The Literacies Institute (1989). *The Literacies Institute: Its mission, activities, and perspective on literacy* (Technical Report No. 1). Newton, MA: Education Development Center. (Written by Bertram C. Bruce, James Paul Gee, & Sarah Michaels).

THE LITERACIES INSTITUTE

Literacy is a prerequisite for full participation in a modern, technological society. For the nation, broad-based literacy is a prerequisite for the effective functioning of democratic institutions at home and for continued competitiveness in an increasingly complex world. We think of the United States as a highly literate nation, and in the sense that nearly all citizens can read and write at a minimal level, it is. But full literacy implies far more than basic reading and writing proficiency. It implies an enculturation into ways of thinking, interpreting, and using language in a variety of complex activities and settings, typical of a rapidly changing and technologically advanced society. Moreover, it implies that this enculturation is widespread throughout the population. In both these senses, the U.S. is only partially literate.

A good indicator of our current state of literacy is the recent National Assessment of Educational Progress report on literacy in young adults. This report showed that 95% of the young adults in the U.S. could read and understand the printed word. Yet only a small percentage could carry out moderately complex tasks using their literacy skills. These tasks were relevant to the real world of work and daily life, such as locating and using information in tables, graphs, forms and schedules, or applying arithmetic operations in combination with printed materials, as in balancing a checkbook or completing an order form. There was a dramatic dropoff in the number of young adults who could succeed as the tasks became even moderately difficult. Furthermore, minority subjects performed even less well than non-minority subjects in the study. On tasks such as synthesizing the main argument from a lengthy newspaper column or examining a menu, computing the cost of a specified meal and determining the correct change from a specified amount, only about 40% of the White subjects, 10% of the Black subjects and 20% of the Hispanic subjects were successful.

Results such as these highlight a pervasive failure on the part of our schools in teaching the analytic and critical thinking skills that underlie high level literacy, a failure that disproportionately affects low-income and minority students. This failure makes a mockery of the principles of equal opportunity and equal access to schooling, and threatens America's standing as a technologically competitive nation.

Previous research on reading and writing in this country has had a limited positive impact on educational practice. This is, in part, because research has tended to fragment the phenomenon of literacy. Studies have isolated aspects such as the texts students produce or read, students' individual cognitive processes while composing or comprehending text, and the social and institutional settings in which literacy practices take place. But ignoring the complex interrelations among the individual, social, and textual creates fundamental obstacles to understanding what it means to acquire literacy skills in school. It provides at best only partial solutions to teachers who

are forced to deal, on their own, with the linguistic, cognitive, and cultural diversity their students present, in the face of limited resources and institutional pressures.

Over the last decade, a consensus has been emerging among an interdisciplinary group of scholars, who have attempted to integrate social, cognitive, and textual analyses in studies of literacy development at home, school, and the workplace. This work has led to a rethinking of our traditional ideas about literacy, cultural diversity, and the nature of schools and schooling. Work in what might be called, the "New Literacy Studies" has drawn on anthropology for research methods for studying home and school cultures; on linguistics for information about the different demands of various language tasks; on sociology for information about the relation of home and school settings to the structure of the society at large; on cognitive psychology for information about the stages of cognitive development and the relation between literacy and other psychological capacities; on literary criticism for information about ways of analyzing and understanding written language and sense making generally; and on education itself, for information about new ways of teaching and learning. These disciplines provide an arsenal of professional skills for interpreting and assessing student discourse and classroom interaction, constructing curricula, and creating learning environments which promote literacy acquisition for students of all backgrounds.

Work in this emerging interdisciplinary framework has led to new conceptual and methodological tools for working collaboratively with teachers in real classroom settings. It is supported by some of the best current practice in superior schools and innovative adult literacy programs. This work, however, has largely been done outside of traditional Schools of Education, and has thus not yet influenced the standard curriculum for teachers in training or the daily practice of teachers and administrators in the schools. For this to happen, it is imperative that teachers, administrators, and researchers come together as partners -- developing a shared vocabulary and a cross-disciplinary approach to studying students and social settings that builds on the skills, analytic tools, and insights of both practitioners and researchers alike, and that can be applied in educational practice.

To address the problem of literacy, making use of this new interdisciplinary approach, we propose to establish a **Literacies Institute** representing a collaboration among schools, universities, and research organizations in the greater Boston-area, but serving teachers, administrators, and researchers nation-wide. The Institute will address the national need to enhance literacy instruction in the schools, and to make school-based literacy accessible to children of all socio-economic and cultural backgrounds. To this end, the Institute will seek to enhance the professional growth of teachers. In particular, it will work to create the conditions necessary for teachers to become teacher-researchers able to analyze and improve literacy practices in their own classrooms, as well as mentor-teachers able to teach other teachers and to shape curricula in their own schools. These efforts will be carried out in the context of collaborative research on literacy practices and the teaching of literacy.

The **Literacies Institute** will be an umbrella organization facilitating and sustaining discussion, research, and interaction among teachers, administrators, and researchers nation-wide

through a variety of activities and environments. On an annual basis, it will sponsor a six-week **Summer Session** for teachers. The Summer Session will provide a rigorous course of study and collaborative research on issues of language, culture, and literacy, promoting a cross-cultural, cross-curriculum, and interdisciplinary approach to the problems of literacy and schooling. The Institute will also support a computer-based **Communication Network**, facilitating year-round contact among Summer Session teachers, administrators, and researchers. It will sponsor a **Sabbatical-Fellowship Program** allowing teachers from across the country to spend six months or a year as resident Institute Fellows. Fellows will assist with local Institute activities and work with researchers to develop and critique materials for Summer Session courses. In addition, the Institute will offer special services to teachers through a variety of on-going, year-round facilities and activities, including a **Teacher-Researcher Workshop** and special ties to a local **Laboratory School**. These local activities will, in turn, provide information, models of teacher-researcher partnerships, and research findings to enhance the curriculum of the Summer Session. All of these activities will be administratively subsumed by a **Literacies Research and Information Center**, which will sponsor research projects, hold public forums, disseminate Institute reports and materials nationally, and coordinate the various activities of the Institute. Eventually, this model will be implemented in other centers.

The Institute will create an environment and an associated set of projects to enhance the school-and university-based training of teachers, administrators, and researchers. The goals of this process are threefold:

- To produce a cadre of "master teachers" who will have the skills to observe and critique the literacy activities in their own classroom and to apply this information to their own practice. Master teachers will also develop the skills and credibility to train other teachers and shape curriculum and educational policies in their own schools and school systems.
- To promote a melding of different disciplines concerned with literacy around the methodological and analytical tools they can offer teachers for the enhancement of practice, promoting a new "teacher/researcher culture," -- a shared vocabulary and new forms of collaboration among teachers, researchers, and administrators.
- To develop better theories of literacy development, ones which are informed by previous work in cognitive and social sciences, but which explicitly address the development of literacy in a multicultural society.

