

*Third National Research Symposium on Limited English Proficient Student Issues:
Focus on Middle and High School Issues*

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**Changing Instruction for
Language Minority Students to
Achieve National Goals**

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Overview

The purpose of this paper is to identify some of the major academic needs of language minority students¹ who are learning English in secondary schools and to propose ways in which these needs can be met. In reviewing research on effective instructional practices I have included effective practices for language majority at-risk students as well as practices that characterize effective programs and instruction for language minority students. While the two areas converge in many ways, indicating that certain instructional practices are effective for all students, these practices need to be amplified to take into account the linguistic and cultural background of students learning English in American schools. Also, good instruction for language minority students needs to continue for an extended time period to allow students to learn both language and content so that they can experience academic success. I will suggest ways in which instruction for language minority students might be changed in order to achieve these national goals (Bush, 1991, p. 3):

Goal 2: The high school graduation rate will increase to at least 90 percent.

Goal 3: American students will leave grades four, eight, and twelve having demonstrated competency in challenging subject matter including English, mathematics, science, history, and geography; and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our modern economy.

Goal 5: Every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.

Academic Needs of Language Minority Students

In this section the needs of secondary level language minority students as related to the academic program of the school are discussed. While the needs of language minority students are not limited to academics, nevertheless the role of academic success in determining options and future careers is significant. The major

academic needs of language minority students discussed in this section include language, instructional time, subject matter concepts, learning strategies, and self-efficacy.

Language development is an essential component of all educational programs for both language minority and native English speaking students. Language development is important not only in itself but also for the critical role of language in learning and thinking. Language development is important for both social interaction and intellectual growth. Most native English-speaking children come to school with good social language skills, which serve as a foundation for gradually building the academic language skills used for learning in school. By the end of elementary school, most English-speaking children have developed an impressive array of academic language skills and functions, including reading both narrative and expository text, understanding and expressing new ideas and information, writing in different content subjects, and using language to inform, explain, analyze, classify, and evaluate what is being studied in school. Of course, not all students enter secondary school with solid academic language skills and functions, but the expectations of secondary teachers are that most of their students will be able to use language functionally for learning in different subject areas. This contrasts sharply with the plight of secondary language minority students whose level of English development is at the beginning stages of social communication and who may or may not have developed academic language in their native language. Secondary students learning English need to develop academic language, not merely social communicative language.

The need for academic language development is directly linked to the second major academic need of language minority students learning English. This second major need is instructional time. The research evidence is overwhelming: most students need five to seven or more years of instruction in a second language to reach even a moderate level of success in an academic curriculum taught in the second language (Collier, 1987, 1989, 1991; Cummins, 1984, 1992). Elementary school language minority children have the great advantage of time in which to develop both their academic English skills and content knowledge. Secondary students do not have time on their side. A sixth grade middle school student, for example, has only three years in which to learn how to use English for academic purposes if he or she is to enter a college-bound course of study in high school. At each higher grade level the time period available shrinks. It is not surprising that high school students give up on school and drop out, having to content themselves with low level jobs, or worse, no jobs. Secondary level students learning English need more instructional time.

A third major academic need for language minority secondary students is subject matter knowledge and skills. As with academic language, secondary teachers have expectations that at least most of their students have a reasonable degree of prior knowledge in the different subject areas of the curriculum. For example, teachers assume that students have some understanding of scientific phenomena and processes, that they have basic arithmetic and problem solving skills, that they have some concepts about people and life in other times and places, that they can read a map, and that they have experienced different types of literature.

Secondary age language minority students vary considerably in their academic level on entering American schools. Some have excellent educational backgrounds and may have attained a higher academic level in their native language than their native English-speaking age-mates have reached in the American curriculum. These students typically do well in subjects like mathematics and science, whose curricula share many features with mathematics and science curricula in other countries. They may encounter more difficulties in subjects like social studies and literature because they may not have studied American history or literature previously and because the academic language demands of these two subject areas are intense. However, many language minority students have had their education in their native countries interrupted by wars and political unrest, or they have not had access to education beyond a rudimentary level. Frequently they are not literate in their native language and have little understanding of what it means to be a student.

Such students have not had the opportunity to develop academic knowledge frameworks because their knowledge base is limited to life experiences that frequently have included traumatic events such as separation from parents, witnessing of killings, sole responsibility for their own survival, and other experiences that are not easily understood by most American teachers. Such students have learned how to cope with events that many adult Americans have never had to cope with. Naturally, their needs go far beyond what most schools can provide. However, among the needs that the school *should* meet, is the need to learn a sufficient amount of subject matter concepts and skills to enable them to participate successfully in grade-level content classrooms. This is a tall order. It is not easy to teach secondary students the whole range of the elementary school curriculum in an accelerated fashion. And even while they are learning about science, mathematics, social studies, and language arts, their English-speaking peers are moving ahead in these same subjects, increasing the distance between them. No matter how rapidly language minority students with limited prior education progress, the target toward which they are aiming is always moving ahead (Secada, 1991; Thomas, 1992).

