *literacy* is not a natural consequence of day-to-day living; that we must make an intervention to assist the youth of this country *in preparing* for their future. Thus this paper proposes that library media specialists expand their view of what constitutes information literacy and how that literacy might be nurtured. This expanded view does not come with the recommendation that library media specialists work harder, for they already fill days and evenings with taxing work. It does plead, however, for library media specialists to reexamine current beliefs and visions and then use common sense practices to work smarter, not harder.

The library profession is not the only group interested in information literacy. In fact, the rest of the education profession is usually surprised to find out that we have any interest whatsoever in such matters. Discussions in professional literature about the needs for information literacy usually bypass the library, since libraries are thought to only store retrieval materials. Enough of our professionals confine their activities to warehousing that the stereotype continues to be entrenched in popular thinking, particularly in the minds of the young people currently being educated. Library media specialists who have broken out of that mold find that patrons do respond in meaningful ways to new roles, sometimes with almost too much enthusiasm.

If we step back to look at information as a commodity and ask the question, "What do people do with information?," an interesting and enlarged view soon appears. For example, people can find it, ignore it, translate it, laugh at it, steal it, erase it, judge it, hide it, falsify it, act on it, fight for it, encrypt it, dispose of it, treasure it... Frank Smith, in his book To Think,[1] lists 75 words that are related to thinking. This set of words look suspiciously like what we are talking about when we say information literacy. The words are:

analyze	conjecture	fabricate	organize
anticipate	consider	fantasize	plan
apprehend	contemplate	foresee	plot
argue	create	guess	ponder
assert	deduce	hypothesize	postulate
assume	deem	imagine	predict
attend	deliberate	induce	premeditate
believe	determine	infer	presume
calculate	devise	intend	presuppose
categorize	discover	introspect	project
classify	divine	invent	propose
cogitate	empathize	judge	rationalize
comprehend	estimate	know	reason

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[1] Smith, Frank. To Think. New York: Teachers College Press, 1990, p. 1-2.

conceive	examine	meditate	recall
concentrate	expect	muse	reflect
conceptualize	explain	opine	remember
review	scheme	suspect	wonder
revise	speculate	systematize	
ruminate	suggest	theorize	
schematize	suppose	understand	

If we classify (as librarians love to do) all these and other words about information, we might build a model of information literacy which would show what educators might do to nurture the concept of information as a commodity to be managed throughout life. The model follows:

