An Inquiry Model for Literacy Across the Curriculum

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Abstract

After two decades of intense research on reading, a number of teachers and researchers are beginning to ask whether a narrow focus on reading distorts our view of learning and whether a curriculum centered on reading constrains what can be done in the classroom. Because of these concerns, many have turned to literacy across the curriculum approaches. This report explores three models for the relation of literacy to larger curricular concerns: a Skills Model, an Instrumental Model, and an Inquiry Model. It explores in some depth the Inquiry Model's conception of the role of reading and writing within learning. A possible realization of this model is suggested through a detailed look at one college class session.

Reading, it would be fair to say, is the driving force in U. S. schools today. Indications of the centrality of reading in current curricular thought can be seen in numerous public documents. For example, the Reading Framework for the 1992 National Assessment of Educational Progress (NAEP Reading Consensus Project, 1992) opens with this passage:

> Reading is the most important, fundamental ability taught in the nation's schools. It is vital to society and to the people within it. It is the door to knowledge and a capability that can liberate people both intellectually and personally. (p. 1)

Similar passages may be found in introductory chapters of textbooks, openings to journal articles, proposals for funding, teacher guides for basal readers, and conference announcements. We are now inured to the hyperbole of passages such as this, and fail to question the claims or to consider how this view of reading is placed within more encompassing accounts of learning, schooling, societal change, and political power.

Does the claim that "reading is *the most important*, fundamental ability taught in the nation's schools" need no justification? Some might argue that learning how to get along with others, scientific thinking, general reasoning, critical thinking, or the ability to learn is more important. Or, perhaps a distinction should be made between what *is* taught and what *ought to be* taught. Is reading "*the* door to knowledge"? What about writing, or is writing subsumed by reading? Where do we place dialogue, observation, experimentation, contemplation, mathematical exploration, or artistic expression? And is reading truly liberating? While the inability to read is certainly associated with various forms of oppression, the claim that reading is the key to intellectual and personal liberation is at best controversial.

The point here is not whether the quoted passage is correct in every way, but rather that the questions one might formulate about it are rarely asked because the underlying assumptions

are so widely shared within the field of reading. Indeed, this particular passage is from a document intended to represent the consensus of reading professionals.

But after two decades of intense research on reading[1], a number of teachers and researchers are beginning to ask about the limitations of a focus on reading per se. Despite the emphasis in recent reading research on comprehension strategies, applications, and interpretations, a focus on reading often leads to highlighting reading as a set of skills rather than as a tool for inquiry in all disciplines. Because of this, many reading teachers and researchers are asking how to move from a skills model to a literacy across the curriculum model.

In this report we explore that question, first by looking briefly at some approaches to literacy across the curriculum and the resistance to these approaches that is often encountered. We consider three underlying theoretical models for literacy across the curriculum: the Skills Model, the Instrumental Model, and the Inquiry Model. In the process of this examination we take a detailed look at one classroom's approach to literacy across the curriculum to illustrate the Inquiry Model.

Literacy Across the Curriculum

Few people would object to the notion of literacy across the curriculum. Everyone would like to see literacy as something that empowers students across a wide variety of disciplines, subject areas, or work practices (see Figure 1).
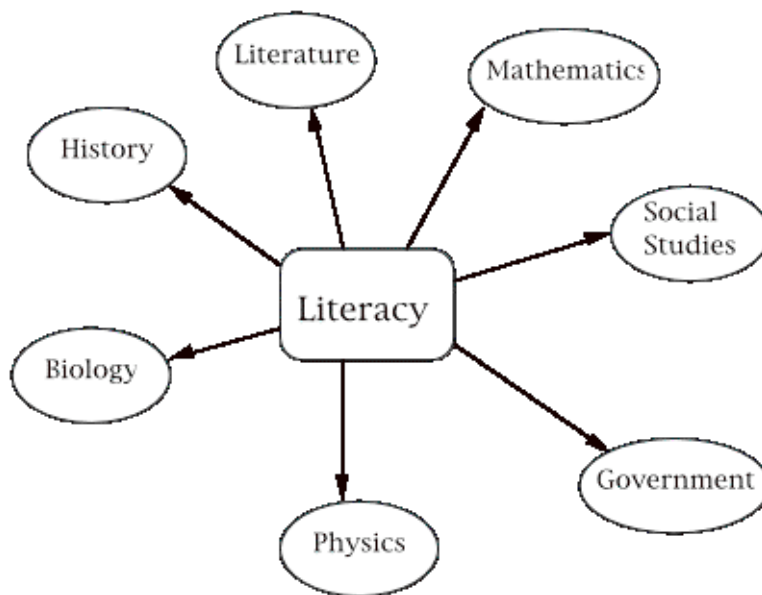

Figure 1. Literacy across the curriculum

From this perspective, literacy is central to the curriculum, and prior to other aspects. It is developed, and then later expanded into areas such as history, literature, mathematics, social

studies, government, physics, and biology. This view is manifested in schools as they are currently set up, with their focus on reading and associated language arts, such as spelling, vocabulary, and writing. The assumption is that once students have acquired adequate reading and writing skills they can move those skills into the discipline areas, particularly in middle school and high school and, later on, in college. The division of the K-12 curriculum into a learning to read phase predominant in primary school and a reading to learn phase predominant in the upper grades exemplifies this view. The use of basal readers is further evidence of its widespread acceptance, but it underlies the practices of many classrooms that do not use basals. As we shall see in the discussion to follow, two major models for the role of reading and writing within learning accord well with the picture presented in Figure 1.