A fourth academic need for language minority students learning English is to develop effective learning strategies for both language and content. Depending on the level and type of their prior education, language minority students may not have developed learning strategies, or "how to learn" skills. In some cases, the learning strategies they are most familiar with are rote memorization strategies which, while useful for acquiring and reciting information, are not sufficient for dealing with higher order thinking skills in the academic curriculum. While many native English-speaking students also lack effective learning strategies, the need for strategies is particularly acute for language minority students because of the amount of language and content they need to acquire before they can be successful in the all-English grade-level classroom. Knowing how to learn more efficiently is thus an important academic need for language minority students.

Closely associated with effective use of learning strategies is the development of an individual's self-efficacy, or level of confidence in successfully completing a task (Zimmerman, 1990). Self-efficacy is at the root of self-esteem, motivation, and self-regulation (Bandura, 1992). Self-efficacious learners feel confident about solving a problem because they have developed an approach to problem solving that has worked in the past. They attribute their success mainly to their own efforts, they believe that their own abilities will improve as they learn more, and they recognize that errors are a part of learning. Students with low self-efficacy, on the other hand, believe themselves to have inherently low abilities, they choose less demanding tasks on which they will make few errors, and they do not try hard because they believe that any effort will reveal their lack of ability (Bandura, 1992).

Language minority students may lack high self-efficacy for a number of reasons, including experiences of failure at school, segregation into remedial programs, negative attitudes of teachers and other students, and low expectations of success—both from others and from themselves. They need an educational context that fosters the development of self-efficacy through a combination of high expectations and instructional practices that provide them with the tools needed for high achievement.

Language minority students in secondary schools have diverse and complex needs, and the five academic needs that I have identified are but five among many. Recent research on effective educational practices with both language minority and language majority students provide both hope and concrete suggestions for changing instruction so that it can meet these particular academic needs more successfully.

Research on Meeting Students' Academic Needs

In searching for instructional practices that can assist language minority students, I have focused on instruction that has proven effective for different types of at-risk students, and instructional practices that have been identified as effective in the research literature on good instruction for language minority students. This section first examines characteristics of programs that support and nourish effective instruction, then describes the types of instructional practices that lead to increased learning and academic achievement.

Effective Programs

The social context has a major impact on the quality of instruction. Research on effective schools in the 1970s identified seven major characteristics of schools where students were learning effectively (Good and Brophy, 1986). These characteristics are: strong leadership, safety and order, positive attitudes towards students and high expectations for their success, a focus on academic instruction, sufficient time allocation to instruction in academic subjects, monitoring of student progress, and strong parent involvement (Brophy, 1992). Research in the 1980s built on the effective schools research by identifying additional characteristics related to instructional goals that go beyond what can be measured on standardized tests. These additional characteristics of effective schools include the development of teacher expertise based on what is known about student learning, curricular reforms which seek to integrate rather than split apart domains of knowledge and skills, adjustment of the school context to meet the needs of diverse and at-risk students, and the development of alternative assessment (Allington, 1991; Brophy, 1992; Herman, 1992; Prawat, 1992; Mitchell, 1992; Wong Fillmore, 1992).

Eight programmatic characteristics of schools which seem to be particularly important for language minority students are: leadership, attitudes and expectations, academic focus, selective curriculum, teacher expertise, parent involvement, and contextual adjustments to meet student needs in the areas of extension of instruction, provision of language services, and alternatives to standardized assessment. These characteristics interact with each other. For example, high expectations for student achievement facilitate a programmatic focus on academics, and strong leadership ensures teacher expertise through hiring practices and staff development.

Leadership

Effective instructional programs have strong leaders who provide direction and build consensus on goals (Good and Brophy, 1986). In a recent analysis of the significant features of exemplary special alternative instructional programs (SAIPS), Tikunoff and his colleagues (1991) found that without exception these effective programs for language minority students had leaders who were committed and willing to take on responsibilities for planning, coordinating, and administering the programs. Qualities of school leaders which are found in effective high school programs include high expectations for all students, expertise in effective instructional approaches for language minority students, and active recruitment of teachers experienced in working with language minority students. Also, effective leaders in high schools with high achieving language minority students are likely to be language minority members themselves, thus serving as role models as well as exhibiting a personal understanding of language minority students' needs (Lucas, Henze, and Donato, 1990).

Views of an instructional leader as an individual with a vision who can get things done are beginning to be tempered by descriptions of "transformational leadership," in which "leaders are more concerned about gaining overall cooperation and energetic participation from organization members than they are in getting particular tasks performed" (Mitchell and Tucker, 1992, p. 32). Transformational leadership is seen as

particularly effective in a setting where there are differing views on goals and instructional approaches. In such settings, a leader who can work collaboratively with teachers and transform their attitudes and beliefs is seen as more successful than transactional leaders, who manage a system of incentives for implementing their own beliefs and values (Fullan, 1992). Transformational leadership style may be particularly important for secondary schools with fairly recent enrollments of significant numbers of language minority students. Teachers in such schools may be inexperienced in teaching language minority students and may be unwilling or uncertain as to how to meet their needs. A transformational leader who is also knowledgeable about effective instructional approaches for language minority students may be more successful in changing teacher attitudes and beliefs than a leader who seeks to institute change through more traditional methods of incentives.