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┌──────────────────────────────────┐      ┌──────────────────────────────────┐
│ Finding Information              │      │                                  │
│    Navigating Information Systems│      │      Creating Information         │
│    Recognizing Information Types │      │                                  │
└──────────────────────────────────┘      └──────────────────────────────────┘
                  ↓                                   ↓
          ┌──────────────────────────────────┐
          │      Information Analysis         │
          └──────────────────────────────────┘
                              ↓
   ↙                          ↓                          ↘
┌──────────────┐      ┌──────────────┐      ┌──────────────┐
│  Discarding  │      │    Using     │      │ Communicating│
│ Information   │      │ Information   │      │ Information   │
└──────────────┘      └──────────────┘      └──────────────┘
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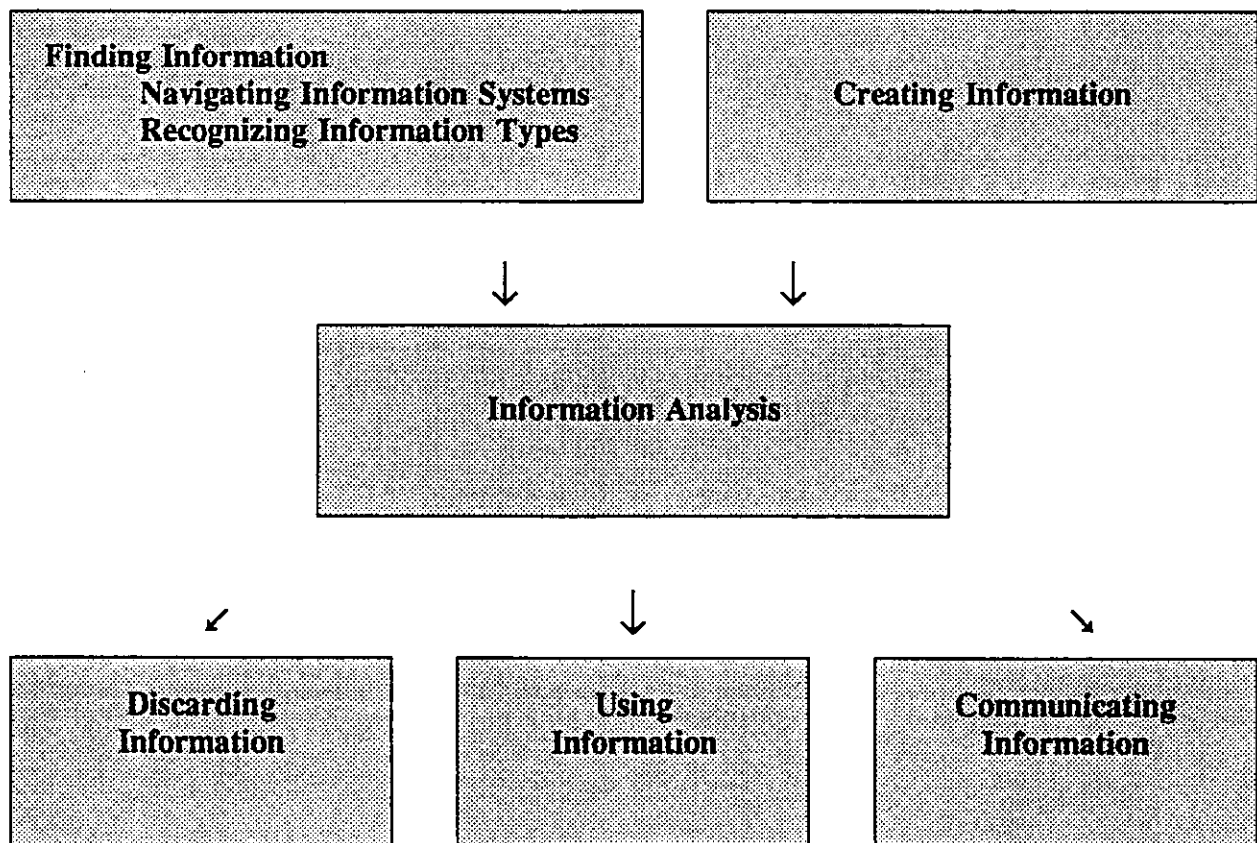
Each segment of the model could be further broken down into smaller components which would then begin to form a larger mental concept from which daily interaction with students could proceed.

FINDING INFORMATION

Navigating Information Systems

<u>Characteristics of media</u>

Printed Media
  Books and periodicals
  Printed indexes (card catalogs, periodical indexes, poetry indexes, etc.)
Oral media
  Lectures
  Conversation
Electronic information systems
  Online catalogs
  Databases
  Hypermedia
  Visual media (film and television)
  Audio media

<u>Skills</u>

Background knowledge and terminology building
Browsing skills using text or media structure
TACCL (pronounced *tackle*) information searches (a la Wurman)[2]
  <u>T</u>ime
  <u>A</u>lphabetical   (subsumes what we usually
  <u>C</u>ategory (subject)   call author, title and subject
  <u>C</u>ontinuum (scales) searches)
  <u>L</u>ocation
Using Boolean searching and other machine assists
Using multiple attack strategies (keep trying using different methods)
Using vantage points (a la Wurman)[3] (examining data from different perspectives)

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[2] Wurman, Richard Saul. <u>Information Anxiety</u>. New York: Doubleday, 1989, p.8, 59-65.

[3] Wurman, p.8, 65-67.

<u>Attitudes</u>

Work ethic (information searching can be tough!)
Independence/asking for assistance (knowing when to ask, whom to ask, how to ask)
Resilience (don't quit at the first disappointment)
Flexibility (being willing to try again and again with different methods)
Enjoyment (it may be work, but it can be and often is fun and exciting)

Recognizing Information Types

Truth ⇔ falsehood
Nonfiction ⇔ faction ⇔ fiction
Facts ⇔ possible answer ⇔ hint/guess
Fact ⇔ opinion ⇔ propaganda
Fact ⇔ summary ⇔ narrative
Clear and simple ⇔ complex
Easy-to-use ⇔ difficult and time consuming to use

CREATING INFORMATION

Accidental discovery (many useful products come about this way, e.g., Post-it notes)
Experimentation (purposeful discovery of information by systematic methods)
Direct experience (using all faculties)
Insight (the aha!/Eureka syndrome)
Reorganization of the known (the Japanese seem to do this one well in the high-tech arena)
Innovation (new thoughts on old problems; new thoughts period)