We should emphasize that the Literacies Institute is not adopting as its mission the development of new curricula or teaching methods (although its work should inform such development by others). The point instead is to encourage the development of a critical stance that must be taken with respect to any practice. With respect to teacher development, the goal of the Institute is "curriculum-proof" teachers, rather than "teacher-proof" curricula -- teachers who can think critically and analytically about the diverse literacy demands of different school disciplines and school activities, and about the individual and cultural differences among students in approaches to learning.

Thus, activities of the Institute will focus on providing models, tools, and collaborative environments for understanding literacy development in our multicultural society. The Boston area is particularly rich in university-based research on literacy in a number of disciplines, as well as the site of many exciting projects in the schools. But there is no forum for students of literacy, whether researchers, teachers, or administrators, to come together, to engage in joint discussion and research, and to work together to support teachers and improved programs in the schools. There is no forum to focus the area's enormous resources on the key problems facing today's teachers in such a way that they can gain on-going support for their growth as master teachers and critical thinkers about literacy and education. Establishing this forum can serve as a national model for other urban centers facing the same problems. This sort of solution is more than a temporary corrective; it is a substantive and permanent contribution to literacy education across the curriculum and to the professional standing of teachers. Once fully established, the Institute can generate a significant proportion of its own funding through tuition and fees for Institute activities.

In this document, we discuss the view of literacy, teaching, and research that is the foundation of the Institute. We then discuss each of the activities the Institute will sponsor, stressing the way in which each of these will contribute to the overall mission of the Institute.

A Perspective on Literacy

Our approach stresses the inherent plurality of forms of literacy across social groups, institutional settings, and across the curriculum in schools -- hence the plural form "Literacies" in the name of the Institute. Moreover, we begin with a clear recognition of the strengths of children from different socio-cultural groups, strengths which are often denied or ignored to the detriment of the child's self esteem and learning. We see cultural diversity as a source of educational opportunity that can be built upon to form new cognitive and social skills--skills required for school success, employment, and advancement in society.

Each child learns different ways of using language and of taking meaning from written language in the early years at home. No cultural group in this country is illiterate; each has sophisticated ways of integrating the milieu of written language around them into their daily social life. However, ways of using oral and written language are closely tied to culturally different ways of interacting with others and with culturally different values and attitudes which ultimately constitute particular world views. Some children have home-based ways of using language which are more closely related to the ways in which language is used in schools than are the home-based practices of other children. This can constitute an initial advantage for these children. However, every member of an urban, technological society like ours must learn a myriad of ways of using language (in writing, reading, speaking, and thinking) which go well beyond the uses of language inculcated in the home and peer group, regardless of social and cultural setting of the home or peer group. Each of these uses of language can be thought of as a form of literacy which interacts with home-based ways of using language and which has its point of origin in the school or in a societal institution (business, government, job site) beyond the school. Success in mastering these public uses of language is a primary determinant of access to various social goods (e.g., employment,

social mobility, and legal redress). A challenge for schools is to foster these skills in all students, without denigration of their culturally specific values and ways of using language.

Literacy, then, is ultimately about ways of making sense which go beyond our informal, home-based ways of using language. It is for all of us our introduction and enculturation into the public sphere. Schools across the country have been conspicuous in their failure to understand and build on the home and community-based language practices of many minority and low-income children. In addition, contemporary schools often fail to lay the foundations of higher-order literacy and critical thinking for any students.

Mismatches Between Home Culture and School Culture

The school is in many respects a culture in its own right, with school-based ways of thinking and behaving, ways that vary across levels of schooling, across subject areas, and across various approaches to teaching and learning. Schools transmit types of literacies for different curricular areas and for different kinds of technology. These school-based ways of using language and integrating them into activity and interaction are more closely related to the literacy and language practices of some types of homes ("mainstream homes") than others. This is one reason that school-based literacy practices are often less accessible to non-mainstream children. The relatively new disciplines of "ethnolinguistics" and "ethnography of education" have given us new insights into how the culture of the school interacts with home-based cultures. It is becoming evident that children from many minority groups fail in school not because of differences in dialect or language, however important these may be, but because of a mismatch between their home culture, with its characteristic values and ways of making sense, and the culture of the school. The foundation of teaching that will render full literacy accessible to all children, regardless of cultural and socio-economic background, lies first and foremost in an understanding of home-based cultures, school cultures, and their interaction. And this understanding must be part not just of researchers' theories, but of a teacher's everyday practices.

Furthermore, while a good deal of attention of late has been paid to the literacy failures of low-income children, it has now also become apparent that much current classroom practice fails to nurture higher-order cognitive and linguistic growth on the part of even more advantaged students. The ever-changing technological, computational, and language-related demands of modern society require students not merely to master bodies of static knowledge, but to develop the ability to gain new information and to reason critically. They require not just learning, but the ability to learn in new and changing environments. It is because schools have failed to inculcate these abilities that students today seem to know so little, not because they have been exposed to too few facts. School-based literacies, whether computer literacy, science literacy, language arts, or literacy in the social sciences, must be seen as ways of acquiring and using knowledge.

Language and Cognitive Development

Acquiring school-based literacies is ultimately for everyone much like acquiring a second language. Thus, any study of literacy needs to be embedded in views of language and cognitive development. Unfortunately much of the research in psychology (at least in the U.S.) has concerned itself with the thinking processes at work within individuals in laboratory settings. This approach has only a tenuous link to the study of learning in school where complex institutional, socio-cultural, and interactive factors constrain activities and influence individual thinking and participation. An alternative tradition, drawing on work not only in psychology, but in sociolinguistics and anthropology as well, locates the genesis of higher-order cognitive processes in the social world. In particular, it emphasizes social settings in which people learn in concert with others through processes of modeling, coaching, and collaborative problem solving. Even learning that occurs in relative isolation must be understood in terms of sociocultural values and practices. This approach emphasizes the initial importance of fine-tuned interaction between teacher and learner, rather than the sort of independent performance by the learner that is traditionally evaluated in a test. Such an approach to learning has obvious and direct implications for improving literacy in school settings. It allows us to approach literacy development as a form of "apprenticeship"-- to emphasize the value of what both teacher and learner bring to educational activities, and to see learning as a fundamentally social phenomenon where the student masters a variety of literacies through initially sharing in the literacies of teachers, parents, and peers. It also allows us to connect school-based literacy instruction directly to how people learn in the world outside school, in various work and institutional settings, not by turning schools into vocational training institutions, but by making **learning to learn as a life-long skill** the basis of schooling.

Enculturating Teachers into the New Literacy Studies

We believe that students will achieve school-based literacy in the full sense only if they are enculturated into the ways of thinking, talking, valuing, and behaving that underlie school culture. We also see this culture as having different manifestations across disciplines (such as science vs. language arts) and across different sorts of school activities (such as giving an oral book report, doing a science experiment, having a writing conference with the teacher).