Approaches to Literacy Across the Curriculum

Before we consider underlying theoretical models let us look at some of the approaches currently in use to promote literacy across the curriculum in the US. The first of these we might describe as *natural extension*. These approaches are similar to the dominant school practices described above, that is, students first learn the skills of reading and writing and then are expected to apply those skills in other subject areas. For example, this is the approach taken in some developmental reading classes[2], which operate under the assumption that students first need to hone their reading skills and then transfer those skills to their reading in various subject areas (Anderson et al., 1985).

A contrasting approach is the collection of efforts to make explicit extensions of reading and writing across the curriculum. This is particularly noticeable at the college level, where the *writing across the curriculum* (WAC) movement has become widespread from community colleges to research universities (Fulwiler & Young, 1982; Parker, 1985; Young & Fulwiler, 1986). This approach assumesthat writing is an important part of every form of disciplinary learning andimplementing it typically involves additional writing requirements for students and training for faculty members to learn how to incorporate writing into their own courses (Fulwiler & Biddle, 1992)[3].

A third example of literacy across the curriculum approaches is *literature-based curricula*, exemplified by some recent basal reading series, which have attempted to move away from the artificially constructed, carefully edited collections of the past to greater use of authentic literature. The notion here is that if we place students in a literature-rich environment, they will not only develop reading skills but also develop a love of literature that will allow them to use reading for learning across the curriculum (Atwell, 1989; Butzow & Butzow, 1989.).

A fourth approach is called *thematic units* (Atwell, 1990; Fredericks, Meinbach, & Rothlein, 1993; Gamberg, Kwak, Hutchings, Altheim, & Edwards, 1988). In a thematic unit, the teacher identifies a subject area (e.g., transportation, environment, health, Columbus) and organizes a multi-week curriculum around it. The unit may involve reading all sorts of literature--poetry, fiction, or nonfiction--as well as engaging in activities related to that theme. It is assumed that literacy skills develop in the context of meaningful activities, journal writing, and discussions related to the theme.

Reading-writing workshops constitute yet another approach to literacy across the curriculum

(Atwell, 1987; Hansen, Newkirk, & Graves, 1985; Hansen, 1987; Reif, 1992). In reading-writing workshops students write, read, and share their learning from their reading and their writing with other students. Again, because students bring their own interests and experiences to this activity, and because they have a rich variety of reading available, the idea is that they will be developing an attitude toward reading that will allow its extension across other curricular areas.

This is by no means a complete list of literacy across the curriculum approaches, but it serves to represent some of the more widely known approaches today.

Resistance to Literacy Across the Curriculum

Just as widely known as the approaches to literacy across the curriculum is the resistance to these approaches. This resistance is found among people playing many different roles within the process. For example, a physics student may question the role of reading and writing activities in physics class and see them as detracting from the central purpose of the course, which she sees as the learning of physics content. Resistance may also come both from reading teachers who see their primary role in literacy development, but who feel uncomfortable with disciplinary bodies of knowledge, or from teachers in the content areas who feel that developing reading and writing skills is not part of their job. Despite a belief that literacy across the curriculum is a laudable goal for education, parents often feel uncomfortable with some of the approaches designed to help achieve that goal. Finally, the need for new materials, revised scheduling, coordination of classes, training of staff, and simply finding staff willing to engage in such approaches all pose significant obstacles and difficulties from an administrative point of view and may generate resistance from principals, curriculum coordinators, or superintendents. Further resistance to adopting a literacy across the curriculum model develops when implemented practices fall short of the ideal.

What we've just described might be called *surface resistance*, that is, ways in which people or institutions seem to resist well-meaning attempts to expand literacy across the curriculum. But beneath the surface resistance, there are deeper issues related to how and what it means to integrate literacy into disciplinary areas. If we think of moving literacy into a discipline, one of the great dangers is that the literacy activities created may be *artificial*, particularly with respect to the discipline itself. For example, having students write traditional story problems in mathematics class, may be an effective way to promote critical thinking for the students, but it may also leave the students writing a type of problem that mathematics educators are beginning to question. In such a case, the movement of literacy into mathematics may result in the replication of rather artificial activities, rather than foster qualitatively better mathematics learning (Siegel, Borasi, & Smith, 1989).

Related to this artificiality is a concern about lack of integration. Ironically, many teachers involved in literacy across the curriculum movements find their days becoming more fragmented than ever before. Now, in addition to reading time and mathematics time, they must include activities addressing cross-curriculum concerns; the end result is an even more fragmented curriculum.

Moreover, the simple movement of literacy into a disciplinary area may make it difficult to see particular features of the discipline that relate in a more fundamental way to notions of

literacy. For example, standards developed by the National Council of Teachers of Mathematics (NCTM) call for increased attention to mathematics as communication. They argue that mathematics curricula should help students understand that mathematics is a tool for communication as well as a tool for solving problems and dealing with numerical data (National Council of Teachers of Mathematics, 1989). But in many cases the NCTM standards have been understood in a limited way, and while they have served to justify the introduction of reading and writing into mathematics classrooms, they have not always led to greater understanding of mathematics as a symbolic system of communication.