INFORMATION ANALYSIS

<u>Thinking about information</u>

Accepting/rejecting (this is or isn't exactly what I need)
Organizing and restructuring (classifying, charting, reanalyzing)
Reasoning (is there any sense here?)
Synthesis (putting it all together)
Drawing conclusions (this is what I should do)
Problem solving (working toward a solution)

Judging information

     Criticizing information
          Accuracy
          Currency
          Relevancy
          Omissions (what's not there is as important as what is)
     Recognizing effective and defective reasoning
     Testing facts, outcomes, conclusions

DISCARDING INFORMATION

Forget/overlook information
Discard by non-citation
Cite, but reject critically
Eliminate information

USING INFORMATION

Practical uses
          Making decisions
          Creating a product
          Guiding action/strategies
          Experimenting
          Clarifying concepts
          Changing behavior

Political uses
          As the basis of positions taken
          As power

COMMUNICATION OF INFORMATION

By medium
          Written
          Oral
          Visual
          Electronic
          Kinesthetic

By purpose
>   To inform
>   To report
>   To persuade
>   To achieve results
>   To pursue scholarship
>   To entertain

A temptation in model building is to translate the ideas into K-12 continuums from which systematic lessons could be constructed.[4] While this could be done, I would argue that holding the model in memory and allowing it to generate ideas for daily common sense practice would be a superior method to employ.

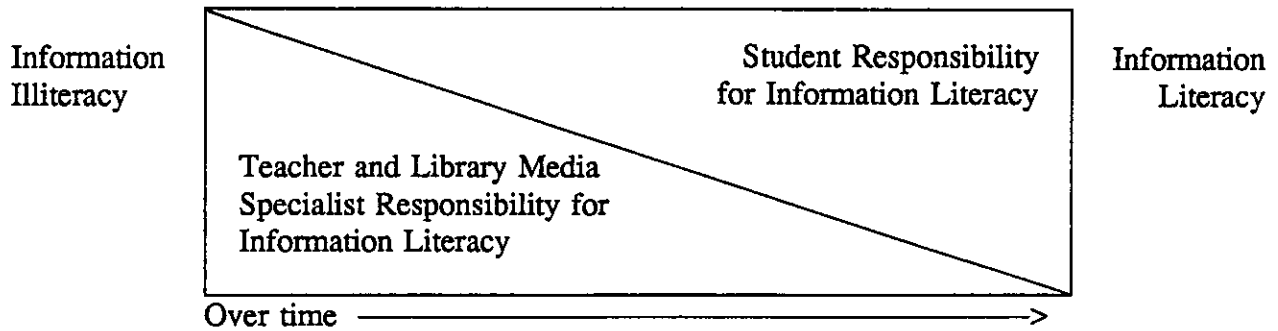Two simple approaches could guide daily practice:

1.   With a teacher and as a part of resource-based teaching, construct/invent problems/activities which will cause students to confront different parts of the model. Students might have to discover solutions to information problems as groups or as individuals.

2.   Allow students to create, or assign them products to create, the antecedent of which requires information skills of varying difficulty. For example, design projects on the Foxfire model which have powerful motivation for the student to meet information problems squarely as a natural part of progress toward some fascinating end.

Pearson and Gallagher constructed a model a few years ago which forms the basis of the above approach to information literacy instruction.[5] They titled their model "The Gradual Release of Responsibility Model on Instruction" which seems to fit so well into the thinking of library media specialists for many years. I have adopted their model as follows:

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[4] One of the best attempts to teach much of the model is the following college text: Chaffee, John. Thinking Critically. 2nd ed. Boston: Houghton Mifflin Company, 1988.
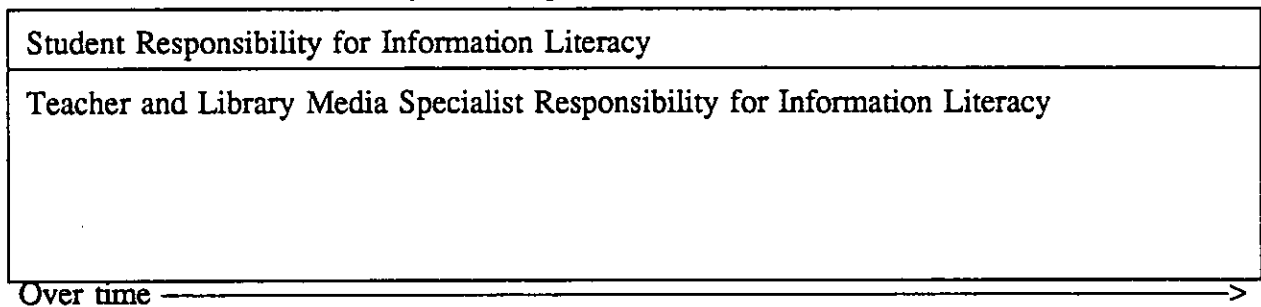
[5] Pearson, P.D., and M.C. Gallagher. "The Instruction of Reading Comprehension," Contemporary Educational Psychology, 8 (1983).