Attitudes and Expectations

In effective schools, teachers and other school staff have positive attitudes towards students and expect students to be successful in meeting instructional objectives (Good and Brophy, 1986; Wilson and Corcoran, 1988). Students achieve more when their teachers perceive them as able and interested in learning (Onosko, 1992). Research has documented the impact of positive teacher attitudes and high expectations on student achievement for both language majority and language minority students. Tikunoff and his colleagues (1985, 1991) found that the teacher's expression of high expectations for student success is a feature of effective bilingual and English as a second language (ESL) classrooms. In another study of effective bilingual schools, Carter and Chatfield (1986) found that high expectations for student achievement by teachers in a school was an important component. Similarly, Lucas and her co-workers (1990) found a number of concrete ways in which high expectations can be communicated to language minority students, including the hiring of language minority professional staff in leadership positions, offering college preparation classes accessible to language minority students, and providing college counseling services for both students and their parents in their native language.

Academic Focus

An effective program for secondary students has a strong emphasis on academic achievement for all students, not just for high ability students. This is of particular importance for language minority students, who all too frequently are tracked into remedial or "basics" courses such as general mathematics or general science (Garza Flores, 1991/1992). Developing the academic competence of language minority students through high expectations and a challenging curriculum is a main feature of effective programs (Chamot and Stewner-Manzanares, 1985; Lucas et al., 1990).

Selective Curriculum

Closely related to a general academic focus is the content and organization of the curriculum for language minority students. The bilingual or ESL curriculum that is closely correlated with the school district's adopted curriculum for native English speakers ensures that language minority students are adequately prepared for the conceptual demands of academic subject areas (Chamot and O'Malley, 1989; Chamot and Stewner-Manzanares, 1985; Wong Fillmore and Meyer, 1992). In addition to curriculum alignment, effective programs include multicultural content to make the curriculum more relevant to language minority students and to enhance their appreciation of their own cultural identity and that of others (Wong Fillmore and Meyer, 1992).

In recent years a number of curriculum reform movements have generated a reappraisal of the traditional

curriculum taught in schools. Curriculum reforms in major content areas have important implications for educational programs for language minority students. A major theme is that "less is more," meaning that the curriculum should not attempt to cover all aspects of knowledge, but rather discover underlying principles and develop the ability to think critically (Wiggins, 1989). The retreat from the educational goal of encyclopedic knowledge may seem at first glance to be a product of the information age's rapidly expanding knowledge base, which makes it evident that, in practical terms, there is no way that all major knowledge can possibly be addressed by the school curriculum. Wiggins (1989), however, reminds us that more than 2,000 years ago, Socrates taught that "wisdom matters more than knowledge (p. 58)." In a time of proliferating information in all disciplines, it is wise to remind ourselves that no one person can really know everything. Instead, we should teach students that knowing how to think, having intellectual habits such as open-mindedness and a desire for truth, and having a knowledge base that provides an objective rather than a personal experience point-of-view, will prepare them better for achieving success and self-fulfillment in the world outside of school than will memorization of an enormous set of facts from the academic curriculum. In practice, this means that the content selected should represent major principles and unanswered questions rather than a collection of discrete memorizable bits of information.

Teacher Expertise

An essential characteristic of effective educational programs is the quality of its teachers. Good programs are those which recruit the best teachers, support those teachers whose instructional approaches best meet student needs, and provide continuing staff development to expand teacher expertise. For teachers of language minority students, staff development activities recommended include a variety of instructional approaches, materials development, content-based and language-sensitive instruction, cross-cultural communication, understanding of students' cultural backgrounds, and familiarity with second language acquisition processes (Chamot and Stewner-Manzanares, 1985; Lucas et al., 1990). These types of staff development activities are essential not only for bilingual and ESL teachers, but also for content teachers with language minority students in their classrooms (Chamot and O'Malley, 1993).

Parent Involvement

Effective programs actively recruit parent participation and find ways to make it possible for parents to be partners in their children's education (Cummins, 1986). Activities that promote parent-school collaboration include traditional ones such as Back to School Night and parent-teacher conferences, as well as parent workshops, family visits from teachers, and the involvement of parents in multicultural school events (Lucas et al., 1990). Information about school activities and student progress should be available in the parents' native language, and bilingual school personnel should serve as personal points of contact between language minority parents and the school. A program which demonstrates a real desire for parent involvement is willing to try any number of innovative approaches that show parents that they are welcome and needed partners with the school in fostering their children's education.

Adjustments in School Context

A number of programmatic adjustments in the overall school context can assist the academic achievement of language minority students. Three types of contextual adjustments that seem of critical importance are the provision of native language services, the extension of instructional opportunities, and alternatives to standardized achievement tests.

The importance of providing native language support to enhance academic achievement has been widely

documented in numerous research studies (see, for example, Chamot and Stewner-Manzanares, 1985; Cummins, 1986; Diaz, Moll, and Mehan, 1986; Lucas et al., 1990; Tikunoff, 1985; Tikunoff et al., 1991; Wong Fillmore, Ammon, and McLaughlin, 1983, among others). Native language support services can range from a full bilingual program in which content subject areas are taught to language minority students in their native language, to programs in which the language support is provided through bilingual aides, tutors, counselors, or other school personnel. Whether a school provides more or less intensive native language support depends on numerous factors, including philosophical stance, the linguistic characteristics of the language minority population, parent desires, trained teachers, and availability of appropriate instructional materials. The issue of native language support is discussed further in the section on characteristics of effective instruction.