In order to master these literacies, students must engage in an apprenticeship process with the teacher, and augment that process with meaningful, recurring literacy practices with peers. But in order for teachers to establish successful apprenticeship relationships and create culturally appropriate literacy environments in their classrooms, they too must become enculturated into thinking broadly and critically about a range of literacy practices. They need to develop the capacity to analyze the language competence their students bring from home, assess the socio-cultural norms behind recurring classroom literacy events, interpret students' oral and written performance as situated evidence of cognitive development, and assess new technology and curriculum materials in light of the literacy objectives they set for their students. There are no simple solutions available today for how to accomplish this enculturation process. Teachers, administrators, and researchers, together need to develop new ways of thinking about and making decisions about literacy practices in school settings. It is the mission of the Literacies Institute to facilitate communication and collaboration that will lead to effective enculturation.

In its goals, the Institute reflects a consensus represented in a wide variety of state and national reports on education: for example, on a state level, The report on Teacher Education in Massachusetts ("The Griffiths Report"), the study on Teacher Supply and Demand in Massachusetts ("MISER study"), and the recommendations of the Joint Task Force on Teacher Preparation in Massachusetts ("Making Teaching a Profession", Oct. 1987), and, on the national level, the Holmes Report, and the Carnegie Task Force on Teaching as a Profession. These reports and others have called for an improvement in the professional standing of teachers and the formation of career trajectories within the schools that allow teachers to grow professionally and intellectually without having to leave teaching or the school system. They have called for greater collaboration between Schools of Education, the arts and sciences faculties of the University, and the schools themselves in the training of teachers, and for the creation of a group of master teachers and mentor teachers. They have also pointed to the deep problem of minority failure and the need for more minority teachers, and the need for all teachers to teach in a way sensitive to the identities and needs of minority students and students from economically depressed backgrounds.

Derek Bok, the President of Harvard, has recently called for a "core curriculum" for all teachers-in-training. We view the cross-cultural, cross-curriculum, interdisciplinary approach to literacy represented in the Literacies Institute as the foundation of a core curriculum for tomorrow's master teachers. For all the talk about improving schools, we believe that real improvement, when it comes to higher-order analytic skills and self-critical awareness for all students, has very little to do with test scores based on tests of fragmented bits of language and numeracy. Rather it has to do with improving the training of teachers and the status of the teaching profession.

Teachers need to be enculturated into new ways of thinking about, organizing, and assessing literacy practices. This entails an integrated understanding of methods and findings in a range of disciplines such as linguistics, anthropology, and cognitive psychology. While teachers can hardly master all the disciplines concerned with literacy, they can be exposed to the modes of inquiry and the methodological tools these disciplines make available. But this is unlikely to happen within the entrenched disciplines found in the typical university setting. There are rigid dividing lines between disciplines (like linguistics and anthropology, or computer science and psychology) as well as between liberal arts faculties and schools of education. The Institute will address these problems by bringing teachers, administrators, and researchers from various institutions together on a "neutral turf" to teach and learn collaboratively, outside the constraints of traditional disciplinary lines.

Literacy Systems: A New Perspective on Classroom Learning

Our assumptions about literacy, teaching, and enculturation raise questions which researchers and teachers are just beginning to address within the framework of the new literacy studies.

1. How do sociocultural differences, including experiences at home, in the local community, and in society-at-large, affect the acquisition of literacy in school? How do these differences relate to developmental differences and individual differences?

2. What are the relationships among the various sorts of home-based literacies in the U.S., the various types of school-based literacies, and the language and interactional skills required by various social institutions (government, business, media, job-sites, etc.)? How do the various sorts of school-based literacies relate to each other, and how do they relate to the language and interactional skills called for by various technologies?

3. What teaching and learning approaches work best for different types of students based on the sorts of differences in (1) and the types of literacy in (2)?

We believe that to answer these questions, it is best to view classroom learning as embedded within a **literacy system**. We define a classroom literacy system as the activities, norms, rights and obligations for speaking and acting, including uses of technology, which influence and constrain student reading and writing in the classroom. As we use the term, the literacy system is the day-to-day practice of a set of "curricula," shaped largely by the teacher, but partly by the students, and partly by outside forces which impinge on the classroom. Research using this construct has been carried out in a range of urban classrooms, at different grade levels and focusing on different aspects of literacy development, from writing instruction, to the use of computers, to science education. A literacy systems approach has been shown to have implications both for researchers (influencing the kind of questions asked and the kind of data collected) and for teachers (supporting teachers to take the lead in suggesting changes in classroom activities and materials). It is a generative idea -- one that we will use in working with teachers and in research sponsored by the Literacies Institute.

School-based literacies are ways of doing things: ways of talking, interacting, writing, reading, and understanding. They are each a way of taking meaning from and giving meaning to language, whether written or spoken. These ways differ across different school tasks and different school disciplines. But as a group these literacies also differ significantly from many non-mainstream cultures' ways of taking meaning from talk, interaction, and print. There is no one uniquely successful approach to school-based literacy for all children. It is for this reason that we will not categorically endorse any single method, curriculum, or technology with teachers in the Institute. Rather, our approach will promote critical analysis of the practices and the effects of different approaches. It is by means of such an analysis that teachers can come to understand why an approach worked the way it did in a given situation; what aspects of it should be replicated, or extended; how it should be altered for different goals or different groups of students, and how it can be integrated with other on-going practices.

In what follows, we provide examples of classroom research that relate to literacy development. Each of these examples, in different ways, is the result of a coming together of teachers and researchers in studying and reorganizing literacy activities. While they are taken from

different school contexts and instructional domains, they each show how theory and practice can inform each other, and how research that pays careful attention to students' language and discourse practices can lead teachers to make changes in their own practice.

Ethnography of Communication

The first example derives from the work of linguist/anthropologist Shirley Brice Heath. Over a ten-year period, Heath was both an ethnographer in rural black and white communities in the Piedmont Carolinas, working at the request of parents who wanted to understand why their children were having difficulty in school, as well as a professor giving in-service courses for teachers. When white teachers working in recently desegregated "Tracton" schools complained that their black students did not participate actively or appropriately in lessons, Heath was able to build on her own previous fieldwork on language socialization in Tracton. For example, her work had shown that Tracton children at home were rarely asked "known-answer" questions oriented to labeling and describing objects and past events. As one boy complained, "Ain't nobody can talk about things bein' about theyselves." Heath engaged the teachers of these children in systematic observation of questioning in their own homes and classrooms, and then worked with them to design new ways of interacting and asking questions at school. This collaborative work resulted in a new sequence of classroom activities:

1. Start with familiar content and familiar kinds of talk about that content.
2. Go on to new kinds of talk, still about familiar content, and provide peer models, available for repeated hearings on audiocassettes.
3. Provide opportunities for the Tracton children to practice the new kinds of talk, first out of the public arena and also on tape, and then in actual lessons.
4. Finally, talk with the children about talk itself.