Perhaps most telling as a form of resistance is the lack of a unified vision of literacy across the curriculum. The notion that we can simply move literacy into different disciplinary areas does not in any way lead to a unified conception of learning across the curriculum. As a result, we see major standoffs among professionals in different disciplines in regard to the question of literacy instruction. For example, some science educators have developed a very strong anti-text bias coupled with a rejection of textbook-based science learning and a call for more hands-on activities. They see at most a minor role for literacy conceived as reading and writing skills. At the same time, many reading and writing educators have little understanding of the underlying reasons for that bias and have yet to devise a good response to it.

Examining the Underlying Models

In order to understand these issues better, we need to look more deeply at the underlying models that people employ when talking about literacy across the curriculum.

Skills Model

The first of these we will call a *Skills Model*. Figure 2 shows a fairly widely-held belief in the field of reading; the view that reading is a complex skill built out of a wide variety of other specific skills, such as identifying sequences, finding the main idea, processing the grammar of sentences and decoding vocabulary.
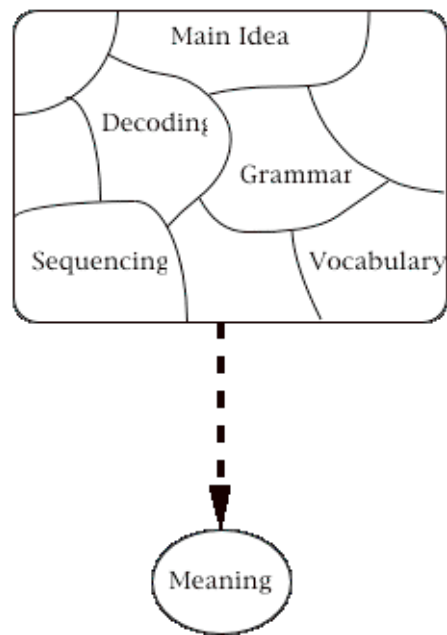
Figure 2. Skills model for literacy across the curriculum.

According to this model, reading is a complex skill that needs a long time to be developed. Students need help with the specific skills and direct instruction in the various areas. Once these ideas are acquired (i.e., once one has learned to read), the reading can be used as a process to develop knowledge. At that point, one can begin reading to learn. The Skills Model tends to be associated with a transmission model of learning or communication. The author has some meaning that he or she wishes to convey, and that meaning is placed in a text, the reader's job is to extract the meaning from that text.

Instrumental Model

A second approach is what we might call an *Instrumental Model*. The research and practice of many people in the field of reading today falls within the boundaries of this model. A diagram for this approach is shown in Figure 3.

Pre-reading   Reading   Post-reading

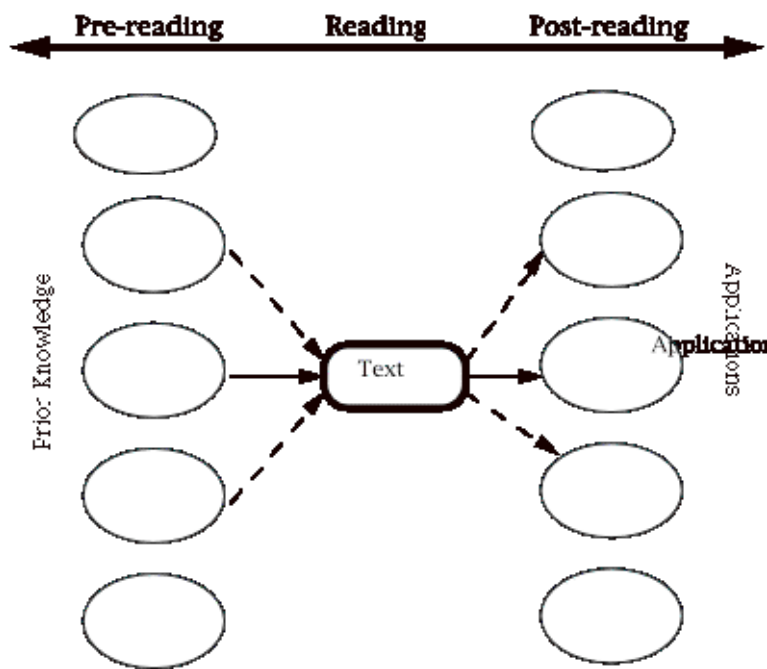Prior Knowledge

Text

Applications

Application

Figure 3. Instrumental model for literacy across the curriculum.

What we see here is that the text and the process of reading a text are embedded in larger practices. Oversimplifying somewhat, these can be grouped into prereading and postreading practices. Prereading might include discussion, field trips, asking questions, making predictions, and activities intended to activate prior knowledge or to generate interest on the part of the reader. Postreading activities might include writing, drawing, further reading, or further discussion. These activities take the learning that has come from the text and apply it, demonstrating to students how it can be extended across the curriculum.

A key point to make about the Instrumental Model is that while it identifies a wide range of prior knowledge as being appropriate for and needed in order to understand the text, it privileges certain aspects of that prior knowledge. For example, certain chunks of prior knowledge provide the relevant schemas that allow one to understand the text. Thus, a large body of research has been devoted to discovering what schemas are needed for comprehending particular types of texts, and for students who do not have those schemas, how applicable schemas can be developed to allow students to read texts successfully (Anderson, 1977; Anderson, Spiro, & Anderson, 1978; Pearson & Anderson, 1984). Similarly on the postreading side, certain kinds of applications seem to fit more naturally with one text rather than another. Again, large amounts of research have been devoted to developing the appropriate kinds of activities to help students solidify the knowledge they have gained from a particular text (Garner, 1987; Pressley et al., 1992).