A second modification of the school context to meet language minority student needs is the extension of instruction available. Extended instructional opportunities include the provision of services such as after school and Saturday classes or tutoring, evening school, extension of the academic year, summer school, college preparation classes, and other types of special instructional programs. A recent study of effective high schools for language minority Spanish-speaking students found that the presence of a wide range of academic courses in both Spanish and English and opportunities for before- and after-school learning made it possible for language minority students to achieve high academic goals (Lucas et al., 1990).

A third adjustment to the school context that can improve the academic achievement of language minority students is the use of alternative assessment measures rather than exclusive reliance on standardized tests. Standardized achievement tests were designed for native English-speaking students, and their use even with the population for which they were developed and normed has had a negative impact on the quality of instructional programs because programs tend to teach to the test, thus excluding important parts of the curriculum and higher order thinking skills (Herman, 1992). Interest in alternative assessment for language minority students has developed because educators realize that assessment should serve multiple purposes such as monitoring student progress on a continuing basis, providing different types of information about student performance, assessing authentic learning activities, and making assessments of content rather than exclusively of linguistic elements (O'Malley, 1991). Specific guidelines for alternative assessment techniques are described in the section on characteristics of effective instructional practices.

Summary on Characteristics of Effective Programs for Language Minority Students

In this section I have identified a number of program characteristics that have been found to characterize programs that lead to higher levels of academic achievement for language minority students. Interwoven in the preceding discussion are characteristics of programs that research has shown to be effective in both language minority and language majority contexts, and suggestions for program practices in one context that have clear applications for a differing context. The next section explores specific instructional practices that appear to be components of effective instruction for language minority students.

Effective Instruction

Effective instruction for language minority students shares major characteristics with effective instruction for native English-speaking students. For language minority students, however, a number of additional instructional features need to be implemented. This section describes major teaching approaches and techniques that have led to higher level of achievement for secondary level language minority students. All of the techniques I will describe can be attributed to a cognitive model of learning in which learners are

perceived as co-equal partners in the construction of knowledge through interaction with teacher and texts. Effective instructional approaches have been grouped in categories of curriculum, classroom organization, teaching practices, and assessment. Other groupings are possible, but these four categories seem useful in capturing the major ways in which new understanding about the learning process has informed current views of instruction.

Curriculum

Curriculum reform is being proposed by educators and professional organizations for major content areas. In science, for example, the American Association for the Advancement of Science has developed Project 2061, which identifies the major conceptual objectives for science education (Rutherford, 1992). Similarly, the National Science Teachers Association has published a content core of science objectives organized into major scientific themes to guide curriculum development (National Science Teachers Association, 1992). In mathematics, the National Council of Teachers of Mathematics has issued guidelines for mathematics education which emphasize problem solving, reasoning, and communicating mathematically (National Council of Teachers of Mathematics, 1989). This represents a departure from previous approaches to mathematics emphasizing computation skills prior to problem solving activities (Secada, 1991). In social studies, curricular reforms have called for both a reduction of coverage and review in order to focus on major concepts in history and geography and the expansion of the social studies curriculum to include a multicultural perspective (Bragaw and Hartoonian, 1988; Brophy, 1990; California State Department of Education, 1987). In language arts, major innovations in recent years focus on reading for meaning (Dole, Duffy, Roehler, and Pearson, 1991), the integration of language skills and the use of authentic texts for the development of literacy (Goodman, 1987), and a process- rather than only a product-oriented approach to writing (Scardamalia and Bereiter, 1986). Together, these curriculum innovations are challenging traditional views of what ought to be taught in schools.

A theme running through proposals for curriculum reform is the importance of communication in each of the content areas. While the idea of language across the curriculum is not new, what is new is that different disciplines are calling for more communication about important concepts, more dialogue, and more use of language for higher order thinking (Brophy, 1992). Students are expected not only to read and write in all subjects, but also to discuss their understanding of the concepts they learn, explain a process or problem solution, propose and evaluate alternative solutions, justify a point of view, and in general use a variety of academic language functions. Sizer (1992) goes even further in his recommendation for an integrated high school curriculum, which would consist of three areas: mathematics and science; the arts; and history and philosophy. Teachers in these areas would all be responsible for infusing language development into their particular discipline and teaching students how to learn.

Sizer's proposals for general education bear striking similarities to content-based ESL and sheltered programs for language minority students. In a content-ESL curriculum, appropriate topics from content areas are included so that students have an opportunity to begin developing academic language functions with authentic school subjects (Brinton, Sasser, and Winningham, 1992; Chamot and O'Malley, 1993; Snow, Met, and Genesee, 1989). In sheltered or language-sensitive classrooms, content teachers adapt their instructional techniques to the linguistic needs of language minority students (Brinton et al., 1992; McGroarty, 1992; Spanos, 1990). Tikunoff and his co-workers (1991) found that exemplary ESL curricula had a focus on teaching content while simultaneously developing students' English language skills. Lucas and her colleagues (1990) also found that effective high schools for language minority students were characterized by the provision of academic courses taught in the native language and/or sheltered content courses adapted to the needs of language minority students.