In this process of working with Heath, teachers were gaining strategies for assessing the language skills their students brought from home and designing activities that served as bridges to valued school-based literacy skills.

Interestingly, Heath's methods for collaborating with teachers in doing ethnography of communication research were also powerful methods for enculturating students into school-based ways of questioning, writing, and analyzing information. This process involved breaking down school-based literacy into component skills: asking questions of non-intimates, where little shared background can be assumed; taking notes; having discussions and comparing notes with fellow learners; having to answer questions and defend points of view; communicating progress to the teacher and often to an absent teacher-colleague by mail; writing drafts and engaging in writing-conferences; and communicating the results, in oral presentations and in print, to others, often to community members -- all the while focusing attention on language itself.

In one of the several successful demonstrations of this approach, bilingual students with low English language skills engaged in a group study of when and why Spanish and English were used

in their local communities. Another project, involving special education students, involved studying all the uses of print in the local community. All the students in this latter group eventually left special education classes to succeed in mainstream classes.

Such projects involve the students in their local communities and let them draw on the resources of their own communities (for interviews and observations). At the same time, they allow students to practice on a recurring basis the many literacy sub-skills that compose essay writing and discursive thinking. And it turns out that "practice" is a highly relevant matter here. Any literacy ability is made up of a myriad of sub-skills, which must be practiced in realistic and meaningful settings in order to be acquired. In fact, school-based skills can be lost after schooling when they are not practiced in daily life. Many of the skills that go into the sorts of projects Heath advocates and the essay reports that resulted are transferable to social and job settings that go well beyond school and the essay as a particular discourse form.

Literacy Improvement in Hawaii

A second and larger-scale example of successful educational change is the Kamehameha Early Education Program (KEEP) in Hawaii. Here ethnographers, psychologists, reading educators, and teachers have worked together for nearly 15 years developing a program that has had a dramatic effect on Polynesian children's achievement in reading. Both the KEEP staff and an outside team assembled by the Ford Foundation to study the KEEP work believe that a key ingredient of the program's success has been the long-term relationship between researchers and teachers.

After several years of experimentation, the KEEP team developed the Experience-Text-Relationship approach to reading instruction which has been described as "direct instruction of comprehension" through the discussion of stories. The discussion focuses first on children's experience and knowledge about the topic of the story, followed by silent reading of the text to find answers to specific questions, leading to an open-ended discussion of the relationships between experience and text.

A serendipitous outcome of this shift in focus to discussion was a reorganization of students' discourse patterns in reading lessons. Students' participation began to evidence an animated, polyphonic, overlapping style, with several students chiming in and talking at once. Anthropologists on the KEEP team, who had been studying children's informal out-of-school interactions, recognized the overlapping nature of the discourse as a characteristic of a highly stylized, out-of-school story telling event known as "talk-story." In this speech event, co-narration by several children is common, with audience members chiming in and overlapping the speech of narrators.

Once the relationship between reading lessons and "talk-story" was recognized, the classroom and community research came together. KEEP teachers and researchers then worked together self-consciously to implement "talking story with a book" as anthropologist Stephen

Boggs termed the new speech event, and to understand the effect of relaxing the standard "one person at a time" norm for classroom reading instruction. They found that using this hybrid of community-based conversational style and teacher-controlled task orientation had a demonstrable, robust effect on students' reading achievement. As researcher Kathryn Au notes, "if the teacher exercises her authority by dictating the topic of discussion but allows the children to have some say about the roles they will assume as speakers and when they will speak, the cognitive and instructional focus of the lesson is more readily maintained". The KEEP team has now moved out of its lab school setting, taking its hybrid approach into public school classrooms. Here, research has focused on the kind of long-term collaboration between researchers and teachers required to help teachers alter their standard approaches to turn-taking and participation in small group lessons.

Sharing Time as Oral Preparation for Literacy

Sharing Time (sometimes called "Show & Tell" or "Newstime") is a common oral language activity in early elementary school classrooms throughout the country. It is typically thought of by teachers as a non-instructional activity where children are encouraged to talk freely in front of their classmates about an object brought from home or to give a narrative account about some recent personal experience. However, research on sharing time in a range of classroom settings has documented that a great deal of implicit literacy-related instruction actually occurs. Teachers typically play an active role at sharing time, interjecting questions and comments that attempt to clarify and extend the child's original contributions. Teachers will frequently prompt children to be lexically explicit, saying, "What's that called?," even when it is obvious to everyone in the audience what the object is. They often ask students not to assume shared background knowledge on the part of the audience, and to put all the meaning into words. For example, a first grade child had brought in two candles she had made at day camp. After describing them, the teacher said:

> **T:** That's neat-o. Tell the kids how you did it from the very start. Pretend we don't know a thing about candles.

> **Child:** [No response]

> **T:** OK, what did you do first? What did you use? Flour?

The child was then able to build on the teacher's base and give a detailed account of the materials and procedure involved in candle making. In another case, a teacher asked a child who had brought in a board game to explain to everyone how you played it. The child immediately began to open up the game saying, "Well, see...," whereupon the teacher said, "Don't show us. TELL us how to play. Pretend we're all blind and can't see the game."

These and other recurring comments suggest that teachers are looking for a certain kind of discourse, with literate-like characteristics, akin to simple descriptive prose. For this reason, sharing time might well be thought of as "oral preparation for literacy." But this kind of oral

preparation turns out to be far more successful with some children than with others. Children from different backgrounds come to school with very different ways of telling narratives that reflect divergent ethnically-based narrative traditions. At sharing time, some of these "ways of sharing" (giving narrative and descriptive accounts) match teachers' implicit expectations better than others.

For example, there are striking differences between the sharing turns of middle-class white children and urban black children -- findings which have been replicated in classrooms in different regions of the country. Middle-class white children tend to tell short, concise accounts about a single time and place with a marked beginning, middle, and end, a kind of sharing time style that has been called "topic centered." These children often use a noticeable, exaggerated rising intonation contour in setting the scene and marking continuity in the setting and action, which gives the discourse a distinctive, sing-song quality. Teachers typically know just what the child is getting at and have no trouble asking questions at the appropriate time and level -- even when the child's discourse is somewhat imprecise and inexplicit to begin with. Below is an example of a "topic centered" turn. The rising arrows indicate sharing intonation.

> *Carl:* Well ↑ last night ↑ my father ↑ was at work ↑
> he↑ every Thursday night they have this thing ↑
> that everybody has this dollar ↑
> and it makes up to a hundred dollars ↑
> and my ↑ and you've gotta pick this name out ↑
> and my father's name got picked ↑
> so he won a thousand dollars ↑↑ a hundred dollars ↑↑

> *Teacher:* Tell us what he's gonna do with it ...

In contrast, working-class black children (and particularly black girls) tend to use a very different narrative style -- which typically results in the juxtaposition of several concrete anecdotes all thematically linked to make a point. This "episodic" or "topic associating" discourse tends to be longer and always includes shifts in time, place, and even key characters.