The connection between the Instrumental model and its underlying theories of knowledge is less clear than in the case of the Skills Model. Many people who adopt an Instrumental model

also profess a more constructivist view of learning, whereas others operate from a transmission view. For example, the Instrumental model accords nicely with the view that while an author puts meaning into a text, what the reader derives from the text or learns from the text is highly shaped by the reader's prior knowledge or the reader's interests. The process overall is still one of transmitting knowledge, albeit imperfectly.

Several points need to be made about the Instrumental Model as presented here. One point we have made already is it tends to privilege certain kinds of prior knowledge. The second is that it privileges certain implications and therefore certain problems that can be approached through a particular text. In general, while this model is more integrated in its conception of the role of reading in learning, it maintains a duality between knowledge and application, with the text as a possible mediator.

Reading and Social Life

A feature that unites the two models of learning discussed above--the Skills Model and the Instrumental Model--is their positioning of reading within social life. In particular, they both set reading at the center of the curriculum. The rationale for this runs as follows:

Argument for reading-centered models. In the course of schooling, students need to acquire vast amounts of knowledge in many content areas, such as history, government, geography, health, environment, biology, chemistry, and physics. Helping students with this acquisition of knowledge task can be viewed as one major goal of schooling. At the same time students should be equipped to learn new things after they leave school. Equipping students for lifelong learning is thus a second major goal of schooling. Furthermore, according to this argument, most of the knowledge to be acquired is encoded in books, which means that reading is the process whereby new knowledge is acquired. A focus on reading thus addresses both of these major goals of schooling, because it is the tool for learning both during and after school.

Moreover, reading needs to be learned before the acquisition process can begin in earnest. Since most learning comes through reading, students cannot be expected to learn much content until they become good readers. And learning to read provides the basis for lifelong learning as well. Thus, the initial goal of schooling should be to teach students how to read; later they can use reading to learn the content. There are several key correlates of this view of schooling.

Correlates of reading-centered models. First, learning to read is separated from reading to learn. Learning the skills and strategies for effective reading thus becomes critical. "Reading" becomes a subject to study. The separation of reading from its use creates a new problem: how to make the transition from learning to read to reading to learn. Thus, we see the emergence of reading-across-the-curriculum and writing-across-the-curriculum as distinct movements in educational practice and theory.

An implication of this view of schooling is that learning through other means, such as dialogue, experimentation, construction, art, music, and writing, is marginalized. Writing, for example, is useful more as a way to assess whether students have learned the material they have read than as a way to learn in the first place.

This perspective also encourages a curriculum-centered or teacher-centered view of learning. It is assumed that there is a body of knowledge organized into a hierarchy from which one can create scope and sequence charts, which represent how knowledge is best acquired and how it should be taught. Because teachers are in control of these charts, they know how to get students to acquire the skills of reading and the order in which these skills should be learned.

An ironic consequence of this view is that topics within the verbal realm have a tenuous status. Understanding and appreciation of literature in the early grades is often subordinated to the goal of teaching reading as a skill. Not worthy enough to be a content area (that comes in secondary school, after students have learned to read), it serves only as sugar to make the reading skills go down. The study of language (the evolution of languages, language structures, semantics, phonology, and so on) appears only insofar as it can be embodied in specific teachable skills.

Another Way to View Literacy Across the Curriculum

The considerations described above may cause us to question our focus on literacy. By emphasizing reading, have we marginalized other processes of coming to know? How else might we think about literacy across the curriculum? For some, questions such as these point toward an anti-literacy position. In a recent paper, Newkirk (1992) examines the views of literacy expressed by such writers as Rousseau and Dewey, both of whom could be considered anti-literacy:

> In general anti-literacy shocks us because we are immured in an ideology that valorizes reading and writing. Literacy is our business. We have, historically, been drawn to theories that equate literacy with the capacity to reason abstractly... Because we can become locked in the prison-house of our own ideology, anti-literacy arguments are especially important because they force examination of tacit beliefs (pp. 2-3)

Anti-literacy is not anti-learning but rather implies an alternate model for literacy across the curriculum, what we call the *Inquiry Model*. In this model, reading still has an important role, but it is no longer the center of learning.