Another curricular innovation which can have a positive effect on the academic achievement of language minority students is direct instruction in learning strategies. While learning strategy instruction is fairly new in bilingual and ESL education, a considerable body of research has been conducted with native English-speaking students in various educational contexts. Strategies that improve reading comprehension include summarizing, imagery, question generation, questioning-answering, story grammar mapping, and the use of prior knowledge or schemata (Pressley and Associates, 1990). Palincsar and Brown (1986) have conducted a number of studies in which students who were taught a cluster of reading comprehension strategies improved their level of reading comprehension and retained the higher level of comprehension over time. A series of studies in which learning disabled students have been explicitly taught strategies for planning, composing, and revising their writing have had positive results in terms of student improvement in writing assignments (Harris and Graham, 1992). In the area of mathematics, a number of studies have shown that students can benefit from instruction in strategies for basic math facts and, more importantly, for problem solving (Carpenter, Fennema, Peterson, Chiang, and Loef, 1989; Chamot, Dale, O'Malley, and Spanos, 1992; Pressley and Associates, 1990). Learning strategy instruction has also proved effective in areas such as science problem solving (Silver and Marshall, 1990), and in general information acquisition (Derry, 1990).

In second language acquisition contexts, most learning strategy research to date has involved descriptive accounts of the strategies of good language learners and comparisons between the strategic efforts of effective and less effective learners (Naiman, Frohlich, Stern, and Todesco, 1978; Oxford, 1990; Padron and Waxman, 1988; Rubin, 1975, 1981). A relatively small number of studies has been conducted on the effects of learning strategy instruction for second language learners. The few studies that have been conducted indicate that strategy instruction can be beneficial for second language learners (Cohen and Apeh, 1981; Hosenfeld, Arnold, Kirchofer, Laciura, and Wilson, 1981; Wenden and Rubin, 1987).

In the learning strategy research that my colleagues and I have been conducting over the last ten years, we have found that second language learners are mentally active and purposeful in their approach to language learning and can describe their learning processes. Better language learners use a greater variety of strategies and use them more appropriately than less effective learners (Chamot and Küpper, 1989; O'Malley and Chamot, 1990; O'Malley, Chamot, and Küpper, 1989; O'Malley, Chamot, Stewner-Manzanares, Küpper, and Russo, 1985a). We have also had some success in teaching learning strategies to ESL and other second language students and in training teachers on learning strategy instructional methods (Chamot, 1990; 1992; O'Malley and Chamot, 1990; O'Malley, Chamot, Stewner-Manzanares, Russo, and Küpper, 1985b). In spite of the limited number of instructional intervention learning strategy studies with second language learners, I believe that this addition to the curriculum is warranted for language minority students. The evidence from research in native English contexts is persuasive, and there is no reason to believe that fundamental learning processes are any different for language minority students.

One area of the curriculum which *is* different for language minority students is the inclusion or exclusion of the native language and culture. A curriculum which includes students' culture and, if at all possible, their language, facilitates learning from several different perspectives (Cummins, 1986; Krashen and Biber, 1988; Wong Fillmore et al., 1983). As previously mentioned, courses offered in students' native language and academic courses adapted to the linguistic needs of student learning English are an essential feature of effective programs for language minority students (Lucas et al., 1990; Tikunoff et al., 1991).

In summary, an effective curriculum for language minority secondary students should include all of the components of an effective curriculum for native English-speaking students, including language

development in all subject areas, the integration of subject areas, and direct instruction in learning strategies for both academic language and content subjects. In addition, the curriculum should include a menu of courses which are linguistically and culturally sensitive to students' backgrounds such as academic courses taught in the native language, content-based ESL, sheltered classes that adapt the instructional language, and advanced level classes in students' native language(s).

Classroom Organization

How a teacher organizes a class for learning purposes has an important impact on the level of student achievement. Probably the least effective model is the teacher-as-lecturer, or transmission model (Cummins, 1986). In this model, the teacher is the sole possessor of knowledge which has to be transmitted to students. The weakness of this model is that it fails to acknowledge the important role of the knowledge that students bring to the classroom and the interactive nature of the learning process. A classroom organized so that students have active learning experiences is a more effective classroom for all students, including language minority students. Two related approaches to classroom organization which foster active learning are cooperative learning and learning communities.

In cooperative learning students work in groups or teams to complete a learning task. Although there are a number of models of cooperative learning, all provide multiple opportunities for students to engage in active practice of language and content (Kagan, 1986). In cooperative learning, students of varying degrees of linguistic proficiency and content knowledge work in a group setting that fosters mutual learning rather than competitiveness (Johnson, Johnson, Holubec, and Roy, 1984; Slavin, 1987). For language minority students, the benefits of cooperative learning include additional practice with academic English, the use of the native language to draw on prior knowledge, the incorporation of content into ESL classes, and the opportunity for students to become more independent learners (Chamot and O'Malley, 1989; McGroarty, 1992). Teachers who set up cooperative activities in which group members have differing levels of English proficiency make it possible for students to help each other understand and complete the task (Chamot, Dale, O'Malley, and Spanos, 1992; Cohen, 1986; Diaz et al., 1986).