For teachers, expecting topic centered discourse, these turns are often hard to understand and follow on the spot. When asked to comment on these turns, teachers frequently describe them as "rambling," "unplanned," "skipping from one thing to the next," and as "having no beginning, middle, and end" and hence no point. The kids who talk this way are often evaluated as not taking the time to think in advance about what they want to say, and hence are often judged as simply talking "on and on just to hear their own voice." Careful analysis has shown that these turns do indeed have a point, and the stories are often highly sophisticated in their display of devices which in literary texts would be admired, such as syntactic parallelism, repetition, word play, and structural symmetry. Shifts in episodes are invariably marked by rhythm, pitch, and intonation, but the listener must infer the point from understanding the unstated thematic links. These children also use exaggerated sharing intonation, but it serves a different rhetorical function. Typically it is

used not to mark continuity, but to highlight discontinuity, marking the separation of narrative segments and a shift in temporal orientation, location, or focus. To illustrate, we have selected an episodic turn told by a second grade girl. It is shorter than most episodic stories, but does display the characteristic features. In the transcript, we have skipped a line between narrative segments. Colons indicate vowel elongation.

Leona:	On George Washington's birthday ↑	1
	I'm goin' ↑ ice: ↑ my gra:ndmother ↑	2
	we never ↑ haven't seen her since a long ti:me ↑	3
	and ↑ ... and she lives right (n) nea:r u:s ↑	4
	and ↑ ... she: ↑ and she's gonna ↑	5
	I'm gonna spend the night over her house ↑↑	6
	and ↑ .. every weekend ↑ she comes to take me ↑	7
	like on Saturdays and Sundays ↑ awa:y ↑*from ho:me*↑	8
	and I spend the night over her house ↑	9
	and one day I spoi:led her di:nner ↑	10
	um and we was having um ↑ we was ↑ um	11
	she paid ten dollars ↑	12
	and I got eggs ↑ ... and stuff ↑	13
	and I didn't even eat anything ↑↑	14

Because the structure and thematic development may not be obvious from simply reading the transcript, it is worth saying a bit about how Leona makes meaning in her sharing time story. She begins with a time marker ("On George Washington's birthday") and a future-tense orientation, using sharing intonation tempo and contours. She marks the end off this segment with increased tempo in line 6, "I'm gonna spend the night over her house." The second segment begins with a shift in time from the future, to the iterative "and every weekend," with a resumption of sharing intonation tempo and contours. This segment too ends with increased tempo in line 9, a lexical and prosodic repetition of line 6. Played side by side, these two phrases are indistinguishable, an implicit signal of the association across these segments. What they have in common is the fact that on both the holiday and the weekend, Leona spends the night at her grandmother's -- the implicit point being that her grandmother is an important figure in her life. The third segment shifts to a particular occasion, "one day," and shifts focus to dinner, rounding the story out to a close with a twist of humor, again highlighting the relationship with her grandmother. The closing is marked by staccato rhythm and falling tones.

In an experimental study of adult responses to children's sharing time turns, a mimicked version of Leona's grandmother story was played to black and white adults, all graduate students at Harvard. The mimicked version maintained Leona's rhythm and intonation but changed black dialect grammatical and phonological features to standard English. Twelve adults were asked to comment on the well-formedness of the story, and to make evaluative statements as to the probable

academic success of the child telling the story. As it turned out, black and white informants responded very differently. White adults' responses were uniformly negative: "Terrible story; incoherent." "Hard to follow." "Mixed up." "Not a story at all, in the sense of describing something that happened." "This kid hops from one thing to the next." When asked to make a judgment about her probable academic standing, they uniformly rated her below children who told topic centered accounts, saying, for example, "This child might have trouble reading if she doesn't understand what constitutes a story." Some referred to "language problems" affecting school achievement and others suggested that "family problems" or "emotional problems" might hold this child back.

Black informants reacted very differently, finding the story well formed, easy to understand, and interesting, "with lots of detail and description" and "real emotion." Three selected it as the best story of the five they had heard. All five commented on "shifts" or "associations" but none were thrown by them. In addition, all but one of the black informants rated the child as highly verbal, very bright, or successful in school. One commented on her "good language skills" which should provide "good language experience for writing."

The results of this experiment confirm what we see repeatedly in classrooms. Where students' narrative strategies do not match the teachers' expectations for good sharing time talk, teachers' have consistent difficulties appreciating and building on the child's talk. Their questions and comments may interrupt the student or miss altogether the point the student is trying to develop. Interruptive probes as to what happened when often serve to cut short rather than build upon the child's narrative intentions or help the child be lexically explicit. Recurring interpretive problems, for both teachers and students, are poignantly illustrated in the following example. During a first grader's episodic turn that dealt with weekend activities, a birthday present, and acrobatic feats with a friend, the teacher finally interrupted saying:

> *T:* OK I'm going to stop you. I want you to talk about things that are really really very important. That's important to you but can you tell us things that are sort of different? Can you do that?

One year later, that very child, now a second grader, was interviewed about what she had thought of sharing time in first grade.

> *Child:* Sharing time got on my nerves. She was always interruptin' me sayin' "That's not important enough," and I hadn't hardly started talkin'!

Research of this type does not lead to programmatic recommendations, i.e., to specific guidelines about how to organize sharing time. On the other hand, teachers can use this information to help them listen differently: One first grade teacher, several weeks after learning about the sharing time research, commented that now she reads students' writing differently, and notices many episodic characteristics in their texts. Often she can't "see" the connections in their texts, but finds that if she probes for implicit connections, the kids can explain them to her. She

said that "simply assuming the connections are there gives us a common ground to work from." Teachers can also reorganize the activity: One teacher stopped participating in sharing time herself and turned it over to the kids; another created two different kinds of sharing time -- one for oral storytelling in which she let kids tell narratives any way they like, and the other for generating written text, in which she talked explicitly about different kinds of stories, and had kids practice a variety of genres.

Learning What Causes the Seasons to Change

Our final example comes from a fairly typical, urban, fourth-grade classroom. The data were gathered from long-term participant observation, audio- and video-recording in this classroom, interviews with students and the teacher, and analyses of problem-solving protocols. Over a wide range of tasks, lesson formats, and subject areas, Bruce and Michaels found that classroom reading, writing, and problem-solving were constrained by several key assumptions students held. Among these were the following:

1. It doesn't have to make sense;
2. "It doesn't have to be perfect -- we're only in fourth grade";
   (a) A finished product is finished, even if it's not perfect;
   (b) Getting it done is more important than getting it done right;
3. The teacher is always right.

In collaboration with the teacher, they studied how these assumptions affected students' reading of school texts, their participation in classroom activities, and ultimately what they learned. They also worked closely with the teacher, jointly developing school activities that would challenge these assumptions and promote more effective learning.