Inquiry Model

The *Inquiry Model* (see Figure 4) assumes that knowledge is constructed through meaningful activity which may include, but is not limited to, conventional literacy activities. As a result there is no separation of literacy from curriculum and thus no need for a literacy across the curriculum movement. It tends to be student-centered because if knowledge is constructed on the basis of what one already knows, then one must start from where the student is and not with some independently established curriculum. From this perspective, all means of learning are valuable, not just those located in text. There is no a priori reason to see reading as more useful than other forms of learning such as dialogue, discussion, or observation in any particular learning activity.
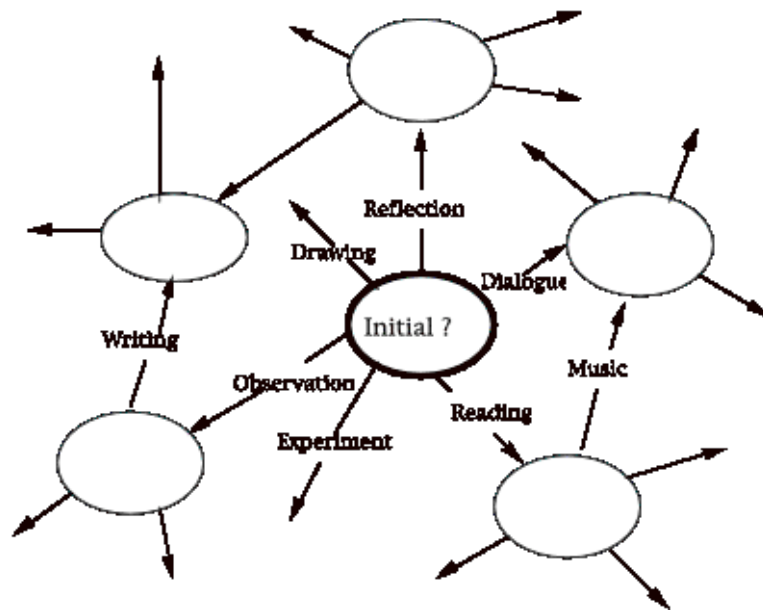
Figure 4. Inquiry model for learning.

In the Inquiry Model, text plays a less significant role than it does in the Skills or Instrumental models. Instead, the learner starts with knowledge or questions and branches out through observation, dialogue, reflection, mathematical construction, and reading to construct new knowledge and new questions. This growing network of knowledge develops in ways that no one teacher or student can easily predict in advance.

The Inquiry Model follows from a different set of assumptions and has a correspondingly different set of consequences for teaching and learning. An argument for it goes something like this:

Argument for the Inquiry Model. Children are able to learn enormously complex things--to use language, to participate in social interaction, to manipulate small objects, to engage in sophisticated games, to explore scientific questions, and so on--through immersion in the world, through their participation in meaningful activity. When they see a reason to participate, which depends in part upon an understanding of the activity as a whole, their learning proceeds at an amazing pace. When they do not, major contortions in schooling practices are required to produce even minimal behavioral changes. Moreover, there is little evidence that the piecemeal learning that results from those contortions can be reintegrated into the whole activity later on. The Inquiry Model has several consequences for schooling practices:

Correlates of the Inquiry Model. Acquisition of knowledge occurs, but it is a by-product of engagement in rich, meaningful activities. More important by-products may be the development of a love for the activity or an understanding of its meaning in the whole of life's activities. Skills and facts may be addressed in isolation, but it is crucial that in doing so one

supports, rather than detracts from, the immediate experience. Thus, one should not separate "learning to read" from "reading to learn." There is no need for "writing across the curriculum," because writing should not be taught as a skill to apply later, but as an intrinsic aspect of whole living/learning experiences.

The curriculum must be student-centered in an Inquiry Model, since the meaningfulness of experiences depends on the student's own knowledge, values, and goals. Teachers still have vital roles to play as supporters of inquiry. Moreover, they are companion inquirers who model the processes of investigation, including always knowing the answers to questions. The key question would be "Do the teacher's actions support the inquiry and open up possibilities, or do they establish constraints and limits?"

The Inquiry Model also implies that any activity or topic can be the springboard for rich and valuable learning. Reading is still important, but not to the exclusion of other modes of acquiring knowledge, especially those in which students express themselves and build from their own funds of knowledge.

The same activities may have different meanings under each of the models. For example, literature-based instruction has become popular with people who hold each of the three models of learning. From the perspective of the Skills Model, good literature is seen as intrinsically engaging for students. Moreover, it manifests the wide range of text features-- vocabulary, syntax, genres, rhetorical structures, etc.--that students need to learn to master. Within the Instrumental Model, a selection of good literature is viewed as an effective part of a program for teaching children to read, since literature supports rich and varied prereading and postreading activities.

Proponents of the Inquiry Model might be interested in literature-based instruction for similar reasons. But they would be less likely to justify the reading of good literature to promote skill development or even to provide an engaging context for bounded classroom activities. Instead, they would see literature as a vast set of worlds to explore. Children come to literature with their own rich views of family, friends, work, and play. They also bring their concerns, hopes, and fears. Literature provides opportunities for children to grow, to be challenged, to stretch their minds. Its justification is that experiencing literature, just as experiencing other aspects of living, can be central to what it means to be human. Learning occurs within these experiences, not as preparation for them.

Literacy and Learning within the Inquiry Model

The distinctions across the three models may appear subtle. There are numerous descriptions of literacy learning in the Skills or Instrumental Models , but less from an Inquiry Model.[4] This section attempts to make the Inquiry Model more concrete.