Gradual Release of Responsibility Model of Instruction
The Ideal

Information Illiteracy		Information Literacy

Student Responsibility for Information Literacy

Teacher and Library Media Specialist Responsibility for Information Literacy

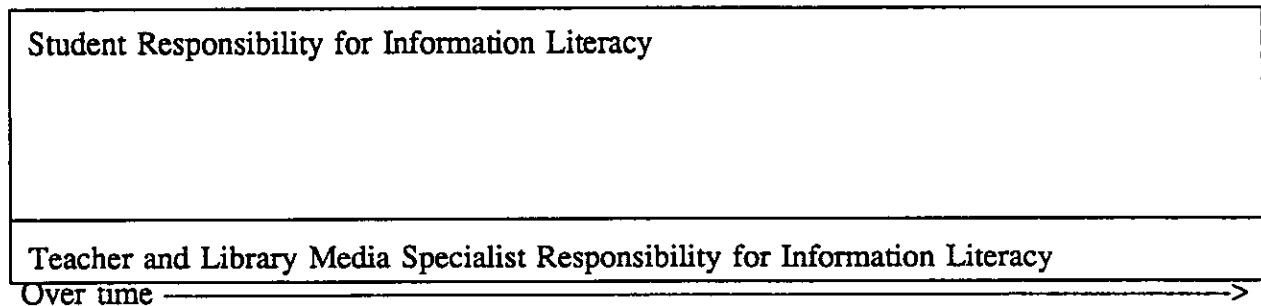Over time ———————————————————————>

The model urges library media specialists and teachers to try to work themselves out of the picture—to build independence on the part of the learner. That's not new, but many of our professionals feel differently. They may fall into two dangerous modes of working as pictured in the following two models:[6]

Dangerous
(Teachers and Library Media Specialists Assume Too Much Responsibility)

Student Responsibility for Information Literacy

Teacher and Library Media Specialist Responsibility for Information Literacy

Over time ——————————————————————————>

Dangerous
(Teachers and Library Media Specialists Abdicate Responsibility for the Most Part)

Student Responsibility for Information Literacy

Teacher and Library Media Specialist Responsibility for Information Literacy
Over time ———————————————————————————>

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[6] Thanks is extended to Suzanne Barchers at Libraries Unlimited for this insight.

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In the first model, the library media specialist and the teacher fear the test or perhaps feel that students need their constant tutoring to succeed. In the second model, teachers and library media specialists may not consider information literacy an essential part of their responsibility. They may have not thought about it seriously or have purposely rejected it as a suitable role to play.

If, however, library media specialists and teachers were to internalize the complete information literacy model and then allow and guide students to confront different parts of it on a regular basis, I think they would make a great discovery. When young people are set upon a fascinating task and forced to interact with the model, that technique would have the greatest impact on reluctant and slow learners, non-readers, the bored, the alienated, the disinterested, and the cast-outs. Gifted students use much of the model instinctively. Should the teacher and the library media specialist discern or anticipate common information skill problems, then small- or large-group instruction could be designed. However, these formal efforts should be of secondary priority. Again, letting the natural interest of students create a problem which they would then solve for themselves. That would be the ideal. In no case should library media specialists pursue the model without a sense of shared responsibility with the teacher.

If library media specialists really think about the model, I believe many of them will recognize that they already perform many of the functions listed. They will recognize that much of the model is done with an individual student working on a project. What they don't realize, I believe, is that if they internalize the model and then use it in their daily regimen, they will be more systematic about their interventions and thus will do all young people a great favor. During the reference interview, they will perceive where the student is on the model and will be able to know when to provide information, withhold it and challenge the student to find it, verbalize a search strategy as an information quest is taken together, or simply ask a thought-stimulating question. The same process would hold as teachers and library media specialists planned instruction; together, they would plot a course which would lead students down the road one more inch toward information literacy. It isn't that difficult.