One focus of this work was on the teaching and learning of a unit on seasonal change (commonly taught in fourth grade in science or social studies). With a physicist and science educator (Paul Horwitz), they carried out an interpretive analysis of the textbook chapter on seasons and comparable texts used throughout the elementary and secondary school curriculum. They found that numerous relevant terms were taught ("axis," "equator," "direct and indirect rays"), but that the actual scientific explanation was so reduced and misleading that it was impossible to learn from the text alone. In addition, they collected data on students' "folk theories" of the seasons, their discourse patterns, their assumptions about the meaning of science, and their ways of interpreting text and school tasks.

In this classroom, after reading the text and having a lengthy discussion and demonstration by the teacher, not a single student learned the correct explanation of what causes the seasons to change. Upon interviewing the students, Bruce and Michaels found the students had their own folk theories of seasonal change. A key explanatory principle in several of their theories was the assumption that distance from the sun accounts for temperature change -- the earth is closer to the

sun in summer and farther from the sun in winter. In fact, distance is irrelevant; it is the tilt of the earth, the earth's revolution about the sun, and the resultant changes in the angle of radiation that causes seasonal variation and change. And yet, the intuitive "distance theory" (a reasonable inference from everyday phenomenal experiences with heat sources) was actually reinforced by terms in the text like "direct" and "indirect" rays, which get interpreted as "shorter" and "longer" rays, and by diagrams which are drastically out of scale, showing the earth's orbit as a highly eccentric ellipse (when in fact it is close to a circle).

The data in this research also suggest that different students come to school with different "facts" and different strategies for integrating the facts they have into a scientific theory. Depending on where students learned what they learned (in or out of school) and how they relate to school texts and school tasks, they talk and think very differently about seasons. For example, an inner-city girl, who is not an active, engaged student, and who doesn't get much information about the seasons either in or out of school, was asked what makes it hot sometimes and cold other times. She says,

> "It gets hot because the sun is closer to us and then further in January. ... The sun moves to another side and it becomes dark and it becomes cold and when it comes closer to us it becomes hotter."

When asked what she learned from the text, she specifically recalled learning that it took about a year for the sun to move around the earth, about how solar rays work, and

> "… that [the sun] sometimes goes down and takes longer to come back up. But when you go to sleep it takes, it's fast. You just go to sleep and just wake up and that's how fast it is. Because when you go to sleep you don't have to see the night. When the sun comes up it's faster and the sun comes up and down."

This girl clearly does not know the requisite facts or what "counts" as scientific explanation and argumentation.

Another inner city girl who is a good reader and an excellent student, but got all her knowledge about science from school texts and tasks explained:

> "The seasons change, like winter, spring, fall, summer, and the world turns so the seasons change. ... We know that there is an imaginary line in the middle called the equator and a line through the middle that spins around called an axis. And it spins about every 24 hours, but we can't feel it, I guess it's because of gravity. ... "

When asked if she learned about the axis in her textbook, she said,

> "Yes, you can't see the axis ... it's imaginary just like the equator line. You can't see them but they are there. ... The axis is tilting, it's tilting this way, and -- I think it's

this way -- and the earth turns. No it's this way, I think I saw it in the book this way. Then it turns around on its axis. But it's tilted, but the earth isn't tilted, because if it was tilted, we would all be sitting like this [tilts her torso over] or something, so it's not really tilted. The earth isn't tilted, but the pole is and we can't see it."

This girl knows some facts, but not how they are integrated in a causal explanation. Moreover, when facts do not fit with her intuitive theory, she integrates them into her theory as having the status of scientific but "imaginary."

Other students learn aspects of science from both home and school. One middle class boy, in explaining what the sun has to do with the length of the day, says,

"Like, you know how the earth spins around like this (demonstrates the earth rotating on its axis) and goes around the sun, when it spins around it makes night and day, but when it goes around the sun it makes different temperatures. ... When it spins around, sometimes it gets closer and sometimes it gets further from the sun."

This child knows some facts and knows how to organize language into an explanation. Unfortunately, the information on seasons in his school text did not address his own intuitive theory and ends up subsumed by it. He has gained facts and terms, and the discourse of scientific explanation, but he has fit them into an incorrect theory.

By itself, knowledge about seasonal change may not be critical for the average educated person to possess. What makes these results important is that this topic is taught on a recurring basis throughout elementary and secondary school and there is evidence from studies of high school students that the material is rarely learned. In spite of repeated school lessons on the seasons, distance from the sun as a cause of seasonal change is a common misconception that stays with students throughout their schooling and into adulthood. Thus, not only do they fail to learn the correct facts, they remain content with their own incorrect theory. Furthermore, this example is typical of much of the learning that goes on at all levels of schooling. Thus, tremendous resources are being expanded for little gain in student learning. What is most troubling though, is that at best text materials and classroom activities expose students to terms and facts, but not to ways of learning and understanding how to think. By promoting the illusion that science consists of memorizing terms (e.g., "equator") and numbers (e.g., the 23½ ° tilt of the axis) the school text makes it harder for students to conceive of scientific reasoning as a process of questioning, building models, testing hypotheses, and critically analyzing assumptions. They thus develop a fundamental misconception about what it means to reason and learn within new domains.

This study relates information about ways of "talking science" to teacher expectations and assumptions implicit in the school text. At the same time, the researchers are developing with the teacher new classroom activities and a rewritten "seasons" text. The goal is to see if this kind of multi-level analysis can lead to a better understanding of students as science learners who bring with them diverse modes of valuing, conceptualizing, and talking about science. It is critical to

determine whether this kind of work leads to changes in classroom activities and materials that make a significant difference in students' learning, and to document whether this kind of collaborative work leads teachers to think differently about and reorganize their classroom literacy systems in other domains.

<div align="center">**Activities of the Literacies Institute**</div>

The **Literacies Institute** will be realized through a set of specific facilities and activities, each serving as an instrument for the enculturation of teachers and researchers into the cross-cultural, cross-disciplinary, and cross-curricular world of literacy. Each activity will be built around collaboration among researchers, teachers, and administrators from a variety of institutions. The activities and facilities include a six-week **Summer Session**, **Teacher/Researcher Workshops**, a **Laboratory School**, a **Sabbatical-Fellowship Program**, and a **Computer-based Communication Network**, all under the umbrella of the **Literacies Research and Information Center**, which will sponsor research projects and local public forums, disseminate Institute reports and materials nationally, and coordinate the various activities of the Institute. The Center will also serve as a repository of materials relating to literacy development.