We base our discussion on activities within an undergraduate program designed to prepare students for elementary school teaching. In this program, students take university courses concurrently with their work in elementary classrooms throughout an entire year. We focus on one part of the program called "the Inquiry Block,"[5] which was to provide integrate the mathematics, science, social studies, and technology methods courses. The Inquiry Block's

instructional team built its approach on a constructivist theory of learning (Fosnot, 1989; Glaserfeld, 1989; Tibbetts, 1990) using a variety of texts supporting this perspective (Doris, 1990; Gamberg et al., 1988; Hansen, Newkirk, & Graves, 1985; National Science Foundation, 1988; Paley, 1981; Rogers, Roberts, & Weinland, 1988; Whitaker, 1986). In the following section we describe and analyze the interactions of one classroom session from that program. It is not presented as the ideal, or as the only way to foster inquiry learning, but rather as an actual event that demonstrate some aspects of inquiry learning and suggests intriguing differences regarding how literacy might develop in such a context.[6]

In the session, there was a guest speaker, James Anderson, who has studied the portrayal of African-Americans in textbooks (Anderson, 1988). He led the class in a presentation and workshop on inquiry in history, and specifically, on how people from different groups are represented in history. This topic fit well with that week's class focus on the Columbus myth. The reading assignment included a special issue of the magazine *Rethinking Schools*, entitled *Rethinking Columbus* (Bigelow, Miner, & Peterson, 1991). This was a timely discussion. It was in early October, just before the quincentennial celebrations of Columbus's voyage. The students spent were working in elementary school classrooms where these celebrations were planned.

The group Anderson spoke to was relatively homogeneous. There were 28 women and 2 men participating in the program. All were residents of one state, nearly all were white, and almost all were in their early 20s, having proceeded to college immediately after high school and continued through college without any major breaks in their education.

The class was taught in a public school classroom. The instructional team brought in a number of social studies books from the school library and distributed these among the tables in the classroom. The books included social studies textbooks and trade books about Columbus, settling the West, pioneers, Native Americans, and so on. Anderson began the session by talking about what he had found when he had analyzed social studies books. He realized that there are two worlds in American history--the world of the historian and the world of the textbook. The historical world of the textbook reflected ideas that had been popular among historians around 1920 or 1930. What was not present in the textbooks were the ideas that most historians subscribe to today. To illustrate this, he gave a number of examples of who or what is left out of textbooks or misleadingly described.

Despite these shortcomings, textbooks are considered the fountain of knowledge by many people. Anderson acknowledged that he had believed this at one time. He described how he felt when in a college history class he heard, for the first time, that there had been African Americans elected to the United States Senate during Reconstruction. He didn't believe it because it hadn't been in any of his previous textbooks. It was several years before he began to take this idea seriously.

Anderson posed a number of questions to the students about the ways they might look at the texts on their tables. He suggested they look for information on people who are often ignored by texts, such as women, African Americans, and Native Americans. Students then spent 15 minutes examining the books in their small groups, before he called them together for a large group discussion of their findings.

The preservice teachers participating in the program were not unfamiliar with these textbooks. By their own testimony, their previous 16 years of schooling consisted of reading textbooks, answering questions, and taking tests on facts from the textbooks. Like the young Anderson, they had assumed that textbooks spoke the truth, and had never examined them critically nor questioned their content. The following comments taken from that discussion demonstrate the students' surprise at their findings. The book the student was referring to is identified following each comment:

> Two women are listed in the table of contents -- out of 17 total. There are no Native Americans and most of the people described are presidents. *[Great Americans*, a book of profiles]

> This covers the beginning of American history to reconstruction. It starts with Native Americans, but only spends 15 pages out of 600 pages of text on this group. [*One Flag: One Land*]

> It describes how he is fearless. In presenting this to first graders you might want to discuss what "to discover" means. [*Great Lives: Christopher Columbus*]

> (One of the students gave an example of a cartoon she had seen with Indians pointing toward Columbus and his boats and saying "Look What I discovered!")

> It says he brought six island people to Spain. It doesn't say he kidnapped them. [*Christopher Columbus: Great Explorer*]

> The sailors said that the Indians thought the sailors came from heaven. "Did not all good things come from heaven. They ran from house to house yelling -- come see what has come from heaven." The author is doing the thinking for the Indians. [*Christopher Columbus*]

> This is a text from the 1950s. It refers to the Indians as devils. It never questions whites' actions. It assumes that the Indians just wanted to fight. [*Daniel Boone*]

> This was published in 1986. In the discussion of the American movement West, the Indians get one sentence. Everything else is on the pioneers. Slavery gets two pages. *[America's Regions*]

From this discussion came a rich dialogue among the students and Anderson that ranged across information gleaned from the textbooks as well as other sources. Students' personal feelings and beliefs intertwined with new information and ideas, as seen in their comments[7]. Some of the comments pertained to current events in their lives:

> Student: When was this controversy [about Columbus] brought up? I didn't know about it until this year.

> Student: My teacher is trying to do a unit on Indians. I'm so angry to know that I didn't know they were treated this way. We killed them. We murdered them. This is how we treated Blacks.

Student: None of us did it to them. But how would we line up on the Chief Illini [university mascot] controversy? We have to worry about the history we're making now.

Other comments related to the work situations they had entered and expected to encounter as teachers:

Student: The teachers who were teaching us didn't have an historical background. You can't blame the teachers.

Student: Some districts require you to use certain texts. We may not have the option.

Student: But on the other hand my co-op [co-operating] teacher got lots of negative comments when she took a more critical approach to Columbus. Fellow teachers give you flak. They say, "Let's all float and be happy."

Student: How much of history is correct? It's all someone's point of view. For two years I had a Chinese roommate who lived in Taiwan. The history she learned in Taiwan was totally different than the history they learned on the mainland.

Student: What do you believe? What do you teach?

After a while, students began to make comments that reflected their own learning and, in many cases, deeply-held beliefs that they were beginning to question.

Student: Why hadn't the American Indians progressed like the Europeans?

Jim: The Europeans imposed the definition of civilization.