The benefits of cooperative learning may be enhanced in classrooms that are organized as learning communities. The teacher who creates a classroom learning community recognizes the social aspects of learning, stimulates discussions about authentic intellectual issues, makes explicit relationships between school learning and real-world activities, and involves all students in active learning and thinking (Prawat, 1992). A classroom learning community for language minority students is exemplified in the Cheche Konnen project, in which "communities of authentic scientific practice" are being studied in a number of classrooms (Warren, Roseberry, Conant, and Hudicourt-Barnes, 1992, p. 2):

In this context, science is organized as a socially embedded activity in which students transform their observations into findings through argumentation and persuasion, not simply through measurement and discovery. In contrast to conventional textbook or lab-driven school science, students pose their own questions, plan original research to explore their question, collect, analyze, and interpret data, build and argue theories, negotiate claims, evaluate and establish 'facts,' and so forth.

This description is in vivid contrast to a transmission-model of classroom organization in which the teacher and textbook provide predetermined information and activities designed for students to "master" content through memorizing and reciting information.

In this section I have described two mutually compatible approaches to classroom organization for language minority students that reflect current cognitive understanding of learning as a process of construction, not a process of osmosis.

Teaching Practices

The curriculum and classroom organization principles described previously carry with them a number of implications for instruction. Five teaching practices that support cognitive instruction are use of students' prior knowledge, teacher modeling, scaffolded instruction, interactive teaching, and the teaching of metacognition and thinking.

Building instruction on students' prior knowledge is not a new idea in education, but it has assumed a central role in teaching as cognitive research on learning has identified the dramatic effect that prior knowledge has on learning new information and skills (Leinhardt, 1992). In reading, for example, a student's prior knowledge frameworks, or schemata, about the text topic interact with the text, allowing the student to construct new knowledge (Wilson and Anderson, 1986). When a student does not have a relevant schema, or does not have access to a relevant schema, comprehension is impeded. In science, for example, students frequently have misconceptions or naive explanations for science phenomena that actually hinder their comprehension of new scientific information (Roth, 1990).

Nowhere is the role of prior knowledge more important than in second language educational contexts. Students who can access their prior knowledge through the language and culture which are most familiar to them can call on a rich array of schemata, whereas students who believe that they can use only that knowledge which they have explicitly learned in the second language are limited in their access. A major rationale for bilingual education is the premise that conceptual development and processes such as reading and writing can be achieved most efficiently through students' native language, and that this knowledge and these skills are readily transferable to the second language, English (Cummins, 1986; 1992; Wong Fillmore and Meyer, 1992). Effective teachers of language minority students make full use of their students' prior linguistic and cultural knowledge through instructional practices that value the native language and culture and provide support ranging from content courses in the native language to bilingual tutors and the use of the native language in student-student interactions (Lucas et al., 1990; Tikunoff et al., 1985, 1991).

The teacher is a model for students in both obvious and subtle ways. In bilingual or ESL classrooms teachers are language models as well as intellectual models, and may also be role models for their students. The teacher should also model thoughtfulness and reflection by:

showing appreciation for students' ideas and for alternative approaches if based on sound reasoning, by acknowledging the difficulty of acquiring knowledge, and by explaining how they think through problems (Onosko, 1992, p. 40).

This latter aspect of teacher modeling is particularly useful for students to see how teachers "think aloud" to express their thoughts, attitudes, feelings, and learning strategies (Idol, Jones, and Mayer, 1991; Jones, Palincsar, Ogle, and Carr, 1987). Modeling of expert performance can show students the goal they are aiming for, and modeling problem solving processes can show students the false starts and intuitions that underlie expert performance (Collins, 1991). Modeling processes such as reading comprehension and writing are especially helpful and reassuring for students learning English for academic subjects because the thinking involved and the interaction between reader or writer and text is made transparent (Chamot and O'Malley, 1993). Modeling does not always have to be done by the teacher. Peer modeling and modeling

for younger or less proficient students can provide incentives for the student doing the modeling and demonstrate a realistic goal for other students (Harris and Graham, 1992).

Modeling by itself is not sufficient for effective instruction. Teachers must also plan the instruction so that students can experience successful learning from the beginning and develop as independent learners. This process has been referred to as 'scaffolding,' using as an analogy the construction of a building where scaffolding initially supports the developing structure and is gradually removed as different parts of the building are completed. Initially the teacher provides sufficient support so that the student can practice integratively, rather than practicing only discrete component skills. Gradually the teacher removes the supports so that students can practice independently (Idol, Jones, and Mayer, 1991; Jones et al., 1987). One aspect of scaffolded instruction which is particularly important in academic learning is that, in addition to teacher explanations and support, it provides opportunities for students to confront and change misconceptions that they may have had about the topic or processes being learned (Idol et al., 1991).

Interactive teaching is a natural outgrowth of using students' prior knowledge, modeling, and scaffolding. Each of these instructional techniques calls for dialogue between teacher and students. Dialogic teaching goes back at least as far as Socrates, and involves asking students open-ended questions that make them think beyond "right" answers, and listening and responding to their answers in a nonjudgmental, truth-seeking fashion. Students use academic language and their content knowledge to respond to and participate in the class's ongoing intellectual investigation. In Sizer's (1992) high school model, teachers and students learn together by talking about their ideas and reasoning. Interactive or dialogic teaching was found to be an important component of exemplary ESL (SAIP) programs and was facilitated by cooperative learning activities in which students had to talk in order to complete assigned tasks, and teachers focused on the concepts expressed by students rather than on the language form of their utterances (Tikunoff et al., 1991). Lucas and her colleagues (1990) also found that in effective high schools for language minority Spanish-speaking students, teachers:

challenged students with difficult questions and problems. . . Teachers did not talk down to limited-English-proficient students in 'foreigner talk,' but spoke clearly, with normal intonation, explaining difficult words and concepts as needed. (p. 328)