Institute Leadership

The principal founders and organizers of the Institute are Bertram C. Bruce, Allan Collins, James Paul Gee, and Sarah Michaels. Bruce is Associate Director of the Center for the Study of Reading, and Principal Scientist at BBN Laboratories in the Education Department. He has worked on problems of text comprehension and on computer technology for math, science, and language arts instruction, working closely with teachers in urban public-school settings. Allan Collins is a cognitive psychologist, known for his work on semantic information processing and cognitive apprenticeship as a method for teaching cognitive skills. He is a Principal Scientist at BBN Laboratories. Gee is professor of Linguistics, and Chair of the Literacy and Language Development Program at Boston University. A theoretical linguist by training he is concerned with the relationships between linguistic processes and literacy acquisition -- promoting the cross-disciplinary perspective on literacy reflected in the Institute. Michaels is a sociolinguist and educational ethnographer working at Education Development Center and an Associate in Education at the Harvard Graduate School of Education. She has conducted research in urban classrooms that focuses on the relationship between children's out of school competence (linguistic and cultural knowledge) classroom interaction, and literacy development.

The Institute is also supported by an Advisory Board, which includes an ethnically diverse group of public school superintendents, teachers, and university scholars concerned about issues of language, culture, and literacy.

The Summer Session

The Summer Session will be devoted to educating teachers from across the country as teacher-researchers and mentor teachers. It will draw on the tremendous range of talent in the schools and universities in the Boston area, and also include nationally and internationally known scholars, thus bringing together a diverse, interdisciplinary faculty of literacy scholars and practitioners. The Summer Session's curriculum will stress true interdisciplinary work in which the methodological and analytic tools of the various disciplines concerned with literacy are combined to form a "core curriculum" for teachers of literacy across the school curriculum. The Summer Session will have as its primary mission the development of master teachers who will take the lead in bridging home and school cultures and in turning cultural and linguistic diversity into educational opportunity to enrich the learning experiences of all students.

Teachers from around the country will attend the Summer Session. They will study with specialists in a variety of areas who have worked together to develop an interdisciplinary set of analytic tools for observing learners and learning environments and for informing practice on the basis of this observation. These specialists (linguists, anthropologists, psychologists, sociologists, literary critics, computer specialists, educators) will have worked with classroom teachers and school administrators throughout the year to develop ways of integrating and applying analytic approaches from various academic disciplines to literacy development. The teachers attending the Summer Session will work collaboratively with small teams and engage in their own ethno-linguistic study of classrooms. The summer allows for teachers to work in new settings, such as English-as-a-Second-Language classrooms, which render obvious so many of the language and interpretive problems that show up more subtly in other classroom settings.

The Institute will be able to grant credit through a variety of area universities, and will give its own certificate of completion, but will be independent of any particular university or research institution. The other activities of the Literacies Institute will continually feed into the Summer Session, as it in turn will inform those activities. Our hope is that the Summer Session will eventually develop a national and international reputation which will enhance the career trajectories and local influence of the teachers who attend it. And eventually it will help to make the Institute in some significant part self-funding.

Administrative Structure. The Summer Session will be coordinated by Bruce, Gee, and Michaels. With guidance from the Advisory Board they will assemble a faculty of national and international educators and researchers representing a cross-disciplinary perspective on literacy research and practice.*Teacher/Researcher Workshops*

A second component of the Literacies Institute is the sponsorship of a series of teacher/ researcher workshops during the school year. The workshops will address specific needs as determined by local school administrators, principals, and teachers, focusing on the general theme of language, culture, and literacy activities. The workshops will bring together teachers from urban and suburban school districts to work collaboratively on research projects using their own classrooms as sites for observation, data collection, and critical analysis.

The goal of the workshops is to develop teachers' appreciation of the language and literacies of their students (especially minority students) and to focus on techniques for developing and critiquing classroom activities which promote school-based/literate ways of speaking, writing, and problem solving. Participants will come with their own questions and concerns which will help guide the reading and classroom observation.

We call this out-service education to distinguish it from standard in-service workshops. Out-service workshops will extend over several months, actively engage a small number of voluntary participants in reading and research, and promote skills of critical analysis and evaluation of their own classrooms. Within the general area of language, culture, and literacy, particular themes will be emphasized in different workshop series, addressing the interests and concerns of participants. Topics of readings and observation by teachers in their own classrooms could include:

- Writing conferences;
- "Sharing time" as oral preparation for literacy;
- Participant structures of classroom activities and how they influence student participation and learning;
- The discourses of math and science as a kind of literacy.

As an example of out-service education, we are currently running a research seminar for a group of teachers from two different Boston-area school districts. One district has a national reputation for innovative, elite public schools. However this district has been markedly unsuccessful with their small number of bussed-in Black students and resident low-income White students. The other district has a large and diverse minority population that performs poorly in comparison with its middle class students. A group of principals from one district and the assistant superintendent of the other asked coordinators of the Literacies Institute to organize a workshop on minority students' language and school performance. On the basis of this interest, a prospectus for a seminar on "Languages and Literacies of Minority Students" was circulated to teachers in the two districts. We especially encouraged the participation of teachers who saw cultural diversity in their classrooms as a positive educational resource and who were interested in improving the school literacy skills of minority students by validating and building on the cultural and linguistic knowledge these students brought with them from home.

Since January, a group of 12 teachers representing elementary and middle school grades from both districts has been meeting every three weeks. Teachers are reading Classroom Discourse (Cazden, 1987) and selected articles. They are tape recording recurring classroom activities, reviewing and transcribing tapes, and keeping a journal to record observations as well as reflections on teaching and the workshop. Together teachers and researchers discuss and analyze the data collected, and try out new activities as a result of the analyses. We hope, as a group, both to document what does seem to work but also to improve our own practices through critical reflection, observation, and analysis. In addition, they will collaborate on a presentation -- based on the teachers' own research -- at a Literacies Institute public forum in the late spring, for other teachers in the Boston-area. All workshop sessions are being tape recorded; workshop staff will attempt to

assess the value of such a workshop on teachers' attitudes and practices through open-ended interviews with participating teachers, classroom observations, and an assessment of teachers' journals. We anticipate that some of the teachers who attend this workshop will participate in the Summer Session, perhaps co-teaching with Institute staff.

Administrative Structure. Once the Literacies Institute is formally funded, we envision running two concurrent workshops in both fall and spring semesters for teachers in the greater Boston-area. This set of activities will require two half-time Research Associates and two one-fifth time senior-level faculty, who will be responsible for organizing and directing the workshops with help from many Literacies Institute associates who will serve as guest lecturers and consultants to workshop staff. Boston University has agreed to provide professional development credit for Literacies Institute seminars. All course syllabi, teaching materials, and course evaluations will be collected in the Literacies Research and Information Center so that they can be used and improved upon in future workshops.