Student: Why didn't they (the Indians) have big ships?

Student: Technological advances.

Jim: If we make technology the critical component we're making it a scale of judgment.

Student: Like now, like now when some of the Third World countries today--why aren't they as developed today?

Jim: If you make technology the key to civilization, you make the U.S. the most civilized.

Student: I took a women's history class. American Indians believed that women had power through food and the control of birth. European concepts changed that. Who is to say who is advanced?

Student: Is technology really advancement? We're doing ourselves in with technology. Sometimes it advances and sometimes it doesn't. Sometimes the Indians are seen as savage, but is the bomb less savage?

Throughout this discussion, Anderson also introduced a number of points about the concept of inquiry, particularly historical inquiry. The following comment relates to his own ideas about historical inquiry.

> Jim: It's a process of inquiry. We use evidence. We use documents. Much of history we have to infer. It's important to know what the base of evidence is.

This led students to discuss their own conceptions of inquiry and how it relates to knowledge construction:

> Jim: You need to make students aware of what the evidence is. It helps if students know this is a process of inquiry and that there is a degree of speculation in investigations.

> Student: We've grown up thinking wrong about Columbus -- how do we know we haven't grown up thinking wrong about everything else?

> Jim: Thinking that way will continue the inquiry.

> Student: How do you pick your texts?

> Jim: It's not easy. I have to read a lot of texts to select.

> Student: How should we choose for our classes?

> Jim: Look at all the texts. Figure out how to supplement. The problem will continue if you rely too hard on texts. Raise questions and let them know these things are in dispute. Sometimes we think it matters more than it does. The world won't unravel if you do things differently. How do you teach critical inquiry? Concept is a two-way street, but stereotypes are a one-way street.

Near the end of the class, one student asked a question that posed a challenge to her seventeen years of formal schooling: "How do we know that any of the stuff in any of our textbooks is true?" Such a question could be viewed as evidence of a massive disillusionment or as a major advance in a lifelong process of inquiry.

This was a powerful discussion for the students. Three months later, in response to a question about significant learning incidents, one student wrote:

> Yes, there was such an incident. It was the class during which Jim Anderson came to speak to our class about the weakness and bias in social studies textbooks. He took something that seems so set, so definite -- history -- and showed how we are not getting the whole truth about it from textbooks. But how is history usually taught to children? Through the use of textbooks, of course.

> Jim Anderson, someone who seemed very intelligent and educated and who was not involved as an inquiry instructor, presented to our class that day how to inquire about history, basically. He got me thinking about what history really is and how I can find out. He modeled exactly what I want to do as an inquiry teacher. That really validated for me the whole concept of inquiry. This 'stranger'

was repeating the same ideas I'd already heard in class, but for some reason, this time they were striking me, this time they were sticking. I was really involved and my mind was going a thousand directions. I want to do this kind of inquiry with my own students.

This one class session provides a model for understanding the ways that literacy learning develops within an inquiry model of curriculum. In reviewing the kinds of literacy learning that occurred in this class, one finds that:

- Literacy skills unfold in relationship to their use as part of a meaningful inquiry;
- Students read more, and more deeply, by not focusing on reading; and
- Reading is critical, questioning, analytical, and highly intertextual.

Unlike the Skills Model or the Instrumental Model discussed earlier, which start from the study of a text, in an Inquiry Model, such as the one depicted here, learners start from a meaningful question, in this case--how do textbooks represent the disenfranchised? An analysis of the November 7 session revealed that the discussion on this question fell into four broad areas: questions or ideas about historical inquiry, discourse and texts, personal experience, and the social implications of one's learning. Students' learning crisscrossed these divisions as illustrated in Figure 5.
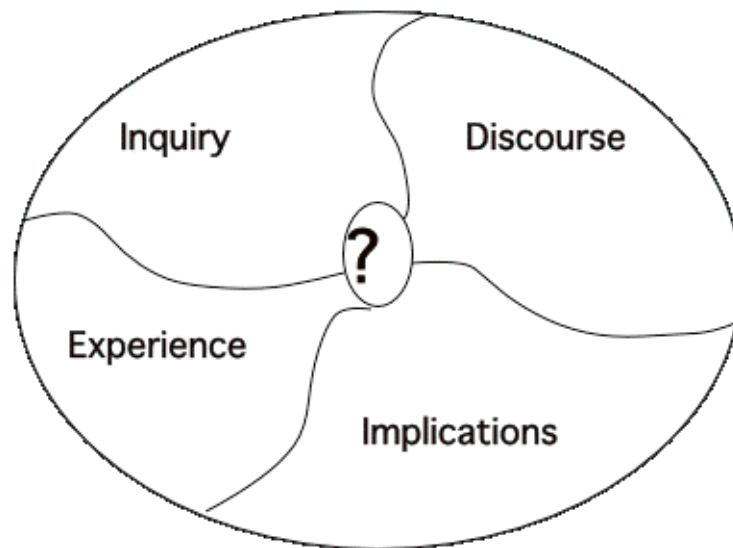

Figure 5. Dimensions of student questions about inquiry

Within each of these domains numerous questions and new starting points for learning arose:

Inquiry

- What are the facts about Columbus?
- How do we characterize discovery, progress, etc.?

- What are alternate readings of history?
- How do we find these alternate viewpoints?
- What is historical inquiry?
- How is historical inquiry like other forms of inquiry?
- How does historical truth change and why?
- What were the factors driving Columbus and other explorers?
- What was their real impact on history and our lives today?