A fifth instructional practice which promotes academic achievement for all students and is of special importance for language minority students is the development of metacognition and higher order thinking skills. Unfortunately, some educators and theorists believe that higher order thinking must be delayed until basic skills are developed. This attitude is pervasive in all types of compensatory programs for at-risk students, including language minorities (Anderson and Pellicer, 1990; Pogrow, 1990; Secada, 1991; Wong Fillmore and Meyer, 1992). Even in some current approaches to second language instruction, teachers are advised to ask only lower-level questions (those requiring **yes-no** answers, **either-or** questions, and **what, when, where, and who** questions) at the initial stages of language acquisition (Krashen and Terrell, 1983). This view is challenged by the curriculum reform movements discussed earlier, as well as by individual researchers who point out that for language minority students, the target they are aiming for is constantly moving ahead, so that while language and other minority students may be mired in repetitive low-level instructional activities such as mathematical computation, their majority peers are participating in instruction which focuses on high-level thinking and problem solving (Secada, 1991; Thomas, 1992). Pogrow (1992, p. 87) summarizes the limitations of compensatory programs as follows:

There is renewed interest among practitioners, policy makers, and researchers in developing the thinking skills of at-risk students. This interest is accelerated because of a growing realization

that: (a) the **drill and kill** approach hasn't worked, and (b) even if this approach were able to raise basic test scores, that outcome, by itself, is insufficient to prepare students for a more sophisticated world of work.

Teachers of language minority students should also ask their students challenging questions and provide learning tasks that require higher order thinking skills.

Striking differences in student level of thinking influenced by the instructional context were identified by Diaz, Moll, and Mehan (1986), who found that bilingual students successfully engaged in higher level comprehension activities in Spanish reading, but were relegated to lower level phonics instruction in their English reading classes. By making English reading instruction more congruent with the type of instruction provided during Spanish reading, that is, by focusing on higher-level reading comprehension, the same students were able to perform at a significantly higher level of reading in English.

This is only one example of the powerful effects of asking students to think and to talk about their own thinking. The development of metacognitive knowledge, or the understanding of one's own learning and thinking processes, is an important educational objective for all students. Teachers can encourage students to describe the conditions in which they feel they can learn most effectively, and can share with students their own approaches to solving learning problems. An important approach for teachers to convey to students for all types of learning tasks is that students need to (1) think about and identify the problem/task to be solved; (2) remember the techniques they have used in the past to solve similar problems; (3) select the technique that seems most useful for the problem or task; (4) use the technique; (5) evaluate the technique according to its usefulness for solving the problem; and (6) apply the technique (with modifications as necessary) to related tasks. When students develop metacognitive knowledge about how they learn, they are able to regulate their own learning processes. Developing and nurturing this metacognitive knowledge about their own learning approaches and outcomes is an important characteristic of effective instruction—for all students, and even more importantly, for language minority students.

Assessment

As discussed earlier in this paper, sole reliance on formal assessment, such as standardized language proficiency and achievement tests, does a disservice to language minority students. Standardized tests tend to be culturally inappropriate, they traditionally assess only lower order recall of information, and, because they are administered only annually (or less frequently), they are difficult to use to diagnose student difficulties in time to make adjustments to instruction. An important component of effective instruction for language minority students, therefore, lies in the ability of teachers to plan, conduct, analyze, and make diagnostic use of informal assessment.

Informal assessment is authentic because it calls on students to complete tasks that are virtually identical to the academic tasks they engage in in the classroom. Informal assessment calls on students to demonstrate their performance on academic tasks, rather than merely regurgitate information. Informal assessment is also continuous, capturing examples of students' abilities throughout the school year. Many possibilities exist for performance assessment. Some of these possibilities are writing samples, group projects, debates, treasure hunts, oral history projects, historical and contemporary role playing, job interview role playing, games, design competitions, science fairs, merit badges, student-run banks and stores, designing newspaper ads, and developing a class newspaper (Wiggins, 1990). In other words, performance assessments are authentic when they are virtually indistinguishable from classroom activities. This became evident to Shavelson and his colleagues during their study of effective performance assessment for science:

Finally, these alternatives are developed with recognition of the symmetry between testing and teaching. That is, a good assessment makes a good teaching activity, and a good teaching activity makes a good assessment. (Shavelson, Baxter, and Pine, 1992, p. 22)

Student responses to informal assessment can include checklists, learning logs, book reports, writing samples, explanations of problem solutions, science lab reports with diagrams, dialogue journals, self-evaluation of strategy use, and oral descriptions of the assessment activity, among others. The teacher's responsibility is to organize the student work samples so that they can be used in a systematic fashion to assess how well individual students are attaining the instructional goals of the program.

A systematic way to organize examples of student work is through "student portfolios," in which teachers and students work collaboratively to select examples of quality student work at different times in the academic year. The portfolio is more than just a collection of student work. A portfolio also contains information from the teacher(s) about how well the student has met specific instructional goals. This information may be on teacher rating scales or checklists, in which teachers rate observed student performance or student products. In sum, portfolios are:

. . . part of an integrative plan that enables teachers to judge student achievement, growth, and thinking processes. Portfolios enable the teacher to communicate with students, other teachers, parents, and with administrators about the progress being made by students, and enable the teacher to point to specific representations of the student's work that illustrate this progress. (Chamot and O'Malley, 1993)

In summary, the opportunities for realistic assessment of the actual performance of language minority students on different types of learning tasks are enhanced when multiple types of student work and teacher evaluation are collected, analyzed, and used to guide instructional decisions.