Laboratory School

As a means of supporting collaborative research on these and related topics, the Literacies Institute will develop of a special relationship with a local public school that will function as a laboratory for research on literacy environments and instruction. By design, some teachers at this school will be participants in both out-service workshops and the Summer Session, so that we will be able to study, in depth and over time, the impact of Institute programs on teachers' views and practices. Research carried out in this site will be integrated into and help us improve the work of year-round teacher workshops, and teacher-researcher co-taught seminars at the Summer Session. The **Laboratory School** will make possible the study of the literacy systems that operate within classrooms, schools, and school districts. Through ongoing research at the Laboratory School, teachers and researchers will study collaboratively the literacy systems operating in individual classrooms, but can situate their findings with respect to broader social, political, and economic forces. They will examine issues such as:

- The impact of testing
- The uses of technology
- The effects of mandated curricula
- Sociocultural differences in language use -- tensions between home, community, and school standards

Administrative Structure. This component will require its own research team consisting of a full-time director and coordinator of research (Allan Collins), two part-time, senior-level research associates, and several junior level research assistants. Responsibilities will include grant proposal writing, research design and implementation.

Fellowship Program

As a means of having intensive input from teachers interested in collaborative research on literacy, a small group of teachers (6-8) from different geographic regions and with different teaching experiences will be supported for half year or full year sabbaticals. Institute Fellows will participate in the running of and exhibit development in the Literacies Research and Information Center, carry out school-based research of their own design, and assist in teacher-researcher workshops. It is anticipated that some of these teachers will go on to teach in the Summer Session.

Administrative Structure. The Fellowship Program will be coordinated by a part-time, senior-level Research Associate. There will be support initially for four full-time-equivalent sabbaticals.

Computer-based Communication Network

To facilitate discussion among teachers and researchers who are separated geographically, the Literacies Institute will run a national, electronic mail system that will allow participants to send and receive e-mail and to participate in electronic conferences on a range of topics. The system will be modeled on the electronic network that links up students and faculty from the Breadloaf School (known as "Breadnet").

Administrative Structure. The network will be an add-on to an existing system such as CSNET (developed at BBN for the National Science Foundation). There will need to be partial support for teachers' telecommunications charges. In addition, the network will require a part-time teleconference facilitator and support for the development of a user's manual.

Literacies Research and Information Center

As the central administrative unit of the Literacies Institute, the Research and Information Center will coordinate the different activities of the Institute and provide space and administrative support to related projects. Research sponsored by the Institute will address a wide range of literacy-related problems, such as:

- Interactive technology -- its use and appropriation as a mediational tool;
- The discourse of science instruction and science texts;
- Classroom contexts -- literacy systems;
- Writing research -- integrating ethnographic and linguistic analysis.

A requirement of all sponsored research is that it inform teaching in the Summer Session -- either by providing teaching materials or basic research findings. The Center will also produce a monthly newsletter to be distributed to public schools, Schools of Education, and University faculties nationally -- detailing the activities of the Institute, synthesizing research findings, and providing a national forum for teacher and researcher viewpoints. The Center will also organize public forums -- some oriented more to the research community, some more to teachers, and some oriented to the

emerging partnership between them. It will support a range of activities to promote discussion and critical analysis of literacy practices covering a range of disciplines and institutional settings.

These activities will be anchored by a repository of materials (texts, video, and computer-based materials) on literacy practices which teachers can review, work with, and critique. This will not be a static repository of holdings and exhibits, but rather an environment designed to stimulate and facilitate interaction with other people and materials. It will promote the development of a teacher-researcher culture through discussions, and hands-on activities, and will thus be a place for teachers and researchers to inform and change each other. The holdings will include:

- Texts--theoretical and applied research on literacy, such as journal articles, conference and workshop reports, course materials, and examples of student works; information for teacher-researchers on how to set up new projects; information on carrying out research projects, such as assessment schedules, and data-handling packages;
- Video and Film--recordings of classroom activities, of standard, widely used demonstration materials as well as individually donated material, generated as part of funded research, but usually not generally available;
- Computer--examples of software, with case studies of use; demonstrations of telecommunication possibilities, and site of a working network linking participant teachers.

Holdings will be selected for their potential to stimulate critical analysis and discussion. The Center will not be a "clearing house" for anything with the word "literacy" in it. Nor will it be a collection of curricular materials. So as to suggest what would have a place in this museum, we provide the following text, written by the best known female Maori writer in New Zealand.

BUTTERFLIES
by Patricia Grace

The grandmother plaited her granddaughter's hair and then she said, 'Get your lunch. Put it in your bag. Get your apple. You come straight back after school, straight home here. Listen to the teacher,' she said. 'Do what she say.'

Her grandfather was out on the step. He walked down the path with her and out on to the footpath. He said to a neighbour, 'Our granddaughter goes to school. She lives with us now.'

'She's fine,' the neighbor said. 'She's terrific with her two plaits in her hair.'

'And clever,' the grandfather said. 'Writes every day in her book.'

'She's fine,' the neighbour said.

The grandfather waited with his granddaughter by the crossing and then he said, 'Go to school. Listen to the teacher. Do what she say.'

When the granddaughter came home from school her grandfather was hoeing round the cabbages. Her grandmother was picking beans. They stopped their work.

'You bring your book home?' the grandmother asked.

'Yes.'

'You write your story?'

'Yes.'

'What's your story?'

'About the butterflies.'

'Get your book, then. Read your story.'

The granddaughter took her book from her schoolbag and opened it.

'I killed all the butterflies,' she read. 'This is me and this is all the butterflies.'

'And your teacher like your story, did she?'

'I don't know.'

'What your teacher say?'

'She said butterflies are beautiful creatures. They hatch out and fly in the sun. The butterflies visit all the pretty flowers, she said. They lay their eggs and then they die. You don't kill butterflies, that's what she said.'

The grandmother and grandfather were quiet for a long time, and their granddaughter, holding the book, stood quite still in the warm garden.

'Because you see,' the grandfather said, 'your teacher, she buy all her cabbages from the supermarket and that's why.'

In discussing this text, Courtney Cazden writes,

"This story, short and simple as it is, raises important questions: about the grandparents' beliefs about school and about their granddaughter as student; about the teacher's beliefs about school and about this girl; and about how the grandfather can understand alternative perspectives on butterflies while the teacher does not."

Thus this text instantiates, by example, the problems of culture, meaning, schooling, and literacy that the Institute will address. By reading and grappling with "the point" of this text, one is led into a way of thinking about learning to write, home and community values, and schools as institutions -- all of which forces reflection about one's own conception of literacy and the role of cultural differences in the interpretation of text. Such a text is thus both an object to think with, and an exercise in thinking about literacy and schooling.

Access to these materials will be facilitated by a computer indexing system (such as Notecards, Intermedia, or Hypercard). Teachers will be able to sit at a terminal and see related materials. For example, a teacher might read the "Butterflies" text; read commentaries on it (such as Cazden's); read other Maori texts; see data on literacy development among Maori children; see a video segment of a class involving Maori and White children; or follow links to other texts, photographs, charts, or video presenting the experiences of other minority cultural groups in school.

Administrative Structure. The Literacies Research and Information Center will require a full-time Director and a full-time Administrative Assistant. Support for specific research efforts will come through independent funding. The materials will also require a full-time staff member. Day-to-day operations will be augmented by the Institute Fellows.