Discourse

- What markers tell me what the textbook author thinks?
- Does quantity signify? placement? language? graphics? how?
- What information did they elect to include? why?
- How do we make meaning from the textbook?
- How can we compare different parts of one text?
- How can we compare across texts?
- Are they all the same? Are they different? Why? What does it mean?
- What theories were the authors/illustrators working from?
- How do the different parts of the text amplify this message?

Experience

- What has been my experience with these issues? As a child, student, teacher?
- What have my peers here experienced? Is it the same or different from what I know?
- What are my beliefs, concepts about Columbus, about discovery, about Native Americans, about African Americans, about women?
- Where did my beliefs come from?
- What were the experiences of my family?
- What have I seen and done that I can tie into this discussion--travel to Spain, museum visits, etc.?

Social Implications

- What are the implications of relying solely on textbooks?
- What are the implications of perpetuating the Columbus myth?
- How is education affected by these discourses?
- What responsibility do we have as teachers?
- How do these discussions about Columbus and textbooks relate to things on campus, national, and international issues?
- How can we help our students to learn to inquire?
- What are the barriers to our doing so?

At the heart of the inquiry model lies a meaningful question. As the learner investigates an issue she or he is simultaneously engaged, not only in the discovery of information related to the particular topic area suggested by the question, but, equally important, the inquiry involves examination of various modes and forms of discourse, broad questioning of one's own experience, and reflection on the social implications of the new knowledge. Although similar in appearance to the Instrumental Model of literacy, the Inquiry Model is significantly different in that its starting point is an *inquiry*, not a text. The Inquiry Model, as a

consequence, employs a broader and more encompassing definition of experience than that found in the Instrumental Model, which focus on narrower conceptualization s of prior knowledge. It also places far more emphasis on consideration of the social implications of learning, where those working from integrative models might see such concerns as potential extensions of text-based experiences rather than vital elements of inquiry.

Conclusion

Our investigation into models of literacy across the curriculum and inquiry approaches to literacy leads us to suggest that researchers and teachers need to address these issues in a more "troubled" way (Smith, 1989). One way to understand what this implies is to compare Figure 1 (literacy across the curriculum) and Figure 4 (the inquiry approach to literacy.) In Figure 1, the arrows point away from literacy, the heart of learning, to the various disciplines. Figure 4, in a sense, reverses the direction of the arrows, putting an initial question at the heart of learning and then engaging learners in various modes of investigation (which may include extensive interaction with texts).

The difficulty of considering a reversal of the arrows, however, is that an examination of these issues will, necessarily, bring into question the purpose of education and the role that literacy should play in it. Those who work from a transmission model will state that becoming an efficient reader or writer is the goal. Those who work from a literacy across the curriculum model may state that the goal of education is to develop critical, analytical readers and writers. Both of these camps might do well to consider the words of John Dewey on the purpose of education: "The business of education is the emancipation and enlargement of experience" (Dewey, 1900/1956, p. 209).

Those who work from a literacy perspective--either the Skills Model or the Instrumental Model--may believe that the emancipation and enlargement of experience is embedded in their goals of achieving literacy. Those who work from an inquiry perspective would argue the reverse, that Dewey's purposed description should provide an overarching understanding of the purpose of learning, within which we would locate literacy achievement.

In thinking about these issues in a more troubled way, we would ask readers to consider the following: Does our concentration on reading distort our thinking about the purposes of education? Why has the history of modern education followed this course, making reading or literacy the goal that subsumes all other goals? Does this course really serve our needs and the needs of children? Who will be displeased, if we question literacy as the driving force of education? What would schools and curriculum look like if we did not privilege reading or writing, but instead emphasized inquiry? What supports do teachers need if they are to learn how to differentiate between these two paradigms and to use their knowledge of both to provide better literacy instruction? Some important steps have already been taken in this direction (see Drake, 1993; Fogarty, 1991; Harste, Woodward, & Burke, 1984; Lefevre, 1987; Siegel, Borasi, & Smith, 1989), but the discourse needs to be broadened and deepened on many fronts .

This is not a time to abandon literacy instruction. But it may be a time to question the privileging of literacy--reading and writing instruction--over all other instructional goals.

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[1] This is exemplified by such events as the 1974 National Institute of Education Conference on Reading, the growth of the National Reading Conference from 200 members over 1,000, and the wide distribution (over 300,000 copies) of *Becoming a Nation of Readers* (Anderson, Hiebert, Scott, & Wilkinson, 1985)

[2] Developmental reading classes assume that students at any age should be viewed as capable of extending their reading abilities, and not be labeled as "poor readers" or "slow learners".

[3] There is now a national network of WAC programs; an electronic network devoted to this topic boasts over 100 members, primarily college project directors and their staffs (Hawisher, 1992; Thaiss, 1992).

[4] There are many descriptions of inquiry teaching and learning within specific subject areas (e.g., Beyer, 1971).

[5] Although our example is of learning at the College level, the general form of the discussion and the students' involvement could be enacted in any classroom.

[6] For privacy reasons, we have omitted individual student names from this account.

[7] The quoted material to follow is based on detailed field notes, but not taped records. As a result, the comments should be viewed as paraphrases made as accurate as possible, but not as verbatim utterances. Utterances labeled "Student" were made by various students in the class.