In this section I have discussed several aspects of effective instructional practices for teachers of language minority students. Curriculum and instruction that have been shown to be effective with all students include content emphasizing depth over breadth, classroom organization features that develop independent learning, teaching that builds on students' prior knowledge and shows students how to be effective learners, a focus on thinking and higher level cognitive skills, and the use of alternative measures to assess student knowledge and ability. Effective instruction for language minority students includes these features and adds to them the use of students' native language and culture both as a primary source of prior knowledge and to mediate instruction so that it is accessible to students.

These principles of effective instruction for language minority students provide the framework of the instructional model that my colleague, Michael O'Malley, and I developed. The Cognitive Academic Language Learning Approach (CALLA) is based on a cognitive model of learning and integrates content selected from major subject areas, the development of academic language and higher order thinking skills, and instruction in learning strategies for both content and language (Chamot and O'Malley, 1987, 1989, 1993). Instructional practices recommended in CALLA include extensive use of students' prior conceptual and linguistic knowledge, cooperative learning, teacher modeling and scaffolding, and an emphasis on interactive dialogue on thinking and learning strategies. Finally, CALLA recognizes that alternative assessment provides more accurate and useful information about student progress towards instructional objectives than do standardized achievement tests. The CALLA model is being implemented in a number of school districts, including Arlington, Virginia. The evaluation reports for the last two years have shown

substantial gains in student achievement (Thomas, 1990, 1991). Thus CALLA, or a program like CALLA, may be useful in meeting the academic needs of secondary school language minority students.

Conclusion

This paper began by identifying some of the major academic needs of secondary language minority students. These needs include language, instructional time, subject matter concepts, learning strategies, and self-efficacy. In the next sections of the paper I reviewed research on program effectiveness and effective instructional practices in order to identify the characteristics of programs and instruction which have been successful in meeting these academic needs for language minority and other at-risk students. In my opinion, this research clearly shows that instruction for language minority students needs to change in the three major areas of language support, instructional time, and teaching practices.

We know that learning is assisted when the student's native language and culture are incorporated in the classroom and when teachers make explicit the value of transfer of conceptual knowledge and academic skills from the first language to English. The availability of academic courses in their native language provides secondary students with the opportunity of continuing their conceptual development while they are learning English, rather than interrupting their cognitive growth as is too often the case. At the very least, secondary students should have access to bilingual counselors and tutors on a daily basis. Language support is also needed in English. Effective secondary programs for language minority students incorporate content into the ESL class and infuse language development into content area classes. Providing an adequate level of language support in both the native language and in English should be a priority in improving educational practices for language minority students. A label such as "language support services" might have a unifying effect in contexts in which bilingual education and ESL are seen as separate and even hostile instructional approaches.

The second area in which change is both necessary and long overdue is instructional time. The research evidence continues to accumulate about the length of time needed for students who do not speak English natively to acquire the level of academic language necessary to be successful in the academic curriculum. For most secondary level students there is simply not enough time left in school to reach this level of academic language. One possible solution is to allow students to spend more time in high school to earn the credits needed for graduation. Another possibility is to extend the amount of instructional time available in secondary programs. Extending the school day and providing night school and Saturday school options would provide additional instructional time for language minority students. A required summer school program could prove especially beneficial not only by providing additional instruction, but also by preventing the "summer forgetting" problem that teachers cite as the reason for spending approximately three months at the beginning of each new school year in review of the previous year's work. Year-round schools are being tried out in various parts of the country, including Florida, Illinois, and Utah. While the year-round school could be a practical solution to the amount of instructional time needed by language minority students to develop academic English language skills, research is needed to find out whether the length of time required for academic language learning is in fact the amount of instructional time or amount of total elapsed time. Financial issues would also need to be resolved for the extension of instructional time, both for the cost to the school district and the financial burden for students. Most language minority high school students have after-school or night jobs which may provide badly needed income to their families. Some financial incentive for participating in an extended school day or school year would likely be necessary for most students.

The third area in which change is still needed is in instructional practices for language minority students. The effective instructional practices described in the previous section of this paper are not yet widespread among teachers of language minority students. Changes are needed in curriculum, in classroom organization practices, in teaching procedures, and in assessment. Both teacher and student attitudes about the ability and expectation level of language minority students need to change. Classrooms need to become learning communities with high academic expectations where the prior knowledge that students bring from diverse linguistic and cultural backgrounds is not only valued but is seen as essential in constructing new knowledge. Teachers need to share with students the secrets of efficient learning by modeling learning strategies and providing extensive scaffolded strategy practice for all kinds of academic tasks. By helping students become better learners, teachers will be developing the sense of self-efficacy that students need to persevere with their education endeavors.

These proposals can help make the achievement of national education goals a reality for language minority students.

Endnote

¹ In this paper the term “language minority students” refers to students whose native language is not English and who are still in the process of acquiring English proficiency at school.

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